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Planning Commission Hearing Date: November 4, 2021
Board of Commissioners Hearing Date: November 18, 2021

STAFF ANALYSIS

Case No.:	Z-21-124893	**Agenda #:** D3
Location/ Address:	The south side of Norman Road, approximately 292 feet west of Viking Drive and at the terminus of Spartan Lane at 3943, 4021, 4029, 4039, 4069, and 4083 Norman Road in Stone Mountain, Georgia	Commission District: 4 Super District: 6
Parcel ID:	18-095-03-005, 18-095-03-006, 18-095-03-008, 18-095-03-009, 18-095-03-090, 18-095-03-094	
Request:	To rezone properties from the R-85 (Residential Medium Lot-85) Zoning District to the RSM (Small Lot Residential Mix) Zoning District to allow single-family cottages, urban single-family attached and detached units, and duplexes.	
Property Owner:	Hugh Spivey, Mary Ben Spivey, Charles Marvin Spivey, Kay Spivey Sims, Harry Stephen Spivey	
Applicant/Agent:	Mosaic Communities LLC c/o Battle Law	
Acreage:	35	
Existing Land Use:	Vacant land and Single-Family homes	
Surrounding Properties:	Single-family detached subdivisions	
Adjacent Zoning:	**North:** R-85 **South:** R-85 **East:** R-85 **West:** R-85	
Comprehensive Plan:	SUB (Suburban) **Consistent** [X] **Inconsistent** [_]	

Proposed Density: 4.97 units per acre
Proposed Units/Square Ft.: 174 residential units comprising of single-family cottages, urban single-family attached and detached units, and duplexes.
Proposed Lot Coverage: NA

Existing Density: NA
Existing Units/Square Feet: Vacant Land and Single-Family Homes

Existing Lot Coverage: NA

Staff Recommendation: 30 DAY DEFERRAL (REVISED 11/05/21)

ZONING HISTORY

Based on DeKalb County records, it appears that the R-85 zoning of the property has not changed since adoption of the first *Zoning Ordinance* and map in 1956.

PROJECT ANALYSIS

The subject property comprises approximately 35 acres on the south side of Norman Road, approximately 292 feet west of Viking Drive and at the terminus of Spartan Lane at 3943, 4021, 4029, 4039, 4069, and 4083 Norman Road in Stone Mountain, Georgia. The site contains vacant land and single-family structures. The site slopes moderately upward from the west to east. The site currently has an abundance of mature trees and vegetation. Spivey Lake consumes a significant portion of the west side of the project site. The general site layout consists of a mixture of housing types including single-family, detached cottages, urban, single-family attached and detached units, and duplexes. The site plan indicates 174 total residential units at a density of 4.97 units per acre. The proposed single-family, detached cottages are clustered around courtyard pocket parks. All proposed uses have internal pedestrian sidewalks and walking trails to connect to Spivey Lake. There is a large community forest along the Norman Road property frontage which proposes to preserve the existing tree canopy, natural open space, and provide an appropriate visual screen from surrounding properties.

The RSM district allows a base maximum density of four (4) units per acre, with a maximum density up to eight (8) units per acre if certain community enhancements or provisions are provided. To achieve the desired density of 4.97 units per acre, the applicant is requesting a 50% density bonus based on the inclusion of enhanced open space (i.e. 4 DU/AC x 50% = 2 DU/AC; 4+2=6 DU/AC (maximum)). To get this type of density bonus, at least 20% open space must be "enhanced" open space such as dog parks, pocket parks, pool amenities, etc. The site plan indicates that the applicant is providing much more open space than required (i.e. 20% required (7 acres); 73% provided (25 acres)), and is also providing more enhanced open space than required consisting of cottage courtyard pocket parks, community forest, community garden, and natural walking trails (20% enhanced open space required, 27% enhanced open space provided).

The applicant submitted a traffic impact study (see attached) prepared by NV5 Engineers and Consultants, dated April 28, 2021, and it was reviewed by the DeKalb County Transportation Department. The results of the analysis are listed below:

1. *Traffic operations at the study intersections are satisfactory (LOS D or better) in existing and baseline conditions.*

2. *The conditions are expected to increase in delay as evidenced in the No-Build scenario due to the anticipated growth in the study area. Even with anticipated growth, the intersections are expected to operate at a level of service (LOS) D or better overall and at each approach.*

3. *The addition of project traffic is expected to have little impact on the traffic operations at the study intersections. No improvements are recommended because the impact is minimal.*

4. *Based on GDOT criteria, the eastern site driveway (Driveway 2) for the development warrants a right-turn deceleration lane. However, the installation of the turn lane is at the discretion of DeKalb County.*

5. *Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.*

Note that the traffic impact study was prepared based on the initial proposal which included more dwelling units and three points of access. There are now two access points for the project; one access point off of Norman Road and one access off

of Spartan Drive on the southeast corner of the site.

The DeKalb County Transportation Department has provided comments to address county transportation requirements including a requirement for bike lanes, landscape strips, and sidewalks along Norman Road. The applicant will need to obtain a sewer capacity letter from the Department of Watershed Management to verify if sewer capacity is available.

Since the July 29th Board of Commissioners meeting, the applicant's latest site plan and application contains the following revisions:

- All units will be for-sale (previous application indicated all units would be rental)
- Decreased number of residential units from 228 to 174,
- Decreased density from 6.5 units per acre to 4.97 units per acre,
- Increased open space from 59% to 73%,
- Increased the buffer along the perimeter of the project site from 20 feet to 40 feet.
- Redesigned the project so that only single-family, detached units (cottages and urban single-family detached) are located along the eastern and southern portions of the site which abut single-family, detached subdivisions.
- Redesigned the project to remove all proposed residential units in the northwest corner of the site and converted that area to greenspace.
- Redesigned walking trail so that it is only on east side of lake where the proposed residential units will be (previous plan showed walking trail around the entire lake).
- Removed homes facing Norman Road and replaced that area with a 40-foot wide transitional buffer

Staff's previous concerns regarding compliance with certain RSM zoning standards and providing compatibility with surrounding properties have also been addressed since the last Board of Commissioner's meeting. The revised site plan contains greater specificity regarding enhanced open space, compliance with single-family cottage requirements (i.e. maximum of 1.5 stories and clustered around courtyard), provides larger chunks of greenspace through more clustering of residential units, and shows floodplain, stream buffer, and tree preservation areas. Staff is recommending as a condition of zoning approval that all existing trees that fall within designated open space areas and are not proposed for trails, buildings, structures, or parking lots be preserved to provide additional screening as well as assist with minimizing potential stormwater and flooding impacts (use this language if no tree preservation areas are shown). Additionally, Staff is also recommending that all existing trees within proposed transitional buffer areas be preserved and supplemented with additional vegetation for provide an appropriate visual screen as approved by the County Arborist.

Since the November 4th Planning Commission meeting, the applicant has addressed Planning Department's previous concerns (which were the basis for the November 4th Planning Commission Deferral recommendation of Staff) as follows:

1. The plan needs to indicate that all units will be for-sale, owner occupied units. Additionally, the proposed units on the plan need to indicate which are fee-simple, stand-alone lots (i.e. lot lines extending beyond the building envelope) and which ones will be in a condominium ownership arrangement so that zoning compliance can be confirmed.

   Applicant response: *The homes will be fee-simple condominiums, and will be owner-occupied. This is noted on the revised attached plan, and the zoning conditions include a rental cap and restrictions that would be placed on homeowners.*

2. The "community uses" on the plan need to be clarified to determine if allowed in RSM zoning.

Applicant response: Color coding of detached garages and community uses has been updated in the attached.

3. The plan needs to indicate which urban, single-family structures are attached and which are detached and use different color codes to distinguish the two land uses.

   Applicant response: *Color coding and labeling of the homes has been updated to differentiate between attached and detached homes. All homes along the perimeter of the development are detached.*

4. The sizes of the 12 proposed pocket parks need to be indicated on the plan to verify compliance with Article 5 of the *Zoning Ordinance*.

   Applicant response: *A note has been added to the plan with the minimum pocket park size. The minimum pocket park size is 2,100 square feet which complies with the minimum pocket park size requirements of Article 5 of the Zoning Ordinance (2,000 square feet minimum).*

5. The plan needs to verify that all proposed structures are within 200 feet of off-site parking lots.

   Applicant response: *All structures are within 200 feet of parking.*

6. The plan needs to demonstrate compliance with streetscape requirements of Article 5 for private drives.

   Applicant response: *Yes, the plan complies with the private drive requirements of Article 5 as noted. Dimensions are noted on the attached plan.*

7. Confirm maximum building height of urban, single-family attached and detached units as two-stories or three-stories.

   Applicant response: *The maximum building height is 1.5 stories for single-family cottages, and 2 stories for urban single-family attached and detached as well as duplexes.*

Supplemental Requirements: There are supplemental regulations for single-family cottages, urban single-family detached and attached per Section 4.2.24 which allows these land uses to be exempt from the minimum lot width requirements. There are no supplemental regulations in the *Zoning Ordinance* for duplexes.

Compliance with District Standards:

STANDARD	RSM REQUIREMENT	EXISTING/PROPOSED	COMPLIANCE
MAX DENSITY	4-8 units per acre	4.97 units per acre with enhanced open space density bonus.	Yes. 50% Enhanced open space density bonus consists of 12 pocket parks, a dog park, and a pedestrian trails. (50% Density Bonus calculated as follows: 4 units per acre base density multiplied by 50% density bonus = 2 units per acre. Four units per acre plus two units per acre = six units per acre, which accommodates the applicant's desired density of 4.97 units per acre)
LOT AREA	N/A Does not apply to fee-simple condominiums which have lot lines along the perimeter of the building.	NA	NA
MAX. LOT COVERAGE	NA Does not apply to fee-simple condominiums	NA	NA
FRONT SETBACK	Single-Family Cottages: 20 ft Urban Single-Family Detached & Attached: 20 ft Two-Family: 20 ft	20 ft to 30 ft 20 ft to 30 ft 20 ft to 30 ft	Yes Yes Yes

REAR SETBACK	Single-Family Cottage: 20 ft Urban Single-Family Detached 20 ft Urban Single-Family Attached: 20 ft Two-Family: 15 ft	 20 ft 20 ft 20 ft 15 ft	 Yes Yes Yes Yes
SIDE SETBACK	3 ft from p/l with min. 10 feet between buildings for single-family detached cottages and two-family 0 ft from p/l with 3 feet between buildings for urban single-family detached lots—Interior Lots	3 feet from p/l with min. 10 feet between buildings 0 ft from p/l with 3 feet between buildings for urban single-family detached—Interior Lots	Yes Yes
MAX. BLDG. HEIGHT	1.5 stories for single-family cottages 3 stories/45 feet for urban single-family detached and attached 35 feet for two-family	1.5 stories 2 stories 2 stories	Yes Yes Yes

MIN/MAX UNIT SIZE	Max 800 s.f. building footprint and 1,200 s.f. gross floor area for single-family cottages 1,100 s.f. for urban single-family detached 1,200 s.f. for urban single-family attached 1,000 s.f. for duplex	Maximum size of 1,200 s.f. Min building footprint 800 s.f. 1,200 s.f. 1,200 s.f. 1,000 s.f.	Yes Yes Yes Yes
MIN OPEN SPACE MIN ENHANCED OPEN SPACE FOR DENSITY BONUS (12 pocket parks, a dog park, and pedestrian trails)	20% 20%	73% 27%	Yes Yes
TRANSITIONAL BUFFER	None required since single-family detached units are proposed along perimeter of site abutting single-family detached subdivisions	40 ft buffer along entire perimeter of site with existing trees preserved and new trees provided to create a visual buffer	Yes

PARKING	Min of 300 spaces 180 spaces for single-family cottages (2 spaces per dwelling unit). 84 spaces for urban single-family attached (1.5 spaces per dwelling unit plus .25 spaces per unit for guest parking) 36 spaces for two-family (1 space per unit) Clubhouse parking—1 space per 10 homes Community use buildings parking Max of 660 spaces 360 spaces for single-family cottages (4 spaces per dwelling unit) 156 spaces for urban single-family attached Three (3) spaces per dwelling unit, plus one-quarter (0.25) space per dwelling unit to accommodate guest parking 144 spaces for two-family 4 spaces per unit)	317 spaces Not provided Not provided—community use needs clarification 317 spaces	Yes. Undetermined—non-compliance will necessitate variances Undetermined—non-compliance will necessitate variances Yes

LAND USE AND ZONING ANALYSIS

Section 27-7.3.5 of the Zoning Ordinance, "Standards and factors governing review of proposed amendments to the official zoning map" states that the following standards and factors shall govern the review of all proposed amendments to the zoning maps.

A. Whether the zoning proposal is in conformity with the policy and intent of the comprehensive plan:

Based on the submitted information, the proposed request preserves significant environmental resources, provides a mixture of housing types, and is consistent with the following policies and strategies of the Suburban Character Area and the 2035 Comprehensive Plan:

1. Promote strong connectivity and continuity between existing and new development (Suburban Connectivity Strategy, pg. 116).

2. Create neighborhood focal points through the use of existing pocket parks and square for community activities (Suburban Nodes Strategy, pg. 117).

3. Promote new communities that feature greenspace and neighborhood parks, pedestrian circulation transportation options, and appropriate mix of uses and housing types. (Chapter 7 Land Use Policy, New Developments Strategy, pg. 78).

4. Utilize the zoning code to provide a variety of housing opportunities and choices to better accommodate the needs of residents. Mixed-use developments shall include a variety of housing styles, densities, and price ranges in locations that are accessible to jobs and services. (Chapter 6 Community Goals- Housing, Housing Variety and Access, pg. 55).

5. Identify and encourage new and innovative approaches to quality residential development which expands housing opportunities and minimizes public and private costs (Chapter 6 Community Goals-Housing, Infill Housing Development, pg. 55)

6. Provide for additional variety of housing units to encourage employees who work in DeKalb County but live outside the county to become residents of the county. This could potentially decrease automobile dependency, traffic congestion, and pollution. (Chapter 2 Quality of Life, Jobs and Housing Balance Strategy, pg. 20)

B. **Whether the zoning proposal will permit a use that is suitable in view of the use and development of adjacent and nearby properties*:***

The submitted plan's *conceptual* layout of single-family detached lots along the south and east perimeter of the site is consistent with the abutting single-family detached land uses. The proposed two-story maximum building heights are consistent with the one and two-story building heights in the surrounding area. While no buffers are required, the plan proposes a 40-foot wide vegetated buffer around the entire perimeter of the site to provide a significant visual screen and transition from the development to the existing community. In addition to the 40-foot wide vegetated buffer, a 300-foot wide lake (Spivey Lake) provides an appropriate visual screen for the single-family subdivisions abutting the west property line from the proposed structures and parking lots on the east side of the site. The northwest portion of the site provides approximately six (6) acres of vegetated open space. Additionally, the plan is providing more open space than is required by the Zoning Ordinance (73% provided, 20% required). Therefore, it appears that the zoning proposal is suitable in view of the use and development of adjacent and nearby properties.

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

It appears that the property may have a reasonable economic use as currently zoned R-85 which allows single-family, detached residential development.

D. Whether the zoning proposal will adversely affect the existing use or usability of adjacent or nearby property:

There will be additional traffic along Norman Road and Spartan Lane from the proposed development. However, the traffic impact study concludes that "*the addition of project traffic is expected to have little impact on the traffic operations at the study intersections. No improvements are recommended because the impact is minimal.*" The DeKalb County Transportation Department has provided comments to address county transportation requirements including a requirement for bike lanes, landscape strips, and sidewalks along Norman Road. Additionally, the conceptual layout of the Plan with the proposed 40-foot wide transitional buffers along the entire perimeter of the site, maximum two-story building heights, and significant open space appear to be compatible with the surrounding area. Therefore it appears that the zoning proposal will not adversely affect the existing usability of adjacent and

nearby properties.

E. Whether there are other existing or changing conditions affecting the use and development of the property, which give supporting grounds for either approval or disapproval of the zoning proposal:

The submitted plan's *conceptual* layout of single-family detached lots along the south and east perimeter of the site is consistent with the abutting single-family detached land uses. The proposed two-story maximum building heights are consistent with the one and two-story building heights in the surrounding area. While no buffers are required, the plan proposes a 40-foot wide vegetated buffer around the entire perimeter of the site to provide a significant visual screen. Additionally, the rezoning proposal is consistent with the following housing policies of the 2035 Comprehensive Plan and Atlanta Regional Commission:

1. Utilize the zoning code to provide a variety of housing opportunities and choices to better accommodate the needs of residents. Mixed-use developments shall include a variety of housing styles, densities, and price ranges in locations that are accessible to jobs and services. (Chapter 6 Community Goals- Housing. Housing Variety and Access, pg. 55).

2. Identify and encourage new and innovative approaches to quality residential development which expands housing opportunities and minimizes public and private costs (Chapter 6 Community Goals-Housing, Infill Housing Development, pg. 55)

3. Provide for additional variety of housing units to encourage employees who work in DeKalb County but live outside the county to become residents of the county. This could potentially decrease automobile dependency, traffic congestion, and pollution. (Chapter 2 Quality of Life, Jobs and Housing Balance Strategy, pg. 20)

F. ***Whether the zoning proposal will adversely affect historic buildings, sites, districts, or archaeological resources:***

Based on the submitted information, no historic buildings, sites, districts, or archaeological resources are located on the subject property or in the surrounding area.

G. **Whether the zoning proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools:**

There has been no indication from reviewing departments and agencies that the proposal would cause excessive use of utilities. However, there may be school impacts. When fully constructed, this development is expected to generate 91 students, 10 at Jolly Elementary School, 12 at Freedom Middle School, 16 at Clarkston High School, 29 at other DCSD schools, and 24 at private schools. Jolly Elementary School and Clarkston High School are already over capacity and new students from this development may require additional portable classrooms. The DeKalb County Transportation Department has provided comments to address county transportation requirements including a requirement for bike lanes, landscape strips, and sidewalks along Norman Road. The applicant will need to obtain a sewer capacity letter from the Department of Watershed Management to verify if sewer capacity is available.

H. **Whether the zoning proposal adversely impacts the environment or surrounding natural resources:**

The proposed development is not expected to have unusual impacts on the natural environment. While there are floodplains and stream buffers on the project site, those environmental impacts will be addressed and mitigated during the land development permit review stage and beyond. The *DeKalb County Code of Ordinances* requires post-construction storm water run-off to be no greater than pre-construction storm water run-off and as required by the *Georgia Storm Water Management Manual*, subject to approval by the Division of Land

Development. Furthermore, water quality must meet the minimum requirements of the *Georgia Stormwater Management Manual* or DeKalb County requirements.

Planning and Sustainability Department Recommendation: 30 DAY DEFERRAL (REVISED 11/05/21)

Taken as a whole, the revised proposal contains a mixture of housing options that are designed to preserve a unique environmental feature (Spivey Lake) and blend with existing development patterns via vegetated transitional buffers and maximum two-story building heights along the perimeter of the site. The plan also provides more than the minimum degree of open space along with opportunities for active and passive recreation for the immediate and surrounding community, and streetscape improvements. The applicant's traffic impact study did not produce findings indicating significant impact on the existing road network or the need for significant network improvements. However, the development's potential student yield may present issues for elementary and high school infrastructure in the surrounding community. Assuming that issue can be mitigated, and the development is constructed in compliance with applicable land development, building codes, and other county, state, and federal regulations, overall, the proposed project is consistent with the goals of the *Comprehensive Plan* and *Zoning Ordinance*. Since the November 4th Planning Commission meeting, the applicant has addressed Staff's outstanding questions relating to type of fee-simple ownership, location of community uses, clarifying which urban single-family units are attached and detached, size of pocket parks, maximum distance of residential units from parking areas, compliance with streetscape requirements and confirming maximum building height of two stories for all residential units. The applicant has submitted proposed zoning conditions to provide appropriate compatibility with surrounding properties. Planning Staff is in the process of reviewing the applicant's proposed conditions for appropriateness. Therefore, it is the recommendation of the Planning & Sustainability Department that the rezoning request be "*Deferred, 30 days*" to allow sufficient time to review the applicant's zoning conditions for appropriateness.

Attachments:

1. Public Works Department Comments
    a. Land Development Division
    b. Traffic Engineering Division
2. Watershed Management Department Comments
3. Board of Health Comments
4. Board of Education Comments
5. Application
6. Site Plan
7. Zoning Map
8. Aerial Photograph
9. Photographs

PROPOSED ZONING CONDITIONS – SPIVEY LAKE – WORKING DRAFT
MOSAIC COMMUNITIES

NOTE: THE CONDITIONS BELOW SHALL ACCOMPANY THE PROPOSED REZONING OF THE SPIVEY LAKE PROPERTY AND, IF ACCEPTED, SHALL BE RECORDED WITH THE ZONING APPROVALS. ONCE RECORDED, ANY DEVIATIONS FROM THE CONDITIONS (INCLUDING THE MAXIMUM NUMBER OF HOMES TO BE CONSTRUCTED) SHALL REQUIRE A REZONING APPLICATION BE SUBMITTED TO DEKALB COUNTY.

1. **Property Buffers.** A vegetated buffer of at least 40 feet shall be maintained along Norman Road and around the entire proposed development (the "Project"), which comprises the six parcels owned by the Spivey family surrounding Spivey Lake (the "Site") in DeKalb County (the "County").
2. **Rental Restrictions.** The Project shall not be constructed as a rental community. Homes shall be offered For Sale to individual buyers and neither owned by Mosaic Communities (the "Applicant") nor sold in any bulk transactions to investors. Short-term rentals shall be prohibited, and a 20% cap on the percentage of long-term rentals shall be established.
3. **House Types.** There shall be only single family detached and single family attached homes (duplexes) constructed at the Site (including conventional, cottage, and urban single-family dwellings). No townhomes or triplexes shall be permissible.
4. **Number of Homes.** A maximum of 174 total residential dwelling units may be developed on the subject property. Any duplex structures shall count as two homes. No less than 50% of the homes shall be single family detached residences (including conventional, cottage, and urban single-family detached dwellings).
5. **Minimum House Size.** All homes shall have at least 1,000 heated square feet. No home shall exceed two stories.
6. **Perimeter Transition.** All homes along the perimeter of the Site (including Norman Road) shall be single family detached homes to better transition to the density of surrounding properties. No homes shall face Norman Road or neighboring properties.
7. **Enhanced and Unenhanced Space.** No less than 60% of the Site shall be maintained as enhanced and unenhanced open space, which shall include buffered and floodplain areas, Spivey Lake, and the community forest as well as amenitized open spaces such as the community plaza and cottage courtyards.
8. **Tree Preservation.** The Project will comply with the County's tree ordinance. No trees shall be removed within any floodplains or buffered areas of the Site. Following construction completion, specimen trees may not be cut down or removed from the Site, except in cases where the tree has died or is diseased and removal is recommended by a County-approved arborist. Efforts shall be made to preserve strands of trees versus single specimen trees.
9. **Tree Replacement.** The Applicant shall comply with the DeKalb County Tree Protection Ordinance, including submitting to the County Arborist the required tree survey and tree replacement plan prior to issuance of a land disturbance permit by DeKalb County. Any specimen trees within buildable areas that are removed as part of the Project shall be accounted for in the tree replacement plan and replaced with native, county-approved tree species in accordance with the County's tree ordinance. The County Arborist must approve the tree replacement plan prior to issuance of a land disturbance permit.

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10. **Lake Preservation.** Spivey Lake shall be improved and maintained according to federal, state, and County standards, including care for soil erosion, stormwater runoff, clearing of debris, and waste cleanup. Any remediation or improvements to Spivey Lake that may be required to comply with federal, state, and/or county provisions regarding private-owned bodies of water shall be completed prior to the recording of the final plat for the Project and issuance of any building permits.

11. **Exterior Finishes.** Vinyl siding shall be prohibited. Fiber cement and/or brick/stone masonry shall be allowed.

12. **Cabin Preservation.** The historical Spivey family cabin may not be removed from the site and shall be professionally maintained.

13. **Walking Trails.** No walking trails shall be constructed along the western and/or southern perimeter of Spivey Lake or within 40 feet of any adjacent home owners' properties, with the exception of the bridge across Spivey Lake connecting the Project's northwest parcel to the main section of the Site. Any walking trails within flood zones or stream/lake buffers shall be constructed of pervious materials such as mulch or other natural material; no synthetic or rubber mulch shall be used. The ends of trails will be marked by barricades that will prevent passage onto surrounding properties.

14. **Parking.** On-street parking shall be limited at entrances to prevent the obstruction of the line-of-sight required to detect oncoming traffic.

15. **Stormwater Management.** Mosaic Communities shall diligently pursue 1) the incorporation of bio-swales and rain gardens into its engineering plans to facilitate stormwater runoff and removal of debris, and 2) the use of special pervious pavement and landscaping materials to increase the amount of pervious surfaces.

16. **Lighting.** Only outdoor lighting fixtures that shield the light source to minimize glare and light trespass, including but not limited to full-cutoff lights, fully shielded fixtures, flush-mounted or side shielded under-canopy fixtures, and/or fully shielded walkway bollards to help prevent light pollution shall be installed at the Site.

17. **Northwest Parcels.** No homes shall be constructed on the parcels to the northwest of Spivey Lake.

18. **Solar and EV**. All housing units built in the development shall be "solar ready" and have electric service panels with sufficient capacity to accommodate electric vehicle charging within the garages and solar roof panels. The electrical panel shall be sized to accommodate a 40-amp double pole breaker on the opposite end of the panel labeled "reserved for solar". A minimum of one 240 V AC plug will be installed in each garage to accommodate electric vehicle charging.

19. **Productive Landscaping**. Productive urban landscaping shall be incorporated into the design of and implementation of the pocket parks, transitional buffers and trails when proper light and soil conditions permit. This productive urban landscaping shall consist of fruit bearing trees and shrubs and other plants that support pollinating insects.

20. **HOA**. Prior to the issuance of any land disturbance permit, the Applicant must provide evidence of a legal mechanism under which all land to be held in common and used for greenspace purposes within the development, including Spivey Lake, and private roads shall be protected in perpetuity. Such legal mechanism shall include a declaration of restrictive covenants and the formation of a homeowner association, which assure in perpetuity each of the following mandatory requirements:

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a) That all land held as greenspace, Spivey Lake, and privates roads will be properly maintained and that no liability or maintenance responsibilities shall accrue to the County;
b) That a legal entity exists for notice of deficiencies in maintenance of the land held as greenspace, Spivey Lake, and private roads, and correction of these deficiencies, and assessment of liens against the properties for the cost of the correction of these deficiencies by a third party or the County;
c) That the legal mechanism will become effective and enforceable prior to or at the time of recording the final plat and the sale of any individual properties within the Subject Property; and
d) That all requirements of the legal mechanism used to comply with the regulations of this condition will be specified on the final plat to be recorded with the Clerk of Superior Court of DeKalb County.
e) Equal access and right of use to all greenspace, Spivey Lake, and private roads by all homeowners;
f) Mandatory and automatic membership in the homeowners' association for all homeowners and their successors;
g) A fair and uniform method of assessment and collection/payment for dues, maintenance and related costs;
h) Homeowners' association lien authority to ensure the collection of dues from all members;
i) Perpetual and continued maintenance and liability by the homeowners' association of land held as greenspace, Spivey Lake, and private roads;
j) Filing of all required covenants, declarations, and restrictions with the Clerk of the Superior Court of DeKalb County.
k) The HOA shall establish, fully fund, and maintain a reserve account specifically for the maintenance and upkeep of Spivey Lake in accordance with federal, state, and County standards. No money from this reserve account may be used for any purpose outside of maintenance and upkeep of Spivey Lake.

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DEKALB COUNTY GOVERNMENT
PLANNING DEPARTMENT
DISTRIBUTION FORM

NOTE: PLEASE RETURN ALL COMMENTS VIA EMAIL OR FAX TO EXPEDITE THE PROCESS TO MICHELLE M ALEXANDER mmalexander@dekalbcountyga.gov OR JOHN REID JREID@DEKALBCOUNTYGA.GOV

COMMENTS FORM:
PUBLIC WORKS WATER AND SEWER

Case No.: Z-21-1244893

Parcel I.D. #: 18-095-03-005, -006, -008, -009, -090, -094

Address: 3943, 4039, 4069, 4021, 4083, and 4029 Norman Road

Stone Mountain, Georgia

WATER:

Size of existing water main: 6" CI and 12" CI Water Main _____ **(adequate/inadequate)**

Distance from property to nearest main: Adjacent to Property

Size of line required, if inadequate: N/A

SEWER:

Outfall Servicing Project: Snapfinger Creek Basin

Is sewer adjacent to property: Yes (X) No ( ) If no, distance to nearest line:____

Water Treatment Facility: Snapfinger WTF ( ) **adequate** ( ) **inadequate**

Sewage Capacity; * **(MGPD)** **Current Flow:** 21.77 **(MGPD)**

COMMENTS:

*** Please note that the sewer capacity has not been reviewed or approved for this project. A Sewer Capacity Request (SCR) must be completed and submitted for review. This can be a lengthy process and should be addressed early in the process.**

No SCR on file for Norman Rd.

Signature:

Zoning Comments

N1 & N2 (Z-21-1244885 & SLUP-21-1244886) - North Druid Hills is classified as a major arterial. Required to add a left turn lane onto Birch. Drive on North Druid Hills limited to Right in/right out only. Please see chapter 5 of the zoning code and chapter 14-190 of the land development code for infrastructure requirements. Requires 10 foot landscape strip, bike lanes and 6 foot sidewalks or 10 foot multiuse path (preferred), street lighting on back of sidewalk. Right of way dedication of 50 feet from centerline or such that all public infrastructure is within county right of way, whichever greater. Birch Road is classified as a local street. Requires a 27.5 foot right of way dedication from the centerline or such that all public infrastructure is on county right of way. Due to the proximity of the mall, potential for redevelopment and connectivity the residential areas- a 10 foot multiuse trail to be included in the sight design along Birch. Requires a 6 foot landscape strip. Streetlights required on back of path.

N3. (Z-21-1244892) Flakes Mill Road is classified as a minor arterial. Access point on Flakes Mill Road must meet intersection sight distance prior to permitting and verified prior to occupancy by the engineer of record. Please see chapter 5 of the zoning code and chapter 14-190 of the land development code for infrastructure requirements. Requires 10 foot landscape strip, bike lanes and 6 foot sidewalks or 10 foot multiuse path (preferred), street lighting on back of sidewalk. Right of way dedication of 40 feet from centerline or such that all public infrastructure is within county right of way, whichever greater. New residential streets will be local with a right of way of 55 feet, 24 feet of pavement, curb and gutter, 6 foot landscape strip, a 6 foot sidewalk, street lighting required behind sidewalk.

N4. (Z-21-1244893) Norman Road is classified as a collector road. Please see chapter 5 of the zoning code and chapter 14-190 of the land development code for infrastructure requirements. Requires 10 foot landscape strip, bike lanes and 6 foot sidewalks or 10 foot multiuse path (preferred), street lighting on back of sidewalk. Right of way dedication of 35 feet from centerline or such that all public infrastructure is within county right of way, whichever greater. New residential streets will be local with a right of way of 55 feet, 24 feet of pavement, curb and gutter, 6 foot landscape strip, a 6 foot sidewalk, street lighting required on back of sidewalk. Continue at least 2 traffic calming features (splitter islands) similar to the ones installed in the City of Clarkton along frontage.

N5. (SLUP-21-1244895) No comment

N6. (SLUP-21-1244899) No comment

06/21/2021

To: Mr. John Reid, Senior Planner
From: Ryan Cira, Environmental Health Manager
Cc: Alan Gaines, Technical Services Manager
Re: Rezone Application Review

General Comments:

DeKalb County Health Regulations prohibit use of on-site sewage disposal systems for
- multiple dwellings
- food service establishments
- hotels and motels
- commercial laundries
- funeral homes
- schools
- nursing care facilities
- personal care homes with more than six (6) clients
- child or adult day care facilities with more than six (6) clients
- residential facilities containing food service establishments

If proposal will use on-site sewage disposal, please contact the Land Use Section (404) 508-7900.

Any proposal, which will alter wastewater flow to an on-site sewage disposal system, must be reviewed by this office prior to construction.

This office must approve any proposed food service operation or swimming pool prior to starting construction.

Public health recommends the inclusion of sidewalks to continue a preexisting sidewalk network or begin a new sidewalk network. Sidewalks can provide safe and convenient pedestrian access to a community-oriented facility and access to adjacent facilities and neighborhoods.

For a public transportation route, there shall be a 5ft. sidewalk with a buffer between the sidewalk and the road. There shall be enough space next to sidewalk for bus shelter's concrete pad installation. Recommendation: Provide trash can with liner at each bus stop with bench and monitor for proper removal of waste.

Since DeKalb County is classified as a Zone 1 radon county, this office recommends the use of radon resistant construction.

N.1 Z-21-1244885 2021-2678/18-100-04-019
District 02 Super District 06
3795 North Druid Hills Road, Decatur, GA 30033
Acres: 1.04
- Please review general comments.
- NS to C-1

N.2 SLUP-21-1244886 2021-2638/18-100-04-019
District 02 Super District 06
3795 North Druid Hills Road, Decatur, GA 30033
Acres: 1.04
- Please review general comments.
- SLUP to allow drive through facility through in Town Center Character area.

N.3 Z-21-1244892 2021-2640/12-253-03-002
District 03 Super District 07
5035 Flakes Mills Road, Ellenwood, GA 30294
Acres: 27
- Septic system installed on several surrounding properties in the past.
- Please review general comments.
- R-100 to R-60

N.4 Z-21-1244893 2021-2641/18-095-03-005, 18-095-03-006, 18-095-03-008, 18-095-03-009, 18-095-03-090, 18-095-03-094
District 04 Super District 06
3943 Norman Road, Stone Mountain, GA 30083
Acres: 35
- Septic system installed on several surrounding properties in the past.
- Please review general comments.
- R-85 to RSM

N.5 SLUP-21-1244895 2021-2641/15-137-03-028
District 03 Super Districts 06
2445 Candler Road, Decatur, GA 30032
Acres: 0.3
- Dental Building at time septic installed on 12/4/1962.
- Please review general comments.
- SLUP to Housing Facility

N.6 SLUP-21-1244899 2021/2643/15-084-05-068
District 03 Super District 06
3008 Rollingwood Lane, Atlanta, GA 30316
Acres: 0.35
- Septic system installed 8/19/1960.
- Please review general comments.

N.7 TA-21-1244945 2021-2644
Districts 03 & 05 Super District 07
- Please review general comments.

N.8 TA-21-1244999 2021-2645
Districts 03 & 05 Super District 07
- Please review general comments.

DeKalb County School District
Development Review Comments

Analysis Date: 6/11/2021

Submitted to: DeKalb County

Case #: Z-21-1244883
Parcel #: 18-095-03-005/-006/-008/-009/-090/-094

Name of Development: Hugh Spivey Lake
Location: 3943 Norman Road

Description: Large development with single-family attached and detatched homes

Impact of Development: When fully constructed, this development would be expected to generate 91 students: 10 at Jolly Elementary School, 12 at Freedom Middle School, 16 at Clarkston High School, 29 at other DCSD schools, and 24 at private school. Jolly ES and Clarkston HS are already over capacity and new students from this development may require additional portable classrooms.

Current Condition of Schools	Jolly Elementary School	Freedom Middle School	Clarkston High School	Other DCSD Schools	Private Schools	Total
Capacity	712	1,251	1,190			
Portables	3	0	16			
Enrollment (Fcast. Oct. 2021)	730	1,116	1,513			
Seats Available	-18	135	-323			
Utilization (%)	102.5%	89.2%	127.1%			
New students from development	10	12	16	29	24	91
New Enrollment	740	1,128	1,529			
New Seats Available	-28	123	-339			
New Utilization	103.9%	90.2%	128.5%			

Yield Rates	Attend Home School	Attend other DCSD School	Private School	Total
Elementary	0.0457	0.0984	0.1034	0.0825
Middle	0.0507	0.0138	0.0000	0.0215
High	0.0708	0.0173	0.0000	0.0294
Total	**0.0558**	**0.0432**	**0.0345**	**0.0445**

Student Calculations

Proposed Units	228
Unit Type	Mixed
Cluster	Clarkston High School

Units x Yield	Attend Home School	Attend other DCSD School	Private School	Total
Elementary	10.43	22.44	23.58	56.45
Middle	11.56	3.14	0.00	14.70
High	16.15	3.94	0.00	20.09
Total	**38.14**	**29.52**	**23.58**	**91.24**

Anticipated Students	Attend Home School	Attend other DCSD School	Private School	Total
Jolly Elementary School	10	22	24	56
Freedom Middle School	12	3	0	15
Clarkston High School	16	4	0	20
Total	**38**	**29**	**24**	**91**

N-4

DEKALB COUNTY GOVERNMENT
PLANNING DEPARTMENT
DISTRIBUTION FORM

NOTE: PLEASE RETURN ALL COMMENTS VIA EMAIL OR FAX TO EXPEDITE THE PROCESS TO MICHELLE ALEXANDER mmalexander@dekalbcountyga.gov AND/OR LASONDRA HILL lahill@dekalbcountyga.gov

COMMENTS FORM:
PUBLIC WORKS TRAFFIC ENGINEERING

Case No.: Z-21-1244893 Parcel I.D. #: 18-095-03-005

Address: 3943 Norman Rd Stn. Mtn. Ga

Adjacent Roadway (s):

_____	_____
_____ (classification)	_____ (classification)
Capacity (TPD)_____	Capacity (TPD)_____
Latest Count (TPD) _____	Latest Count (TPD) _____
Hourly Capacity (VPH)_____	Hourly Capacity (VPH) _____
Peak Hour. Volume (VPH)_____	Peak Hour. Volume (VPH)_____
Existing number of traffic lanes _____	Existing number of traffic lanes _____
Existing right of way width _____	Existing right of way width _____
Proposed number of traffic lanes _____	Proposed number of traffic lanes _____
Proposed right of way width _____	Proposed right of way width _____

Please provide additional information relating to the following statement.

According to studies conducted by the Institute of Traffic Engineers (ITE) 6/7TH Edition (whichever is applicable), churches generate an average of fifteen (15) vehicle trip end (VTE) per 1, 000 square feet of floor area, with an eight (8%) percent peak hour factor. Based on the above formula, the_____square foot place of worship building would generate_____vehicle trip ends, with approximately____peak hour vehicle trip ends.

Single Family residence, on the other hand, would generate ten (10) VTE's per day per dwelling unit, with a ten (10%) percent peak hour factor. Based on the above referenced formula, the _____(Single Family Residential) District designation which allows a maximum of____units per acres, and the given fact that the project site is approximately_____acres in land area,_____daily vehicle trip end, and____peak hour vehicle trip end would be generated with residential development of the parcel.

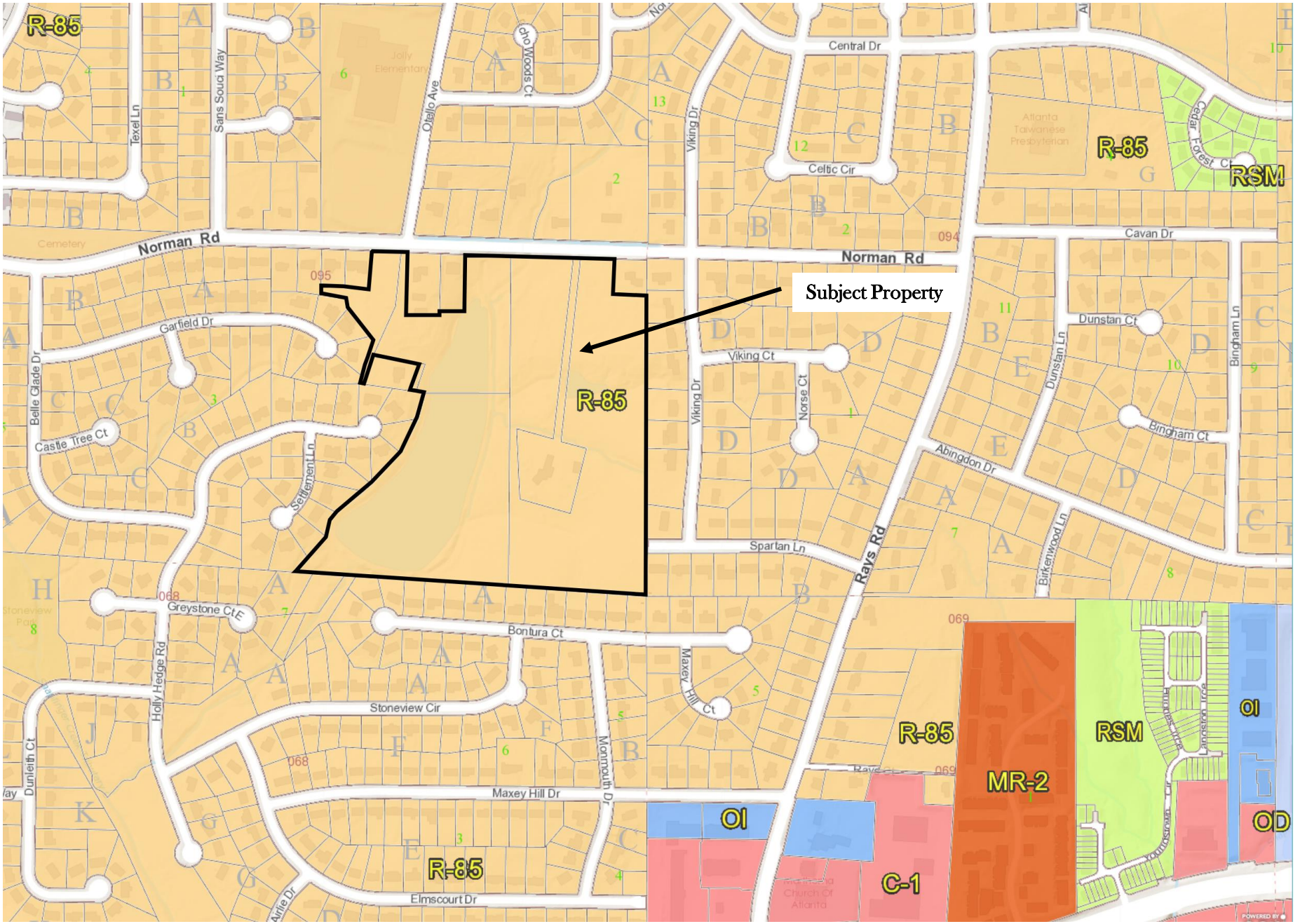
COMMENTS:

Field and plans reviewed. Found nothing that would disrupt traffic flow.

Signature: David Moss

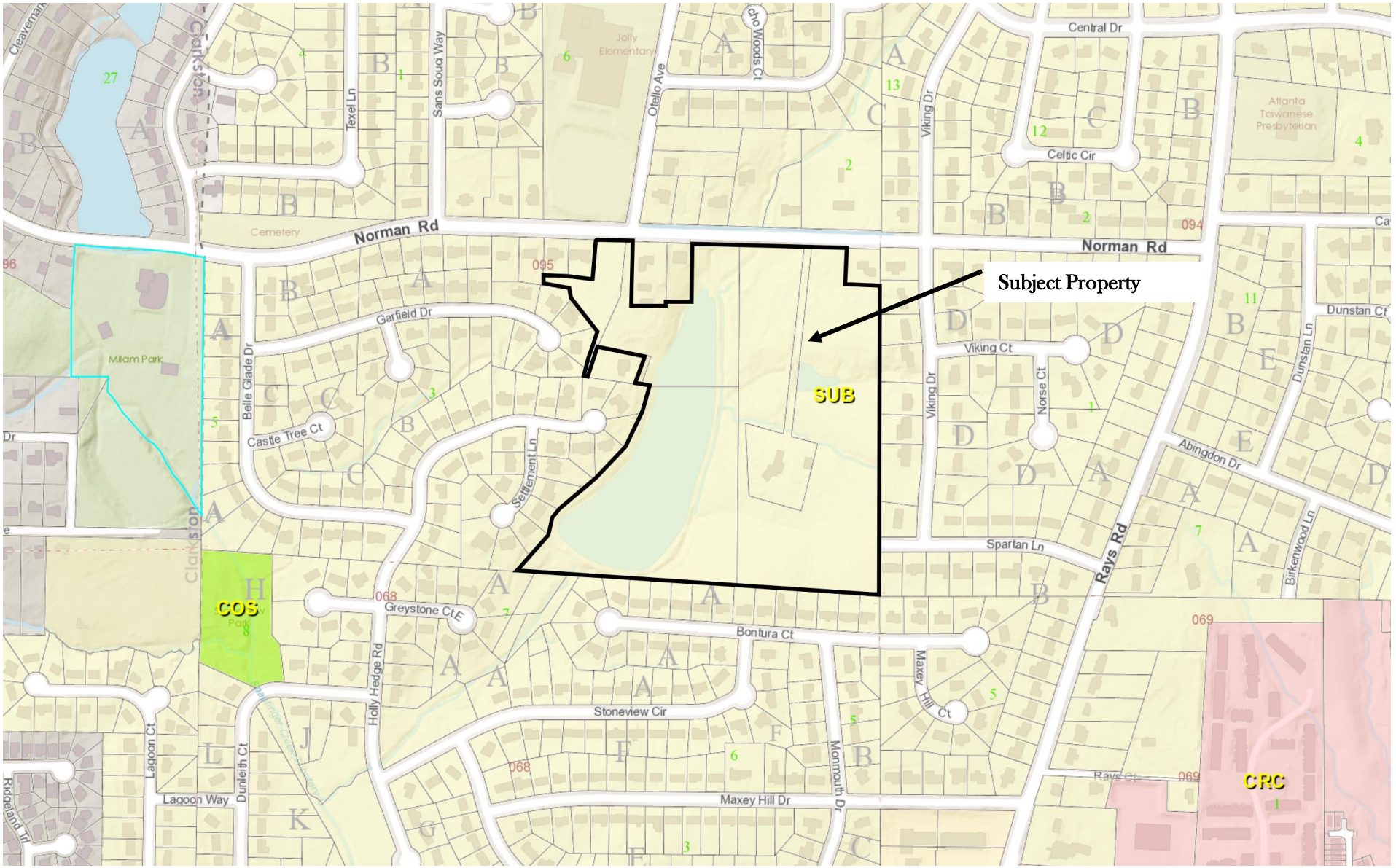
D3 Z 21 1244893

ZONING MAP



D3 Z 21 1244893

Future Land Use Map



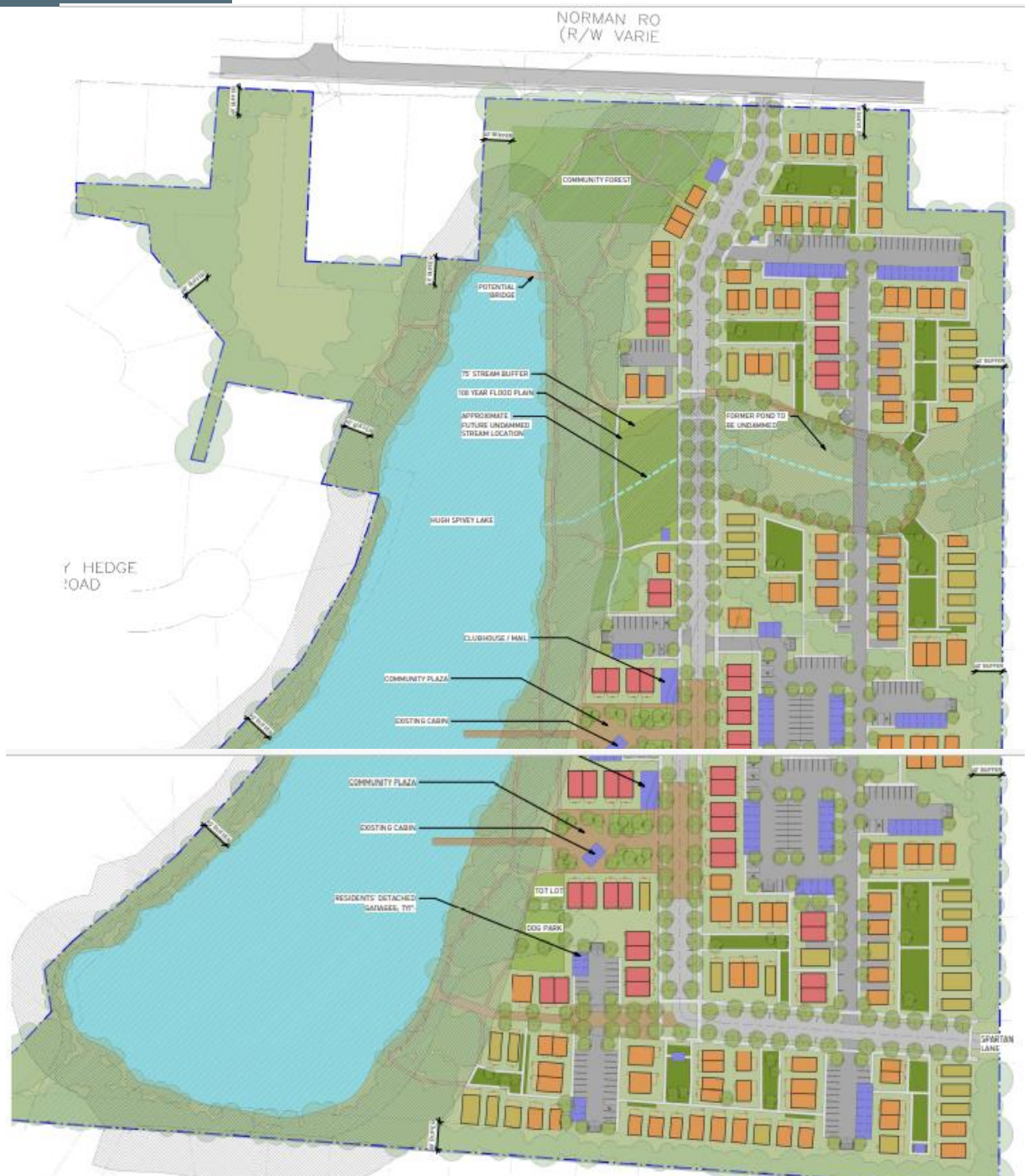
D3 Z 21 1244893

Aerial Map



D3 Z 21 1244893

Site Plan



D3 Z 21 1244893

APPLICATION

DeKalb County Department of Planning & Sustainability

Michael L. Thurmond
Chief Executive Officer

Andrew A. Baker, AICP
Director

APPLICATION TO AMEND OFFICIAL ZONING MAP OF DEKALB COUNTY, GEORGIA

Z/CZ No._____

Filing Fee: _____

Date Received: _____ Application No.:

Applicant: Alderwood Capital, Inc d/b/a Mosaic Communities c/o Battle Law, P.C. E-Mail: mlb@battlelawpc.com

Applicant Mailing Address: One West Court Sq. Suite 750 Decatur, GA 30030

Applicant Phone: 404-601-7616 Fax: 404-745-0045

****

Owner(s): See Exhibit "A" E-Mail:_____
(If more than one owner, attach as Exhibit "A")

Owner's Mailing Address:

Owner(s) Phone: _____ Fax: _____

Address/Location of Subject Property: 3943, 4039, 4069, 4021, 4083, and 4029 Norman Road, Stone Mountain, GA 30083

District(s): 18 Land Lot(s): 095 Block: 03 Parcel(s): 005, 006, 008, 009, 090, 094

Acreage: ~~34.88~~ 34.93 Commission District(s): 4 & 6

Present Zoning Category: R-85 Proposed Zoning Category: RSM

Present Land Use Category: SUB

****

PLEASE READ THE FOLLOWING BEFORE SIGNING

This form must be completed in its entirety before the Planning Department accepts it. It must include the attachments and filing fees identified on the attachments. An application, which lacks any of the required attachments, shall be determined as incomplete and shall not be accepted.

Disclosure of Campaign Contributions

In accordance with the Conflict of Interest in Zoning Act, O.C.G.A., Chapter 36-67A, the following questions must be answered:
Have you the applicant made $250 or more in campaign contributions to a local government official within two years immediately preceding the filing of this application? _____ Yes _X_ No

If the answer is yes, you must file a disclosure report with the governing authority of DeKalb County showing:

1. The name and official position of the local government official to whom the campaign contribution was made.
2. The dollar amount and description of each campaign contribution made during the two years immediately preceding the filing of this application and the date of each such contribution.

The disclosure must be filed within 10 days after the application is first filed and must be submitted to the C.E.O. and the Board of Commissioners, DeKalb County, 1300 Commerce Drive, Decatur, Ga. 30030.

Michael D Oloughlin
NOTARY

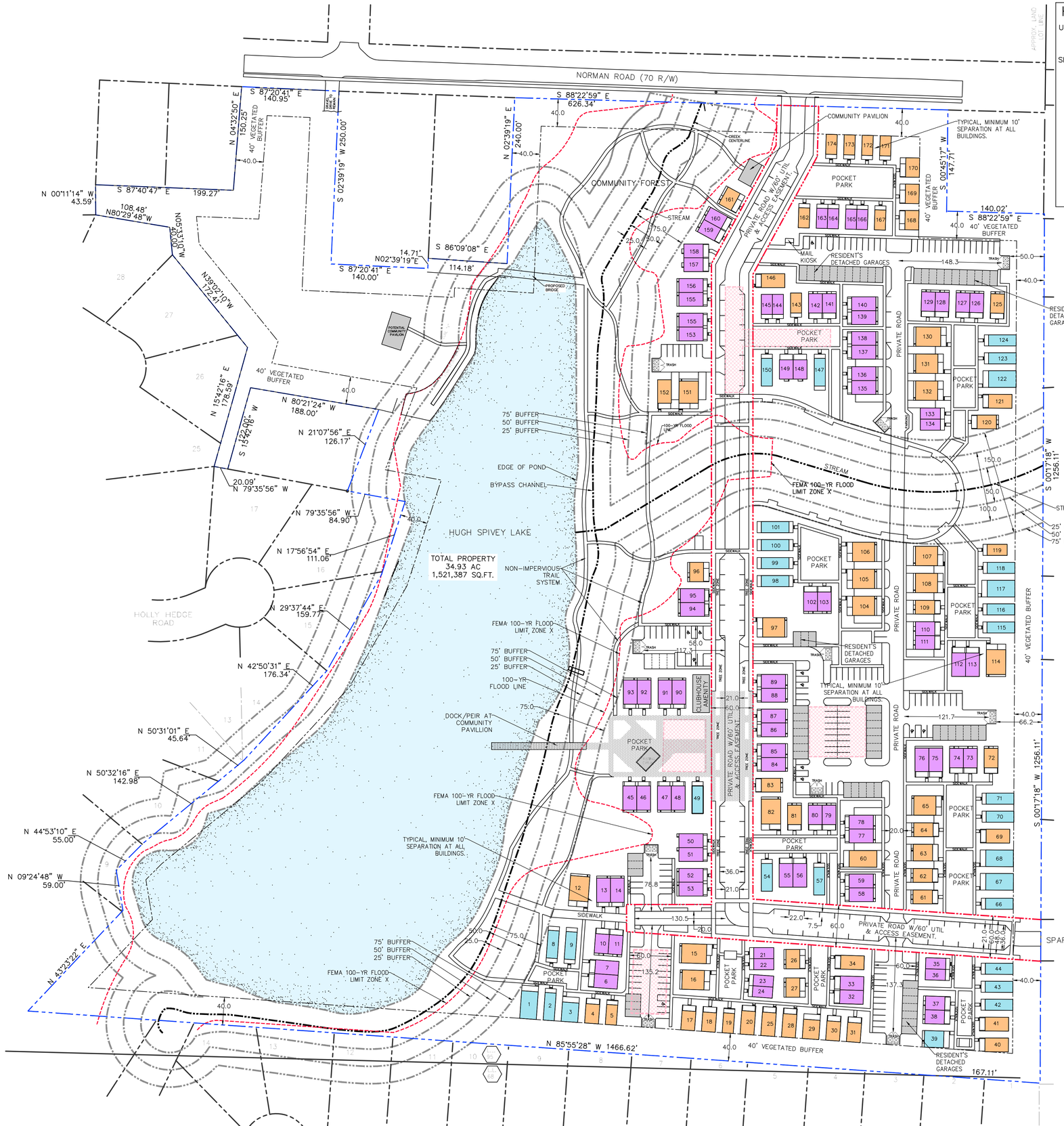
4/28/21
SIGNATURE OF APPLICANT / DATE

Check One: Owner _____ Agent X

EXPIRATION DATE / SEAL

OFFICIAL SEAL
MICHAEL D OLOUGHLIN
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/04/23

330 West Ponce de Leon Avenue – Suites 100-500 – Decatur, Georgia – 30030
[Voice] 404.371.2155 – [Planning Fax] (404) 371-4556 [Development Fax] (404) 371-3007
Web Address http://www.dekalbcountyga.gov/planning
Email Address: planninganddevelopment@dekalbcountyga.gov



HATCH LEGEND:

- URBAN SINGLE FAMILY DETACHED
- SINGLE FAMILY DETACHED COTTAGE
- TWO FAMILY
- COMMUNITY BUILDINGS & GARAGES
- EXISTING POND
- PARK SPACE
- LIMIT OF FLOOD ZONE
- STREAM AND LAKE BUFFERS
- PROPERTY BOUNDARY
- PRIVATE ROAD W/60' UTIL & ACCESS EASEMENT
- LOCATION OF STORMWATER FACILITY (TENTATIVE, TO BE CONFIRMED WITH LDP REVIEW)

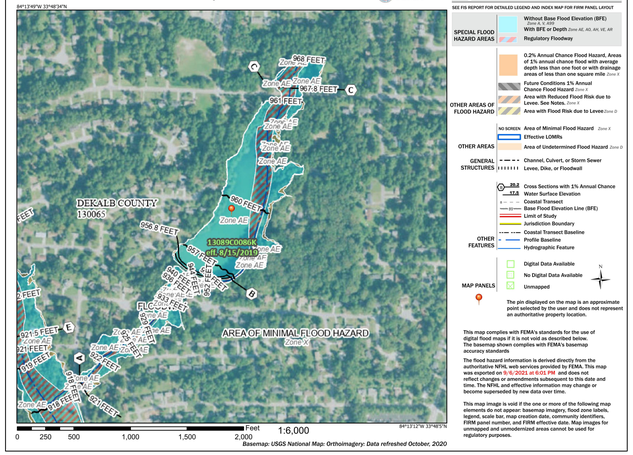


LOCATION MAP

SITE DATA	
SITE AREA	34.93 ACRES
ZONING	
Existing Zoning	R-85
Proposed Zoning	RSM (Small Lot Residential Mix)
Existing Character Area	SUB (Suburban)
Zoning Jurisdiction	DEKALB COUNTY, GEORGIA
SETBACK REQUIREMENTS: SINGLE-FAMILY DETACHED (SFD)	
Front Setback	20 FEET MIN. / 30 FEET MAX.
Side Setback (Interior)	3 FEET (10 FEET MIN. BETWEEN HOMES)
Side Setback (Public Street Corner)	SAME AS FRONT SETBACK
Rear Setback	20 FEET
SETBACK REQUIREMENTS: URBAN SINGLE-FAMILY (U-SF)	
Front Setback	20 FEET MIN. / 30 FEET MAX.
Side Setback (Interior)	0 FEET (3 FEET MIN. BETWEEN HOMES)
Side Setback (Public Street Corner)	SAME AS FRONT SETBACK
Rear Setback	20 FEET
SETBACK REQUIREMENTS: TWO/THREE-FAMILY (TTF)	
Front Setback	20 FEET MIN. / 30 FEET MAX.
Side Setback (Interior)	3 FEET (10 FEET MIN. BETWEEN HOMES)
Side Setback (Public Street Corner)	SAME AS FRONT SETBACK
Rear Setback	15 FEET
SETBACK REQUIREMENTS: TRANSITIONAL BUFFERS	
RSM TO R-85	20 FEET MIN.
DEVELOPMENT STANDARDS	
Single Family Detached-Cottage	33 UNITS
16'x29' Urban Single Family	105 UNITS
20'x34' Two-Family	36 UNITS
Total Residential Units Provided	174 UNITS
Total Site Density Provided	4.98 UNITS/ACRE
Max. Site Density RSM (SUB)	4 UPA (BASE) - 8 UPA (DENSITY BONUSES)
Density Bonus	Enhanced Open Spaces 20% Site = 2.0 UPA
Min. Bldg. Heated (SFD / U-SF / TTF)	800-1,200 SF / 1,200 SF / 1,000 SF
Max. Bldg. Height (SFD / U-SF / TTF)	35 FEET / 3 STORIES OR 45 FEET / 35 FEET
OPEN SPACE CALCULATIONS SEE SHEET Z2 FOR OPEN SPACE EXHIBIT	
Min. Open Space Required	20% (6.99 ACRES)
Open Space Provided	25.52 ACRES (73.08% OF TOTAL SITE AREA)
Min. Enhanced Open Space Required	50% OF MIN. OPEN SPACE REQUIRED (3.49 ACRES)
Enhanced Open Space Required for Density Bonus	20% OF TOTAL SITE AREA (6.99 ACRES)
Enhanced Open Space Provded for Density Bonus	27.71% (9.68 ACRES)
Unenhanced Open Space Provided	45.37% (15.85 ACRES)
Total Open Space Provided (Unenhanced + Enhanced)	73.08% (25.52 ACRES)
PARKING REQUIREMENTS	
Single Family Detached Parking Required	176 SP / 352 SP (2/UNIT MIN. / 4/UNIT MAX.)
TTH Parking Required	86 SP / 344 SP SP (1/UNIT MIN. / 4 UNIT MAX.)
Total Parking Required	262 SPACES
Off-Street Parking Spaces Provided	138 SPACES
On-Street Parking Spaces Provided	71 SPACES
Driveways Provded	40 TANDEM SPACES
Detached Garages Provided	68 SPACES
Total Parking Provided	317 SPACES

NOTE:
ALL UNITS ARE TO BE OWNER OCCUPIED

National Flood Hazard Layer FIRMette



KRONBERG URBANISTS ARCHITECTS
FLIPPO CIVILDESIGN
PAUL FLIPPO
931 MONROE DR NE
STE A102, #223
ATLANTA, GA 30308
C 404.259.9940
E PAUL@FLIPPOCIVIL.COM

GRAPHIC SCALE
(IN FEET)
1 inch = 70 ft.

REGISTER PROFESSIONAL
CIVIL ENGINEER
PAUL T FLIPPO
GA PE #028688

GEORGIA REGISTERED No. 28688 PROFESSIONAL ENGINEER PAUL T. FLIPPO 028688

HUGH SPIVEY LAKE

LAND LOT 95, 18TH DISTRICT
3943, 4039, 4069, 4021, 4083, 4029
NORMAN ROAD
STONE MOUNTAIN, GA 30083

NOT ISSUED FOR CONSTRUCTION

MARK	DATE	DESCRIPTION
	09.07.21	ZONING SITE PLAN
	09.30.21	ZONING SITE PLAN REV

PROJECT ID HSL
DRAWN BY PF
CHECKED BY PF
SHEET TITLE

ZONING MASTER PLAN

DRAWING NO.
Z1



HATCH LEGEND:

- URBAN SINGLE FAMILY DETACHED
- SINGLE FAMILY DETACHED COTTAGE
- TWO FAMILY
- UNENHANCED OPEN SPACE
- COMMUNITY BUILDINGS & GARAGES
- EXISTING POND
- ENHANCED PARK SPACE
- FLOOD ZONE AND STREAM BUFFERS
- LIMIT OF FLOOD ZONE
- STREAM AND LAKE BUFFERS
- PROPERTY BOUNDARY
- PRIVATE ROAD W/60' UTIL & ACCESS EASEMENT
- LOCATION OF STORMWATER FACILITY (TENTATIVE. TO BE CONFIRMED WITH LDP REVIEW)



LOCATION MAP

GRAPHIC SCALE
(IN FEET)
1 inch = 70 ft.
280 140 70 35 0 70

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Side Setback (Public Street Corner)	SAME AS FRONT SETBACK
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SETBACK REQUIREMENTS: TRANSITIONAL BUFFERS	
RSM TO R-85	20 FEET MIN.
DEVELOPMENT STANDARDS	
Single Family Detached-Cottage	30 UNITS
16'x29' Urban Single Family	60 UNITS
20'x34' Two-Family	84 UNITS
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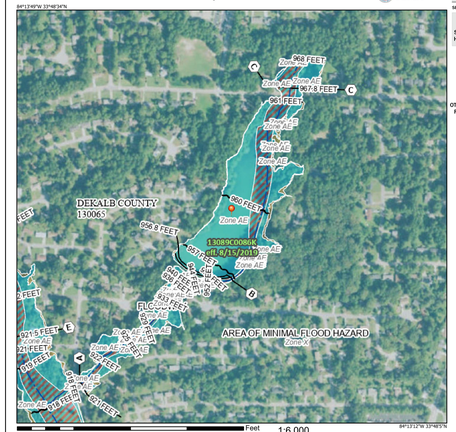
Driveways Provided	40 TANDEM SPACES
Detached Garages Provided	68 SPACES
Total Parking Provided	317 SPACES

NOTE: MINIMUM POCKET PARK SIZE TO BE 30'X70'

National Flood Hazard Layer FIRMette



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PAUL T FLIPPO
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	09.30.21	ZONING SITE PLAN REV

PROJECT ID	HSL
DRAWN BY	PF
CHECKED BY	PF
SHEET TITLE	

OPEN SPACE EXHIBIT

DRAWING NO.
Z2

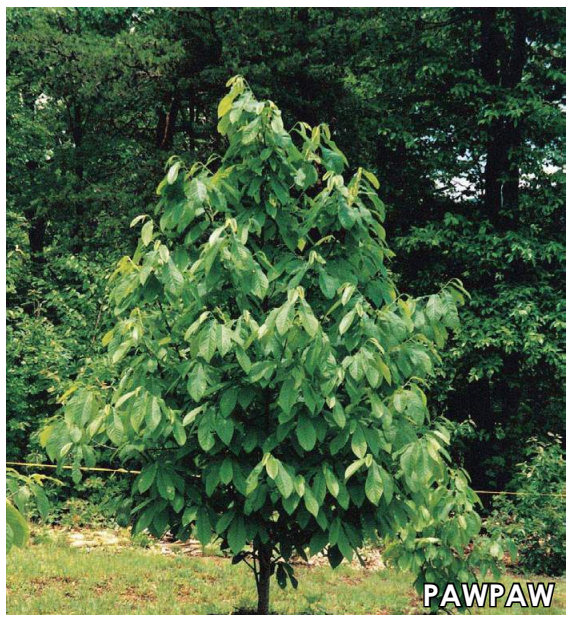
10/25/2021

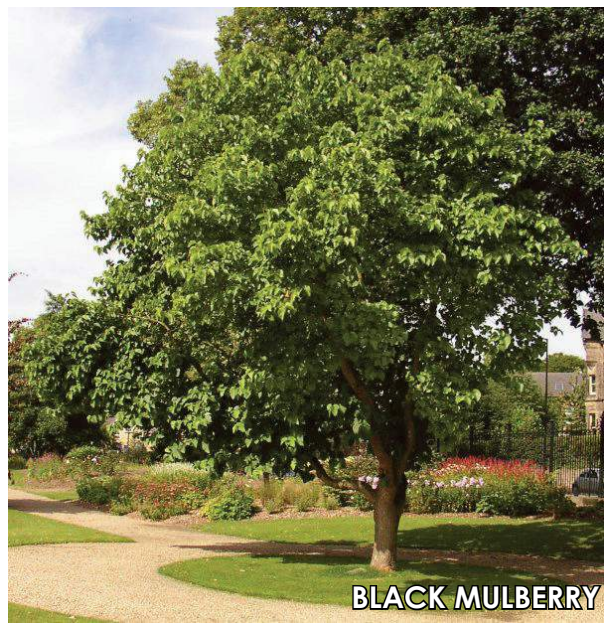
A ORCHARD GROVE

GROUPS OF ORCHARDS TREES ARE SCATTERED SURROUNDING THE OPEN LAWN AREA


APPLE TREE


PAWPAW FRUIT


PAWPAW


BLACK MULBERRY

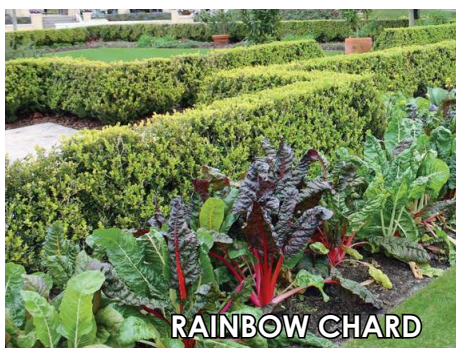
B POLLINATOR GARDEN / EDIBLE ANNUAL BED

POLLINATOR GARDENS ARE SET AT THE ENTRANCE OF THE NEIGHBOURHOOD AND CONSISTS OF SHRUBS, PERENNIALS AND ANNUALS TO PROMOTE BUTTERFLY AND BEE HABITATS WHILE PROVIDING HERBS, VEGETABLES AND FRUITS TO RESIDENTS.

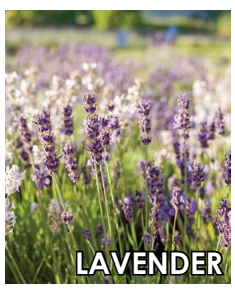

BEE BALM


BUTTERFLY BUSH


POMEGRANATE

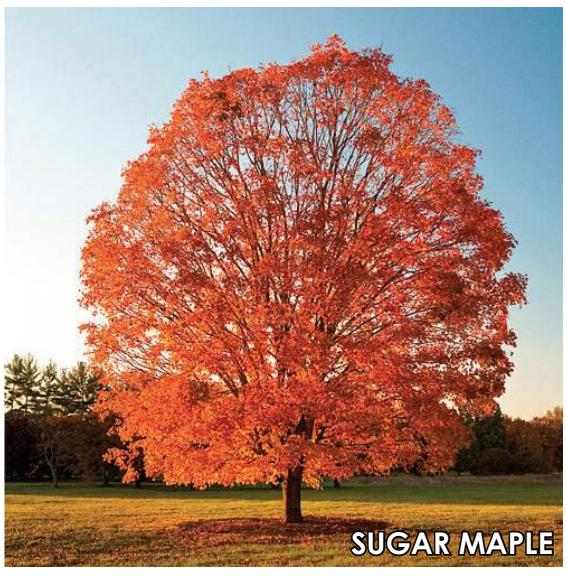

RAINBOW CHARD


APPLE SERVICE BERRY


LAVENDER

C STREETSCAPE

STREETSCAPE CONSISTS OF OVERSTORY TREES, ORNAMENTAL GRASSES,GROUNDCOVER, FLOWERING EVERGREEN SHRUBS AND EVERGREEN SHRUBS OF INTERESTING FOLIAGES.


SUGAR MAPLE


MUHLY GRASS


LIROIPE


LIGUSTRUM

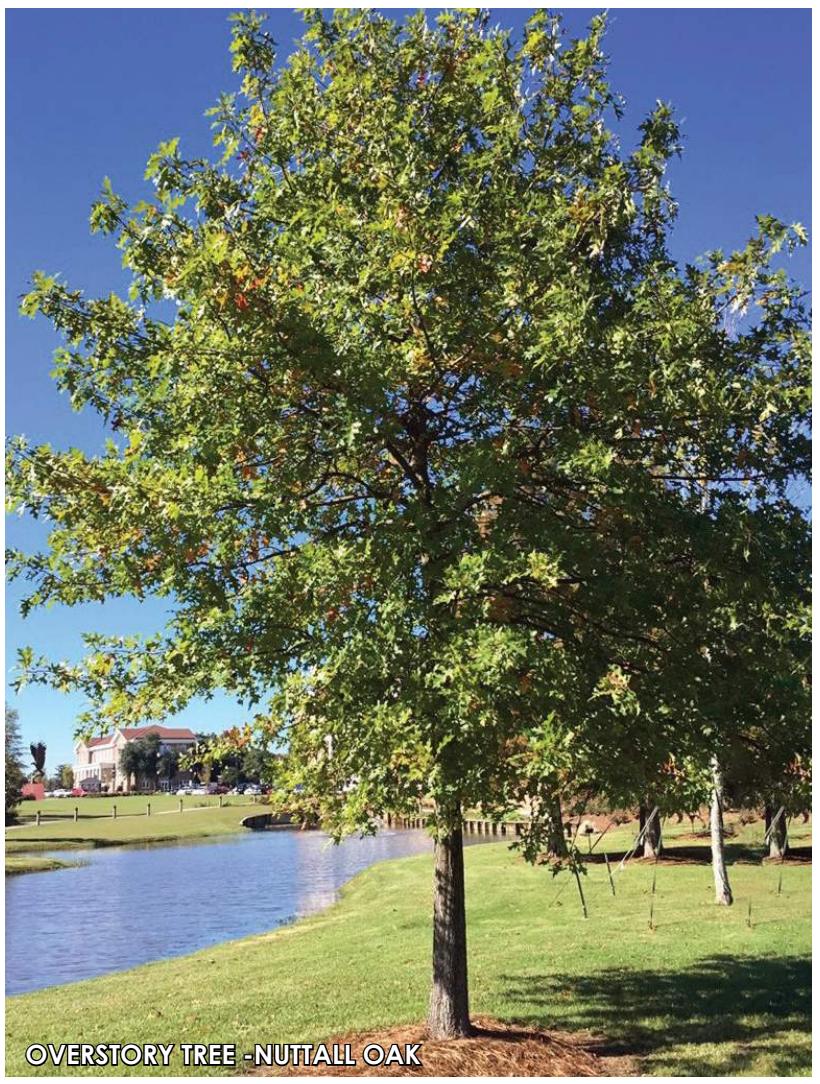

AZALEA

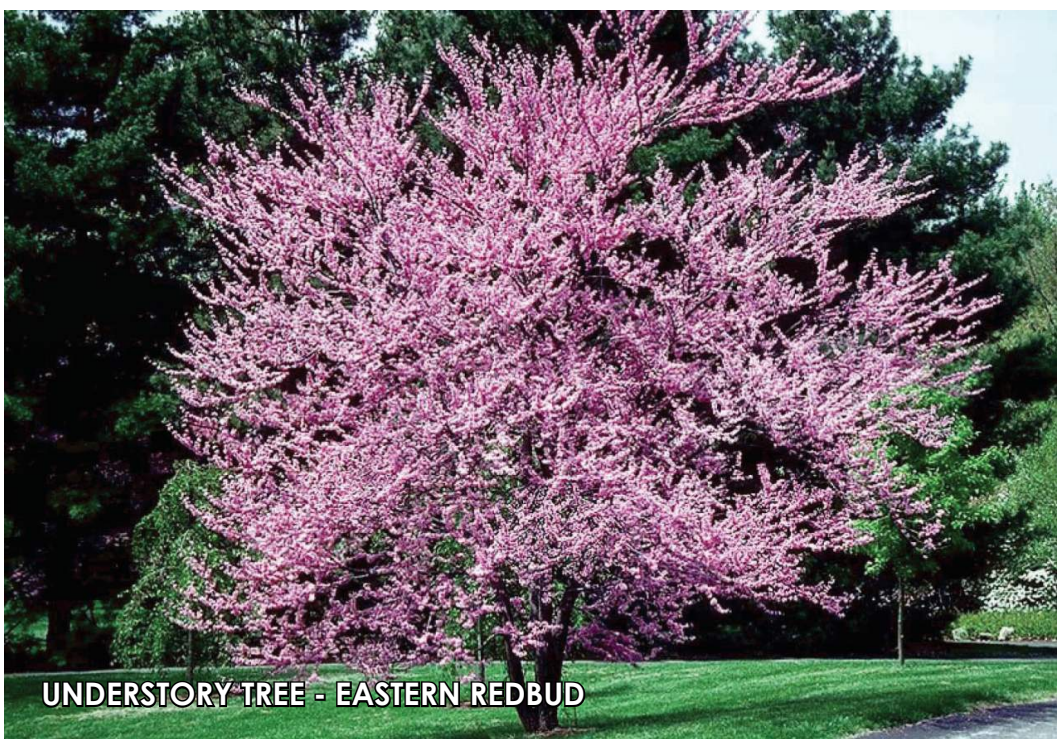
HUGH SPIVEY LAKE

KRONBERG URBANISTS ARCHITECTS

10/25/2021


UNDERSTORY TREE -FLOWERING DOGWOOD


OVERSTORY TREE -NUTTALL OAK


UNDERSTORY TREE - EASTERN REDBUD


OVERSTORY TREE -RED MAPLE

HUGH SPIVEY LAKE

KRONBERG URBANISTS ARCHITECTS

Battle Law

October 01, 2021

VIA: Email {jreid@dekalbcountyga.gov}

CLIENT/MATTER REF: Mosaic Communities, LLC., Norman Road Rezoning Request

Attn: John Reid
330 W. Ponce de Leon Avenue
Decatur, GA 30030

Mr. Reid,

We hereby submit this the most recent documents in reference to the above-mentioned application, located on Norman Road, DeKalb County, GA. Please find the amended and restated statement of intent, revised site plan showing no homes on the most northwestern portion of the property, and a revised survey, attached. Thank you.

Best,

Dani Blumenthal

Danielle Blumenthal
Urban Planner
Email: dlb@battlelawpc.com

STATEMENT OF INTENT

and

Other Material Required by
DeKalb County Zoning Ordinance
For
A Rezoning Application Pursuant to
DeKalb County Zoning Ordinance

of

Alderwood Capital Inc., d/b/a Mosaic Communities c/o Battle Law, P.C.

for

34.93± Acres of Land on Norman Road
Being Tax Parcel Nos. 18 095 03 005, 18 095 03 006, 18 095 03 008, 18 095 03 090, 18 095 03 009 & 18 095 03 094
Unincorporated DeKalb County, Georgia

Submitted for Applicant by:

Michèle L. Battle, Esq.
Battle Law, P.C.
Habersham at Northlake
Building J, Suite 100
Tucker, Georgia 30084
(404) 601-7616 Phone
(404) 745-0045 Facsimile
mlb@battlelawpc.com

I. STATEMENT OF INTENT

The Applicant, Alderwood Capital Inc., d/b/a Mosaic Communities, is seeking to develop a 174-home mixed-housing type conservation community on 34.93 acres of land, being Tax Parcel Nos. 18 095 03 005, 18 095 03 006, 18 095 03 008, 18 095 03 090, 18 095 03 009 & 18 095 03 094 located on Norman Road (the "Subject Property"). The proposed residential project is comprised of single family cottages, urban single family attached and detached, and duplexes. The Subject Property is currently zoned R-85, with a land use designation of suburban (SUB). The Applicant is seeking to rezone the Subject Property to RSM for the development of the community (the "Project").

PROJECT INFO

UNITS		
SINGLE-FAMILY DETACHED - COTTAGE (SFD):		**33**
URBAN SINGLE-FAMILY (U-SF):		**105**
DETACHED		57
ATTACHED		48
TWO-FAMILY (TTF):		**36**
TOTAL HOMES:		**174**
PARKING		
OFF-STREET:	138	
ON-STREET:	71	
SLIP DRIVES:	40 (TANDEM SPACES)	
DETACHED GARAGES:	68	
TOTAL PARKING:	**317**	

NOTE:
ALL SFD ARE 1.5 STORIES MAX.
ALL U-SF AND TTF ARE 2 STORIES MAX

For the past 157 years, the Spivey family has owned the Subject Property. In fact, many surrounding neighbors live in housing developments that were part of the original Spivey farm. Three years ago, Hugh Spivey, the last member of the Spivey family to live on the Subject Property, passed away. With his passing, the family knew that the future of the Subject Property would have to change. They began to lay the groundwork for a vision of a conservation community respectful of their family's legacy that maintains the Subject Property's pastoral charm, preserves the original 1860s Spivey family log cabin, and revitalizes the 7.5 acre lake that many members of the family grew up on.

Mosaic Communities and its architects at Kronberg Urbanists Architects are aiming to transform the Subject Property into a walkable, community-oriented pocket neighborhood that incorporates the Spivey's vision and that of DeKalb County's Comprehensive Plan + Memorial Drive Revitalization Plan. The Project will be a conservation community that respects the natural landscape, with over 70% of the Subject Property maintained as enhanced and unenhanced open

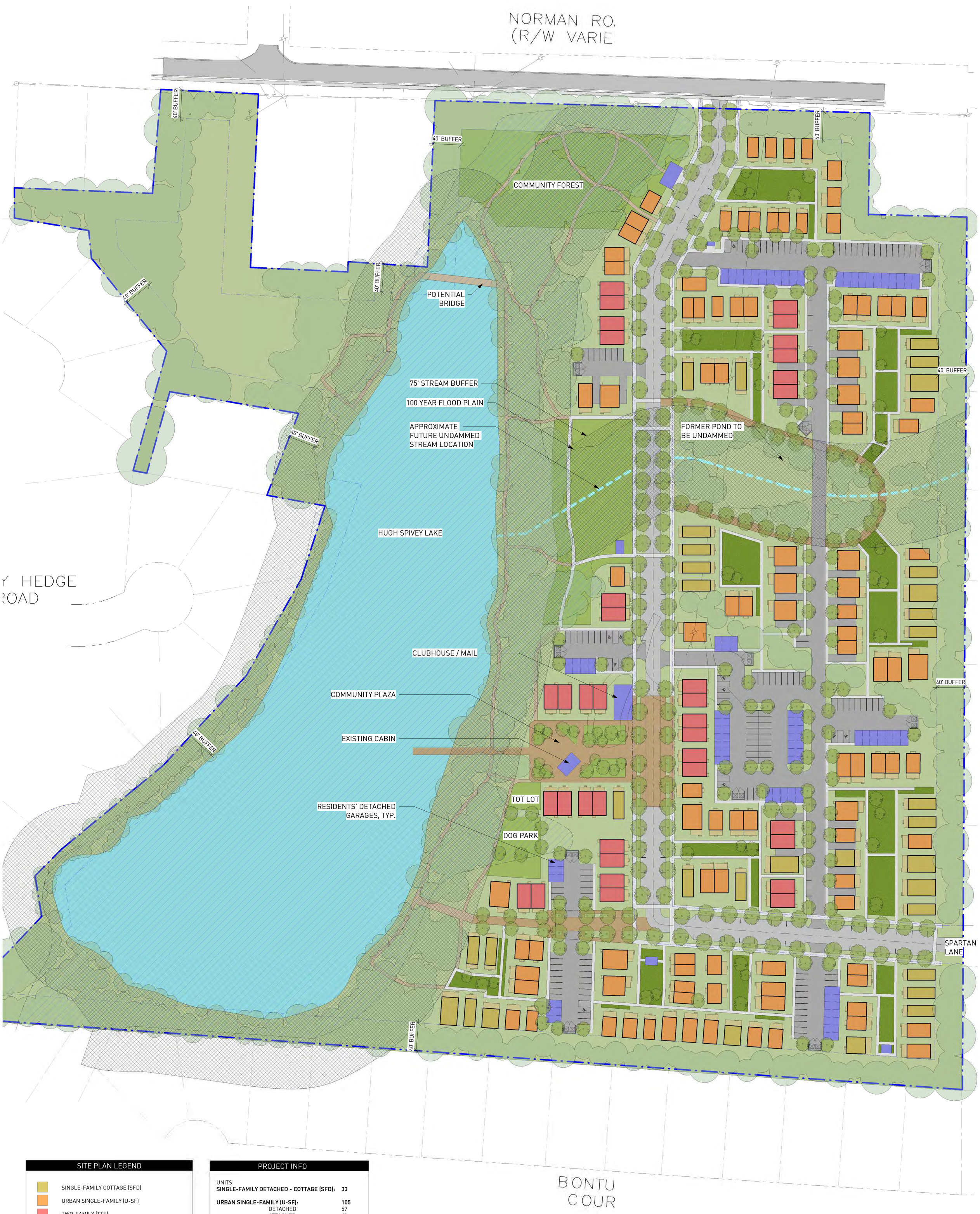
space. The remaining acreage will contain clusters of upscale cottage homes and duplexes inspired by the Spivey family's log cabin and the historical homes of the greater Clarkston area.

The Applicant plans to make improvements to the beautiful Hugh Spivey Lake for residents to better appreciate and enjoy the Subject Property's idyllic setting. Additional amenities will include a community forest, community plaza, clubhouse, outdoor pavilions, a dog park, tot lot, 12 courtyards/pocket parks, and over 3 miles of walking trails & sidewalks. It is also important to Mosaic and the Spivey family that the Project be energy efficient and sustainable, which Mosaic intends to achieve by installing energy efficient appliances and building materials, light pollution-minimizing lighting solutions, electric vehicle charging-enabled garages, constructing solar-ready homes, and utilizing a site plan that consumes less infrastructure and resources than a traditional R-85 development.

The Project will also add much-needed diversity and housing supply to the Metro Atlanta housing market. Over the summer, Metro Atlanta's housing supply dropped to one month, significantly below the six months of supply needed for a balanced housing market. In September 2021, the trailing 12 month average new home sales price in the 5 miles surrounding the Subject Property surpassed $393,000, a price unaffordable for the majority of nearby residents. Simply put, we need more homes, and particularly those at attainable price points. By offering a variety of housing options from 1,000 square foot duplexes to 1,900 square foot single family detached homes, the Project will both provide attainably-priced homes and larger footprint homes that will set a new high for nearby home prices and increase property values. The Applicant will also focus on meeting the needs of an overlooked segment of the housing market: one, two, and three person households. Over 75% of households within a 3 mile radius of the Subject Property are one, two, or three person households, yet the majority of new homes in the area are north of 2,000 square feet. Indeed nationwide the average square feet of a new home in 2019 was over 2,500 square feet. Most of the Project's homes will be two and three bedroom homes in the 1,200-1,500 square feet range in order to cater to this overlooked demographic.

The Project aims to create community and a true sense of place, both essential in today's increasingly isolated world. According to the National Institute of Health, 3 in 5 Americans were lonely prior to COVID-19. This is partly due to our built environment. Humans are social by nature; we like to live around others. Single family development over the last half century has overshot our desire for privacy, leaving many people isolated on their own islands amidst a sea of houses and garages. We can do better. Research shows the physical and social qualities of a neighborhood impact well-being and mental health. Mosaic aims to build on this principle by orienting the homes around courtyards and community spaces, constructing homes with deep front porches, tucking parking away and out of site, and installing amenities that draw people out of their homes.

This document is submitted as a Statement of Intent with regard to this Application and a preservation of the Applicant's constitutional rights. A surveyed plat and conceptual site plan of the Subject Property controlled by the Applicant has been filed contemporaneously with the Application, along with other required materials.



SITE PLAN LEGEND

- SINGLE-FAMILY COTTAGE (SFD)
- URBAN SINGLE-FAMILY (U-SF)
- TWO-FAMILY (TTF)
- BUILDING - COMMUNITY USE
- PORCH
- NEW SIDEWALK
- NATURAL WALKING PATH
- PLAZA
- NEW LANDSCAPE
- COTTAGE COURT

PROJECT INFO

UNITS

SINGLE-FAMILY DETACHED - COTTAGE (SFD):	**33**
URBAN SINGLE-FAMILY (U-SF):	**105**
DETACHED	57
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NOTE:
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ALL U-SF AND TTF ARE 2 STORIES MAX

1 SD - 2.2 SITE PLAN - ALT
1" = 60'-0"

KRONBERG URBANISTS ARCHITECTS

HUGH SPIVEY LAKE

1" = 60'-0"
0' 30' 60' 120' 180'



HATCH LEGEND:

- EXISTING POND
- FLOOD ZONE AND STREAM BUFFERS
- BUILDINGS
- ENHANCED PARK SPACE
- UNENHANCED OPEN SPACE
- LIMIT OF FLOOD ZONE
- STREAM AND LAKE BUFFERS
- PROPERTY BOUNDARY
- PRIVATE ROAD W/60' UTIL & ACCESS EASEMENT
- LOCATION OF UNDERGROUND STORMWATER FACILITY (TENTATIVE, TO BE CONFIRMED WITH LDP REVIEW)



LOCATION MAP

SITE DATA	
SITE AREA	34.93 ACRES
ZONING	
Existing Zoning	R-85
Proposed Zoning	RSM (Small Lot Residential Mix)
Existing Character Area	SUB (Suburban)
Zoning Jurisdiction	DEKALB COUNTY, GEORGIA
SETBACK REQUIREMENTS: SINGLE-FAMILY DETACHED (SFD)	
Front Setback	20 FEET MIN. / 30 FEET MAX.
Side Setback (Interior)	3 FEET (10 FEET MIN. BETWEEN HOMES)
Side Setback (Public Street Corner)	SAME AS FRONT SETBACK
Rear Setback	20 FEET
SETBACK REQUIREMENTS: URBAN SINGLE-FAMILY (U-SF)	
Front Setback	20 FEET MIN. / 30 FEET MAX.
Side Setback (Interior)	0 FEET (3 FEET MIN. BETWEEN HOMES)
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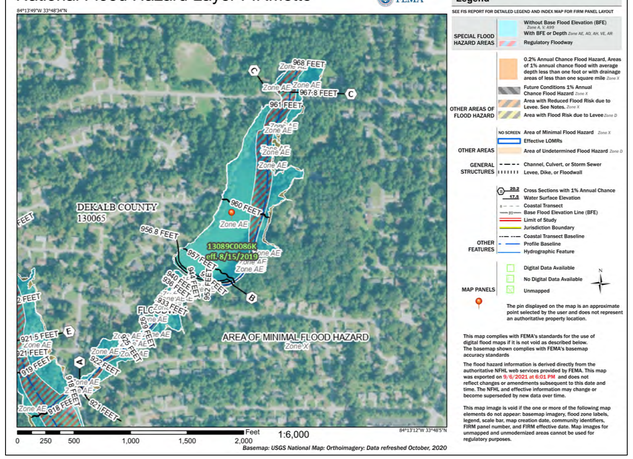
Side Setback (Public Street Corner)	SAME AS FRONT SETBACK
Rear Setback	15 FEET
SETBACK REQUIREMENTS: TRANSITIONAL BUFFERS	
RSM TO R-85	20 FEET MIN.
DEVELOPMENT STANDARDS	
1-A: 24'x28' Single Family Detached-Cottage	4 UNITS
1-A.1: 24'x40' Single Family Detached Cottage	6 UNITS
1-B: 16'x29' Urban Single Family	24 UNITS
1-B.1: 16'x40' Single Family Detached Cottage	23 UNITS
2-A: 20'x28' Urban Single Family	38 UNITS
2-A.1: 28'x20' Urban Single Family	7 UNITS
2-B: 28'x36' Urban Single Family	5 UNITS
2-B.1: 28'x32' Urban Single Family	11 UNITS
3-B: 20'x34' Urban Single Family	20 UNITS
3-B: 20'x34' Two-Family	36 UNITS
Total Residential Units Provided	174 UNITS
Total Site Density Provided	4.98 UNITS/ACRE
Max. Site Density RSM (SUB)	4 UPA (BASE) - 8 UPA (DENSITY BONUSES)
Density Bonus	Enhanced Open Spaces 20% Site = 2.0 UPA
Min. Bldg. Heated (SFD / U-SF / TTF)	800-1,200 SF / 1,100 SF / 1,000 SF
Max. Bldg. Height (SFD / U-SF / TTF)	35 FEET / 3 STORIES OR 45 FEET / 35 FEET

OPEN SPACE CALCULATIONS	
Min. Open Space Required	20% (6.99 ACRES)
Open Space Provided	25.52 ACRES (73.08% OF TOTAL SITE AREA)
Min. Enhanced Open Space Required	50% OF MIN. OPEN SPACE REQUIRED (3.49 ACRES)
Enhanced Open Space Required for Density Bonus	20% OF TOTAL SITE AREA (6.99 ACRES)
Enhanced Open Space Provided for Density Bonus	27.71% (9.68 ACRES)
Unenhanced Open Space Provided	45.37% (15.85 ACRES)
Total Open Space Provided (Unenhanced + Enhanced)	73.08% (25.52 ACRES)

PARKING REQUIREMENTS	
Single Family Detached Parking Required	180 SP / 360 SP (2/UNIT MIN. / 4/UNIT MAX.)
Single Family Attached Parking Required	84 SP / 156 SP SP (1.75/UNIT MIN. / 3.25/UNIT MAX.)
TTH Parking Required	36 SP / 144 SP SP (1/UNIT MIN. / 4 UNIT MAX.)
Total Parking Required	300 SPACES
Off-Street Parking Spaces Provided	138 SPACES
On-Street Parking Spaces Provided	71 SPACES
Driveways Provided	40 TANDEM SPACES
Detached Garages Provided	68 SPACES
Total Parking Provided	317 SPACES

National Flood Hazard Layer FIRMette



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

GRAPHIC SCALE
(IN FEET)
1 inch = 70 ft.
280 140 70 35 0 70

KRONBERG URBANISTS ARCHITECTS
FLIPPO CIVILDESIGN
PAUL FLIPPO
931 MONROE DR NE
STE A102, #223
ATLANTA, GA 30308
C 404.259.9940
E PAUL@FLIPPOCIVIL.COM

REGISTER PROFESSIONAL
CIVIL ENGINEER
PAUL T FLIPPO
GA PE #028688

GEORGIA REGISTERED No. 28688 PROFESSIONAL ENGINEER PAUL T. FLIPPO 028688

HUGH SPIVEY LAKE

LAND LOT 95, 18TH DISTRICT
3943, 4039, 4069, 4021, 4083, 4029
NORMAN ROAD
STONE MOUNTAIN, GA 30083

NOT ISSUED FOR CONSTRUCTION

MARK	DATE	DESCRIPTION
	09.07.21	ZONING SITE PLAN
	09.30.21	ZONING SITE PLAN REV

PROJECT ID	HSL
DRAWN BY	PF
CHECKED BY	PF
SHEET TITLE	

OPEN SPACE EXHIBIT

DRAWING NO.
Z2

HATCH LEGEND:

EXISTING POND

BUILDINGS

PARK SPACE

LIMIT OF FLOOD ZONE

STREAM AND LAKE BUFFERS

PROPERTY BOUNDARY

PRIVATE ROAD W/60' UTIL & ACCESS EASEMENT

LOCATION OF STORMWATER FACILITY (TENTATIVE. TO BE CONFIRMED WITH LDP REVIEW)



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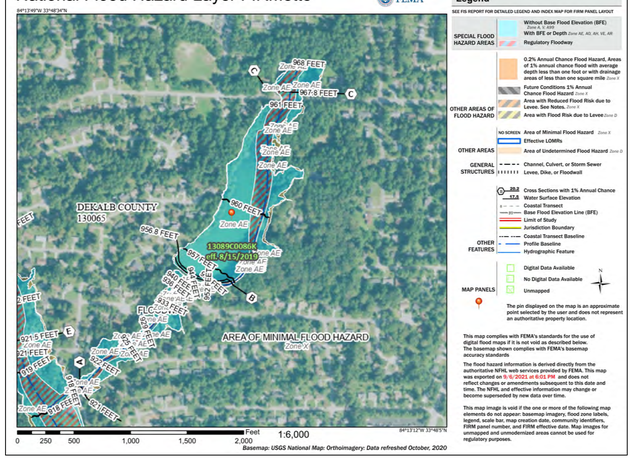

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CIVIL ENGINEER
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HUGH SPIVEY LAKE

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NORMAN ROAD
STONE MOUNTAIN, GA 30083

NOT ISSUED FOR CONSTRUCTION

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	09.30.21	ZONING SITE PLAN REV

PROJECT ID HSL
DRAWN BY PF
CHECKED BY PF
SHEET TITLE

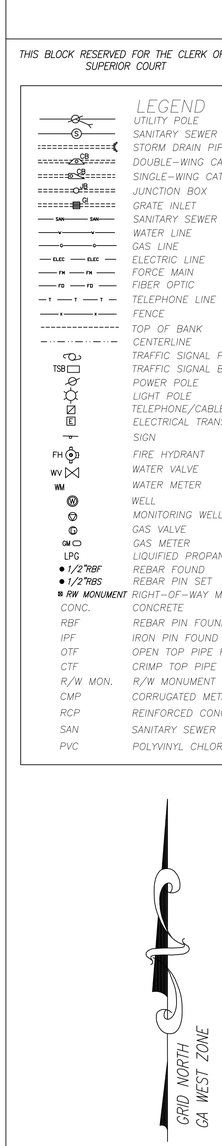
ZONING MASTER PLAN

DRAWING NO.
Z1

THIS BLOCK RESERVED FOR THE CLERK OF SUPERIOR COURT

LEGEND

	UTILITY POLE
S	SANITARY SEWER MANHOLE
	STORM DRAIN PIPE
CB	DOUBLE-WING CATCH BASIN
CB	SINGLE-WING CATCH BASIN
JB	JUNCTION BOX
GI	GRATE INLET
SAN SAN	SANITARY SEWER LINE
W W	WATER LINE
G G	GAS LINE
ELEC. ELEC.	ELECTRIC LINE
FM FM	FORCE MAIN
FO FO	FIBER OPTIC
T T T	TELEPHONE LINE
X X	FENCE
	TOP OF BANK
	CENTERLINE
	TRAFFIC SIGNAL POLE
TSB	TRAFFIC SIGNAL BOX
	POWER POLE
	LIGHT POLE
	TELEPHONE/CABLE BOX
E	ELECTRICAL TRANSFORMER BOX
	SIGN
FH	FIRE HYDRANT
WV	WATER VALVE
WM	WATER METER
W	WELL
M	MONITORING WELL
GV	GAS VALVE
GM	GAS METER
LPG	LIQUIFIED PROPANE GAS
● 1/2"RBF	REBAR FOUND
● 1/2"RBS	REBAR PIN SET
⊠ RW MONUMENT	RIGHT-OF-WAY MONUMENT
CONC.	CONCRETE
RBF	REBAR PIN FOUND
IPF	IRON PIN FOUND
OTF	OPEN TOP PIPE FOUND
CTF	CRIMP TOP PIPE FOUND
R/W MON.	R/W MONUMENT FOUND
CMP	CORRUGATED METAL PIPE
RCP	REINFORCED CONCRETE PIPE
SAN	SANITARY SEWER
PVC	POLYVINYL CHLORIDE PIPE



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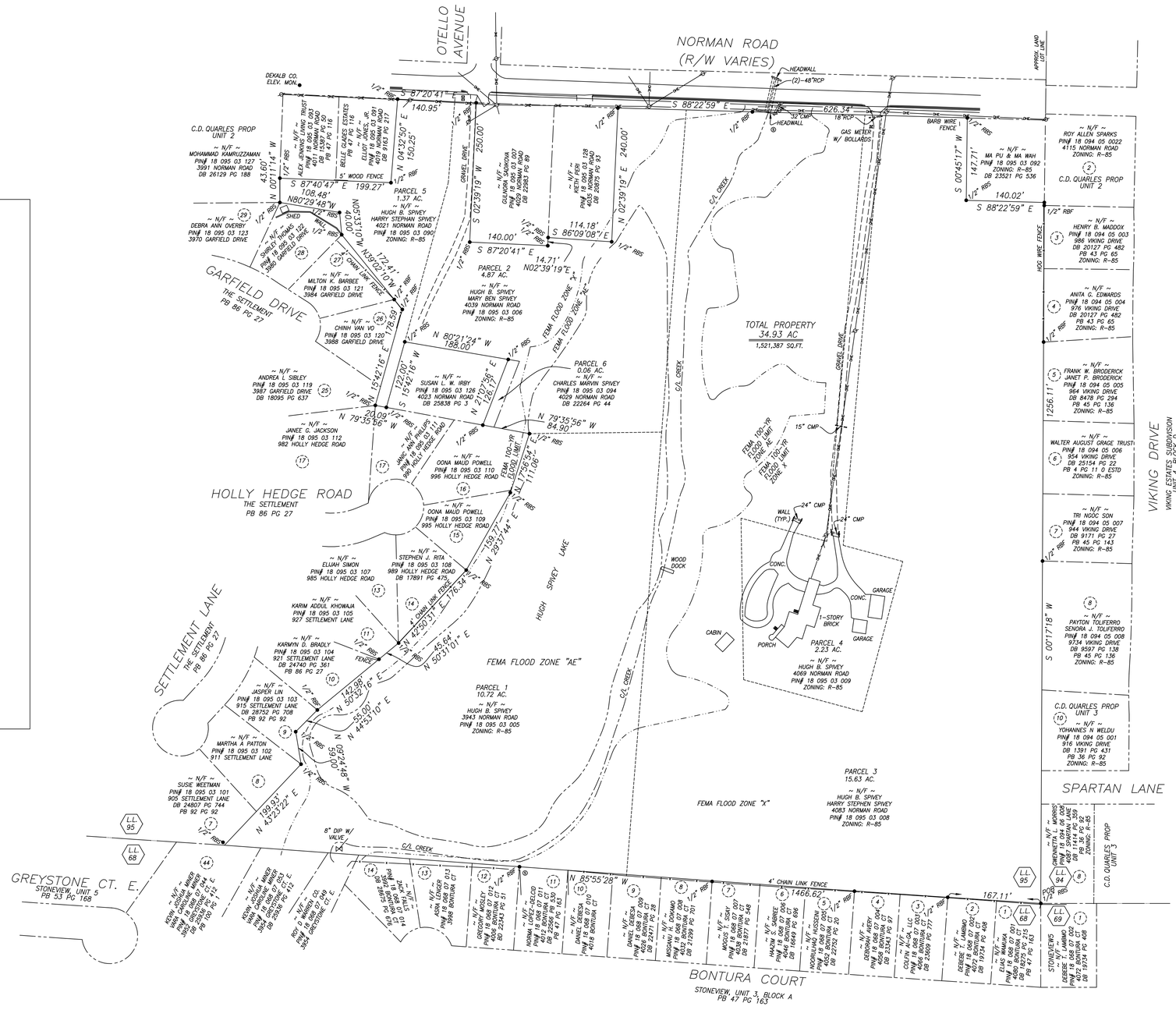
SCALE IN FEET



LEGAL DESCRIPTION

THAT CERTAIN TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 95 OF THE 18TH DISTRICT, 2ND SECTION, DEKALB COUNTY, GEORGIA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF INTERSECTION OF LAND LOTS 68, 69, 94 AND 95 AT A 1/2" REBAR SET, SAID POINT BEING THE POINT OF BEGINNING:

THENCE FROM SAID POINT OF BEGINNING AND ALONG THE COMMON LAND LOT LINE OF LAND LOTS 68 AND 95 NORTH 85 DEGREES 55 MINUTES 28 SECONDS WEST A DISTANCE OF 1,466.62 FEET TO A 1/2" REBAR SET, THENCE LEAVING SAID COMMON LAND LOT LINE NORTH 43 DEGREES 23 MINUTES 22 SECONDS EAST A DISTANCE OF 199.93 FEET TO A 1/2" REBAR SET, THENCE NORTH 09 DEGREES 24 MINUTES 48 SECONDS WEST A DISTANCE OF 59.00 FEET TO A 1/2" REBAR SET, THENCE NORTH 44 DEGREES 53 MINUTES 10 SECONDS EAST A DISTANCE OF 55.00 FEET TO A 1/2" REBAR FOUND, THENCE NORTH 50 DEGREES 32 MINUTES 16 SECONDS EAST A DISTANCE OF 142.98 FEET TO A 1/2" REBAR SET, NORTH 50 DEGREES 31 MINUTES 01 SECONDS EAST A DISTANCE OF 45.64 FEET TO A 1/2" REBAR SET, NORTH 42 DEGREES 50 MINUTES 31 SECONDS EAST A DISTANCE OF 176.34 FEET TO A 1/2" REBAR SET, THENCE NORTH 29 DEGREES 37 MINUTES 44 SECONDS EAST A DISTANCE OF 159.77 TO A 1/2" REBAR SET, THENCE NORTH 17 DEGREES 56 MINUTES 54 SECONDS EAST A DISTANCE OF 111.06 FEET TO A 1/2" REBAR SET, THENCE NORTH 79 DEGREES 35 MINUTES 56 SECONDS WEST A DISTANCE OF 84.90 FEET TO A 1/2" REBAR SET, THENCE NORTH 21 DEGREES 07 MINUTES 56 SECONDS EAST A DISTANCE OF 126.17 FEET TO A 1/2" REBAR SET, THENCE NORTH 80 DEGREES 21 MINUTES 24 SECONDS WEST A DISTANCE OF 180.00 FEET TO A 1/2" REBAR SET, THENCE SOUTH 15 DEGREES 42 MINUTES 16 SECONDS WEST A DISTANCE OF 122.00 FEET TO A 1/2" REBAR SET, THENCE NORTH 79 DEGREES 35 MINUTES 56 SECONDS WEST A DISTANCE OF 20.09 FEET TO A 1/2" REBAR SET, THENCE NORTH 15 DEGREES 42 MINUTES 16 SECONDS EAST A DISTANCE OF 178.59 FEET TO A 1/2" REBAR FOUND, THENCE NORTH 39 DEGREES 02 MINUTES 10 SECONDS WEST A DISTANCE OF 172.41 FEET TO A 1/2" REBAR SET, THENCE NORTH 05 DEGREES 33 MINUTES 10 SECONDS WEST A DISTANCE OF 40.00 FEET TO A 1/2" REBAR SET, THENCE NORTH 80 DEGREES 29 MINUTES 48 SECONDS WEST A DISTANCE OF 108.48 FEET TO A 1/2" REBAR SET, THENCE NORTH 00 DEGREES 11 MINUTES 14 SECONDS WEST A DISTANCE OF 43.60 FEET TO A 1/2" REBAR SET, THENCE SOUTH 87 DEGREES 40 MINUTES 47 SECONDS EAST A DISTANCE OF 199.27 FEET TO A 1/2" REBAR FOUND, THENCE NORTH 04 DEGREES 32 MINUTES 50 SECONDS EAST A DISTANCE OF 150.25 FEET TO A 1/2" REBAR FOUND ON THE SOUTHERN RIGHT OF WAY OF NORMAN ROAD (R/W VARIES), THENCE ALONG SAID R/W SOUTH 87 DEGREES 20 MINUTES 41 SECONDS EAST A DISTANCE 140.95 FEET TO A 1/2" REBAR FOUND, THENCE LEAVING SAID R/W SOUTH 02 DEGREES 39 MINUTES 19 SECONDS WEST A DISTANCE OF 250.00 FEET TO A 1/2" REBAR SET, THENCE SOUTH 87 DEGREES 20 MINUTES 41 SECONDS EAST A DISTANCE OF 140.00 FEET TO A 1/2" REBAR SET, THENCE NORTH 02 DEGREES 39 MINUTES 19 SECONDS EAST A DISTANCE OF 14.71 FEET TO A 1/2" REBAR SET, THENCE SOUTH 86 DEGREES 09 MINUTES 08 SECONDS EAST A DISTANCE OF 114.18 FEET TO A 1/2" REBAR SET, THENCE NORTH 02 DEGREES 30 MINUTES 19 SECONDS EAST A DISTANCE OF 240.00 FEET TO A 1/2" REBAR FOUND ON SAID SOUTHERN R/W, THENCE ALONG SAID R/W SOUTH 88 DEGREES 22 MINUTES 59 SECONDS EAST A DISTANCE OF 626.34 FEET TO A 1/2" REBAR SET, THENCE LEAVING SAID R/W SOUTH 00 DEGREES 45 MINUTES 17 SECONDS WEST TO A 1/2" REBAR SET, THENCE SOUTH 88 DEGREES 22 MINUTES 59 SECONDS EAST A DISTANCE OF 140.02 FEET TO A 1/2" REBAR FOUND ON THE COMMON LAND LOT LINE OF LAND LOTS 94 AND 95, THENCE ALONG SAID COMMON LAND LOT LINE SOUTH 00 DEGREES 17 MINUTES 18 SECONDS A DISTANCE OF 1,256.11 FEET TO 1/2" REBAR SET ON THE COMMON LAND LOT CORNER OF LAND LOTS 68, 69, 94 AND 95, SAID POINT BEING THE POINT OF BEGINNING.

SAID TRACT OR PARCEL CONTAINS 34.93 AC/1,521,387 SQ.FT.

SURVEYOR'S NOTES

1. THE FIELD DATA ON WHICH THIS PLAT IS BASED WAS COMPLETED ON FEBRUARY 18, 2021.
2. THE FIELD DATA ON WHICH THIS PLAT IS BASED HAS A CLOSURE OF ONE FOOT IN 82,235 FEET AND AN ANGULAR ERROR OF 1" PER ANGLE, AND WAS ADJUSTED USING LEAST SQUARES.
3. THE LINEAR AND ANGULAR MEASUREMENTS SHOWN ON THIS PLAT WERE OBTAINED BY FIELD SURVEY USING A GEOMAX 90 ELECTRONIC TOTAL STATION.
4. THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 480,750 FEET.
5. LOCATION AND ARRANGEMENT OF UNDERGROUND UTILITIES ARE PROVIDED BY VISIBLE ACCESSIBLE FIELD EVIDENCE. THERE IS NO CERTAINTY OF THE ACCURACY OF THIS INFORMATION AND IT SHALL BE CONSIDERED IN THAT LIGHT BY THOSE USING THIS SURVEY. UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED. THE OWNER, HIS CONSULTANTS, AND HIS CONTRACTORS SHALL HEREBY DISTINCTLY UNDERSTAND THAT THIS SURVEYOR IS NOT RESPONSIBLE FOR THE SUFFICIENCY OF THE UNDERGROUND UTILITY INFORMATION PROVIDED HEREON.
6. REFERENCES: THE SETTLEMENT PB 86 PG 27
   STONEVIEW PB 47 PG 163
   VIKING ESTATES PB 43 PG 136

REVISION PER ATTORNEY'S COMMENTS 8-24-2021

JACOB & HEFNER ASSOCIATES
3440 Blue Springs Road NW, Suite 101
Kennesaw, GA 30144
PHONE: (770) 672-2276
www.jacobandhefner.com

BOUNDARY SURVEY FOR:
ALDERWOOD CAPITAL, INC.

LOCATED IN LAND LOT 95, 18TH DISTRICT ~ 2ND SECTION
DEKALB COUNTY, GEORGIA

GEORGIA REGISTERED 3095 LAND SURVEYOR J. MATTHEW WELLBORN

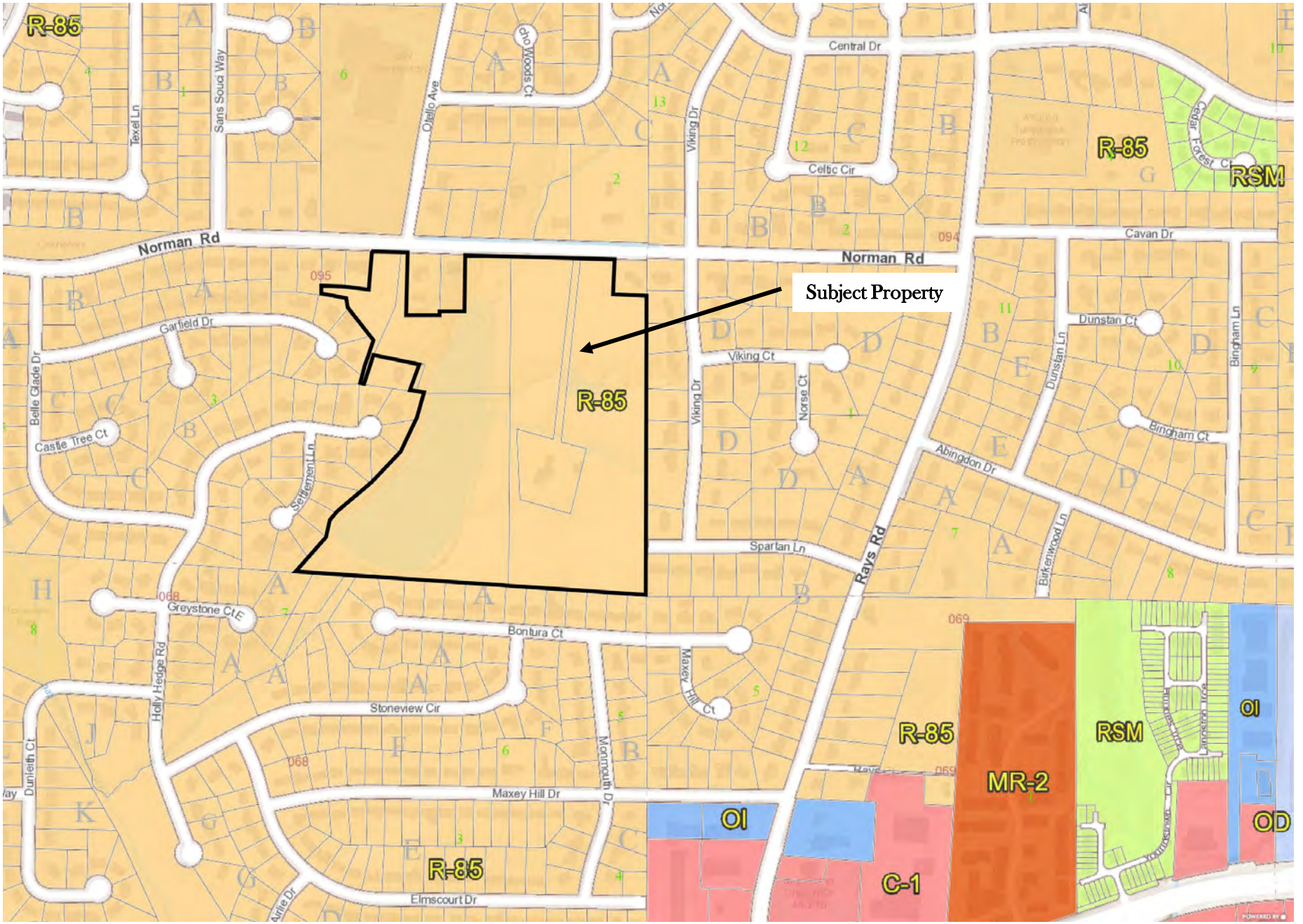
FLOOD NOTE

THIS PROPERTY DOES LIE WITHIN AN AREA HAVING SPECIAL FLOOD HAZARDS AS PER FEMA FIRM MAP # 13089 C 0086 K DATED MARCH 4, 2019
PROPERTY LIES WITHIN A FLOOD HAZARD AREAS DESIGNATED ZONE X AND AE.

Survey No.:	G126	
Ordered By.:		
Description:	SURVEY	
Date Prepared:	3-8-2021	
Scale:	1"=100'	SHEET 1

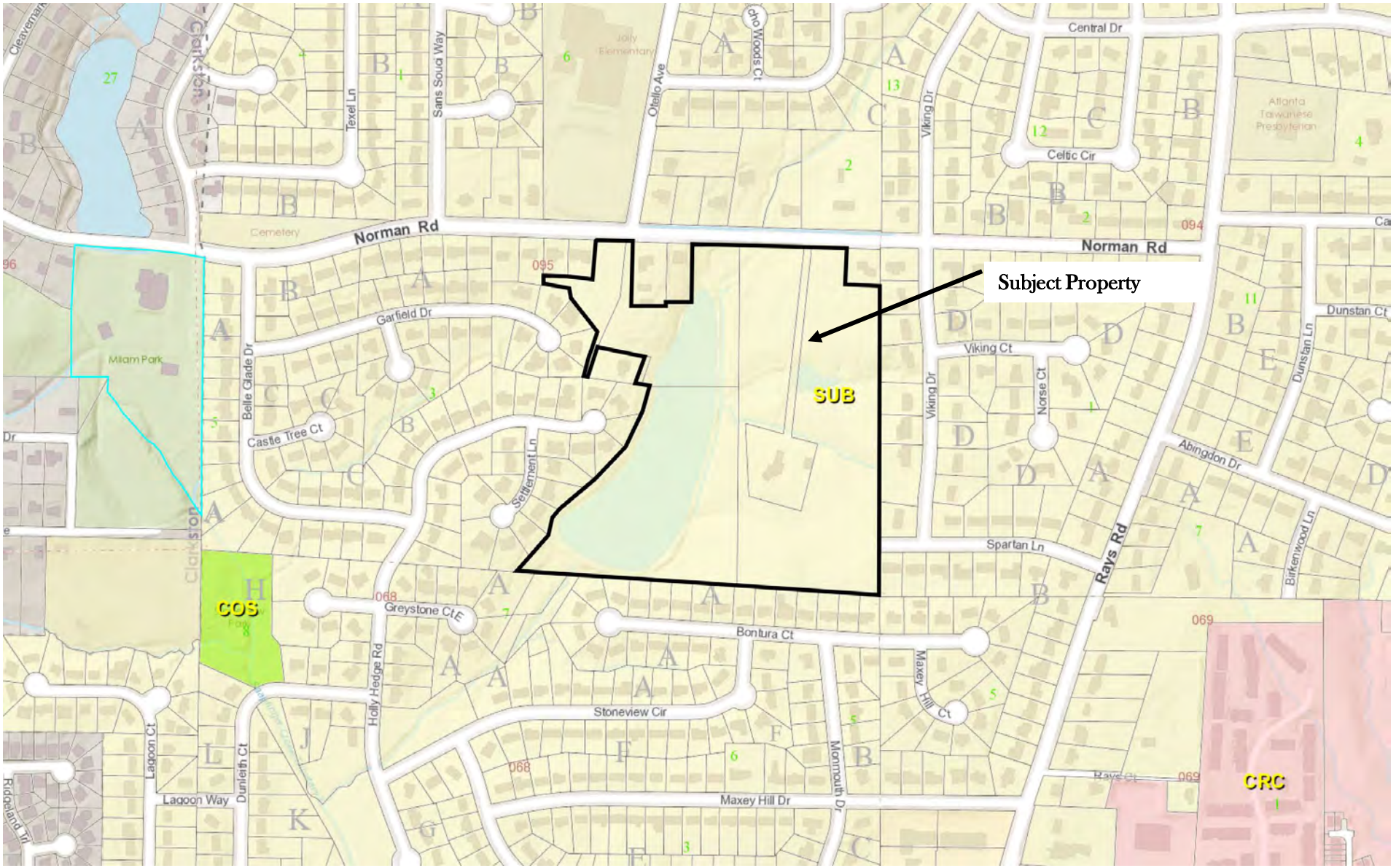
D3 Z 21 1244893

ZONING MAP



D3 Z 21 1244893

Future Land Use Map



D3 Z 21 1244893

Aerial Map



D3 Z 21 1244893

Site Plan



D3 Z 21 1244893

APPLICATION

DeKalb County Department of Planning & Sustainability

Michael L. Thurmond
Chief Executive Officer

Andrew A. Baker, AICP
Director

APPLICATION TO AMEND OFFICIAL ZONING MAP OF DEKALB COUNTY, GEORGIA

Z/CZ No._____

Filing Fee: _____

Date Received: _____ Application No.:

Applicant: Alderwood Capital, Inc d/b/a Mosaic Communities c/o Battle Law, P.C. E-Mail: mlb@battlelawpc.com

Applicant Mailing Address: One West Court Sq. Suite 750 Decatur, GA 30030

Applicant Phone: 404-601-7616 Fax: 404-745-0045

Owner(s): See Exhibit "A" E-Mail:_____
(If more than one owner, attach as Exhibit "A")

Owner's Mailing Address:

Owner(s) Phone: _____ Fax: _____

Address/Location of Subject Property: 3943, 4039, 4069, 4021, 4083, and 4029 Norman Road, Stone Mountain, GA 30083

District(s): 18 Land Lot(s): 095 Block: 03 Parcel(s): 005, 006, 008, 009, 090, 094

Acreage: ~~34.88~~ 34.93 Commission District(s): 4 & 6

Present Zoning Category: R-85 Proposed Zoning Category: RSM

Present Land Use Category: SUB

PLEASE READ THE FOLLOWING BEFORE SIGNING

This form must be completed in its entirety before the Planning Department accepts it. It must include the attachments and filing fees identified on the attachments. An application, which lacks any of the required attachments, shall be determined as incomplete and shall not be accepted.

Disclosure of Campaign Contributions

In accordance with the Conflict of Interest in Zoning Act, O.C.G.A., Chapter 36-67A, the following questions must be answered:
Have you the applicant made $250 or more in campaign contributions to a local government official within two years immediately preceding the filing of this application? _____ Yes _X_ No

If the answer is yes, you must file a disclosure report with the governing authority of DeKalb County showing:

1. The name and official position of the local government official to whom the campaign contribution was made.
2. The dollar amount and description of each campaign contribution made during the two years immediately preceding the filing of this application and the date of each such contribution.

The disclosure must be filed within 10 days after the application is first filed and must be submitted to the C.E.O. and the Board of Commissioners, DeKalb County, 1300 Commerce Drive, Decatur, Ga. 30030.

Michael D O'Loughlin
NOTARY

4/28/21
SIGNATURE OF APPLICANT / DATE

Check One: Owner _____ Agent X

OFFICIAL SEAL
MICHAEL D O'LOUGHLIN
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/04/23

EXPIRATION DATE / SEAL

330 West Ponce de Leon Avenue – Suites 100-500 – Decatur, Georgia – 30030
[Voice] 404.371.2155 – [Planning Fax] (404) 371-4556 [Development Fax] (404) 371-3007
Web Address http://www.dekalbcountyga.gov/planning
Email Address: planninganddevelopment@dekalbcountyga.gov

Revised 1/1/17

DeKalb County Department of Planning & Sustainability

Michael L. Thurmond
Chief Executive Officer

Andrew A. Baker, AICP
Director

APPLICATION TO AMEND OFFICIAL ZONING MAP OF DEKALB COUNTY, GEORGIA

Z/CZ No._____

Filing Fee: _____

Date Received: _____ Application No.:

_____

Applicant: Alderwood Capital, Inc d/b/a Mosaic Communities c/o Battle Law, P.C. E-Mail: mlb@battlelawpc.com

Applicant Mailing Address: One West Court Sq. Suite 750 Decatur, GA 30030

Applicant Phone: 404-601-7616 Fax: 404-745-0045

****

Owner(s): See Exhibit "A" E-Mail:_____
(If more than one owner, attach as Exhibit "A")

Owner's Mailing Address:

_____

Owner(s) Phone: _____ Fax: _____

Address/Location of Subject Property: 3943, 4039, 4069, 4021, 4083, and 4029 Norman Road, Stone Mountain, GA 30083

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Acreage: ~~34.88~~ 34.93 Commission District(s): 4 & 6

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Present Land Use Category: SUB

****

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Michael D O'Loughlin
NOTARY

4/28/21
SIGNATURE OF APPLICANT / DATE

Check One: Owner _____ Agent X

OFFICIAL SEAL
MICHAEL D O'LOUGHLIN
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/04/23

EXPIRATION DATE / SEAL

Exhibit "A", Property Owner Signatures

Hugh Bennett Spivey, Jr.
36444 Dog Leg Court
Frankford, DE 19945
202-297-1025
Bennett.spivey@gmail.com

Hugh Bennett Spivey, Jr., Owner

Kay Spivey Sims
349 Nunally Farm Road
Monroe, GA 30655
770-20708020
simsrad@gmail.com

Kay Spivey Sims, Owner

Harry Stephen Spivey
339 Nunally Farm Road
Monroe, GA 30655
404-234-8835
scmspivey@windstream.net

Harry Stephen Spivey., Owner

DeKalb County

404.371.2155 (o)
404.371.4556 (f)

Clark Harrison Building
330 W. Ponce de Leon Ave.
Decatur, GA 30030

Chief Executive Officer
Michael Thurmond

DEPARTMENT OF PLANNING & SUSTAINABILITY

Director
Andrew A. Baker, AICP

REZONE APPLICATION AUTHORIZATION

*Completion of this form is required if the individual making the request is **not** the owner of the property.*

DATE: 4/28/2021

CHECK TYPE OF APPLICATION:

( ) LAND USE PLAN

(X) REZONE

( ) MINOR MODIFICATION

TO WHOM IT MAY CONCERN:

(I) (WE) Hugh Bennett Spivey, Jr., Kay Spivey Sims, and Harry Stephen Spivey

(Name of owner(s))

being (owner)/(owners) of the property described below or attached hereby delegate

authority to Alderwood Capital Inc. c/o Battle Law, P.C.

(Name of Applicant or Agent Representing Owner)

to file an application on (my) / (our) behalf.

Jane West Tribbitt
Notary Public

Hugh Bennett Spivey, Jr., Owner

Jean S Williams
Notary Public

Kay Spivey Sims, Owner

Jean S Williams
Notary Public

Harry Stephen Spivey, Owner

JEAN S WILLIAMS
NOTARY PUBLIC
WALTON COUNTY, GEORGIA
MY COMMISSION EXPIRES
January 05, 2025

JANE WEST TRIBBITT
NOTARY PUBLIC
STATE OF DELAWARE
My Commission Expires 02-01-2022

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Chief Executive Officer
Michael Thurmond

DEPARTMENT OF PLANNING & SUSTAINABILITY

Director
Andrew A. Baker, AICP

PRE-APPLICATION FORM
REZONE, SPECIAL LAND USE PERMIT, MODIFICATION, AND LAND USE
(Required prior to filing application: signed copy of this form must be submitted at filing)

Applicant Name: _Nathan Williams_____ Phone: _630-408-2875_____ Email: ntwilliams@gmail.com_____

Property Address: _4069 Norman Road and others_____

Tax Parcel ID: _18 095 03 005 18 095 03 006 18 095 03 008 18 095 03 009 18 095 03 090 18 095 03 094 _____

Comm. District(s): _4 & 6____ Acreage: _34.88 acres_____

Existing Use: _Vacant land and vacant residential structure_____

Proposed Use__Cottage-scale single-family detached and attached homes on smaller lots _____

Supplemental Regs: __NA_____ Overlay District: _NA_____ DRI: _No based on applicant indicating estimated number of residential units will be 245. This should be verified. _____

Rezoning: Yes __X___ No _____

Existing Zoning: __R-85_____ Proposed Zoning: _RSM_____ Square Footage/Number of Units: 245 (estimated)_____

Rezoning Request: __Cottage scale single-family detached and attached homes on similar lots

_____

_____

Land Use Plan Amendment: Yes____ No __X__

Existing Land Use: ___NA_____ Proposed Land Use: __NA_____ Consistent _____ Inconsistent_____

Special Land Use Permit: Yes____ No _X___ Article Number(s) 27-_____

Special Land Use Request(s) _____

_____

Major Modification:

Existing Case Number(s): ___NA_____

Condition(s) to be modified:

_____

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WHAT TO KNOW BEFORE YOU FILE YOUR APPLICATION

Pre-submittal Community Meeting: _X_____ Review Calendar Dates: _X_____ PC: 05/04/21__ BOC: 05/27/21___ Letter of Intent: _X____Impact Analysis: __X___ Owner Authorization(s):__X___ Campaign Disclosure: __X___ Zoning Conditions: __X_____ Community Council Meeting: _04/20/21___ Public Notice, Signs: __X_____ Tree Survey, Conservation: ___X_____ Land Disturbance Permit (LDP): ___X_____ Sketch Plat: ____X_____ Bldg. Permits: __X_____ Fire Inspection: ____X___ Business License: __X_____ State License: _____ Lighting Plan: __X____ Tent Permit: ____X__ Submittal Format: NO STAPLES, NO BINDERS PLEASE

Deadline to host pre-community meeting 2/24/21

Filing Deadline 2/25/21

Review of Site Plan

Density: _7 units per acre_____ Density Bonuses: _Will require provision of density bonus elements per Article 2 and 5 of zoning ordinance_____ Mix of Uses: __X_____ Open Space: __X_____ Enhanced Open Space: ___X_____ Setbacks: front __X____ sides ___X___ side corner __X___ rear _____ Lot Size: ___X___ Frontage: ___X_____ Street Widths: __X_____ Landscape Strips:___X____ Buffers:_X_____ Parking Lot Landscaping: _X_____ Parking - Auto: ____X_____ Parking - Bicycle: ___X_____ Screening: _____X_____ Streetscapes: ___X____ Sidewalks: __X___Fencing/Walls:_____ Bldg. Height: __X___ Bldg. Orientation: __X___ Bldg. Separation: _____ Bldg. Materials: ___X__ Roofs: _____ Fenestration: _____ Façade Design: _____ Garages: _____ Pedestrian Plan:_____ Perimeter Landscape Strip: _____

Possible Variances: __Significant floodplain on property may necessitate variances. No detailed site plan provided. _____

Comments: _Concept bubble plan provided, but no detailed plan showing specific number and location of specific types of residential units with detailed dimensions was provided. Must demonstrate how proposed RSM zoning and development is consistent and compatible with zoning and development pattern of surrounding area. Applicant indicates that this property is

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uniquely suited for RSM cluster development due to its natural community assets including Lake Spivey and an abundance of mature trees, and that the proposed development will include a community garden, walking trails, and preservation of a large amount of trees. The large amount of floodplain on the property may impact buildability. Proposed community garden must comply with Supplemental Regulations of zoning ordinance. The applicant indicated that community events may be desired in the future to foster sense of community in the project but no specific information was given. Proposed community events may or may not be allowed depending on zoning ordinance requirements. Proposed density requires provision of density bonus elements in Article 2 and 5 of zoning ordinance. Single-family detached, single-family attached, two-family dwellings, and three-family dwellings are allowed in RSM zoning, but multi-family dwellings are not allowed. If fee-simple lots are proposed they must comply with the perimeter lot compatibility requirements of Article 5 of the zoning ordinance. Street trees, sidewalks, street lights and landscape strips will be required along frontage of existing roads and along all proposed internal streets. Applicant will provide more details about the specific types of residential land uses and proposed building setbacks, building height, building material, open space, etc when a detailed site plan is provided with the submittal of a rezoning application. Traffic Impact Study will be required by the Zoning Ordinance. Please verify that no DRI is required.

Planner:___John Reid_____Date___01/15/2021_____

Filing Fees

REZONING:	RE, RLG, R-100, R-85, R-75, R-60, MHP, RSM, MR-1	$500.00
	RNC, MR-2, HR-1, HR-2, HR-3, MU-1, MU-2, MU-3, MU-4, MU-5	$750.00
	OI, OD, OIT, NS, C1, C2, M, M2	$750.00
LAND USE MAP AMENDMENT		$500.00
SPECIAL LAND USE PERMIT		$400.00

Pre-Submittal Community Meetings

- The first community meeting was held February 15, 2021 at 6pm via Zoom. Please find the notice sent out to community members attached to this application and a recording on the USB drive submitted along with the application. A mailing list for these applications is also attached.

- At this meeting, a smaller group of representatives was established to have additional discussion with the Applicant. This group met with the Applicant on April 22nd at 6pm via Zoom. Those included in the small group include:

- There was another meeting for the entire community held on April 28th at 6:30pm via Zoom. Please find the notice sent out to the community members attached to this application, along with the registration list of who attended.

Battle Law, P.C.
Commercial Real Estate & Zoning
www.battlelawpc.com

MICHELE L. BATTLE, ESQ.
President

January 28, 2021

RE: A Proposed Rezoning Project at 3943, 4039, 4083, 4069, 4021 and 4029 Norman Road, Stone Mountain, Georgia 30083

Dear Property Owner:

We would like for you to join our Zoom Video Meeting Monday, February 15, 2021 from 6:00pm – 7:00pm to discuss the proposed rezoning of the properties located at 3943, 4039, 4083, 4069, 4021 and 4029 Norman Road, Stone Mountain, Georgia 30083. My client, Mosaic Communities, in partnership with the Spivey family, which has owned the property for over 150 years, is seeking to rezone the property to allow for the development of a community-centric, walkable, conservation community comprised of single family attached and detached cottage homes. The Mosaic team is pursuing a collaborative approach to this development effort, and looks forward to hearing your feedback and suggestions.

Below are the meeting instructions. There are multiple ways for you to join the meeting, including via your computer, tablet, or cell phone, with or without video. If you are unable to make it, but would like to learn more, please contact our office at (404) 601-7616 ext. 2 or email us at bdc@battlelawpc.com and we'll send you a summary of the meeting.

You are invited to a Zoom meeting.

When: Feb 15, 2021 06:00 PM Eastern Time (US and Canada)

Register in advance for this meeting:
https://us02web.zoom.us/meeting/register/tZIkdumtpzkvG9E5HRN-Yq4dlKS8bpmcT36Z

After registering, you will receive a confirmation email containing information about joining the meeting.

Please contact our offices if you have any questions regarding the meeting.

Sincerely,

Michèle L. Battle

One West Court Square, Suite 750 Decatur, Georgia 30030
Phone: 404.601.7616 • Fax: 404.745.0045 • mlb@battlelawpc.com

Zoom Step by Step Instructions

Go to https://otago.zoom.us/join and Enter the Meeting ID that you have been provided with in the appropriate field and click "Join" (the meeting ID will be a 9 digit or 10 digit number)

If joining from a mobile Device

If you are joining from a mobile device (Android smartphone/tablet, Apple iPhone/iPad) then it will simply prompt you to download the Zoom Cloud Meeting app from the App/Play Store.

If joining from a computer

When entering a Zoom meeting for the first time from a computer you may need to download a small application file. This process is easy to complete on all commonly used browsers. Google Chrome should automatically download the file.

Just before Entering the meeting you will be prompted to enter a display name. This name is simply to identify you in the meeting.

Join Audio via Computer

You will then be prompted how you wish to join your audio. If you wish to join audio via the telephone, follow the instructions further down, otherwise simply select Join Computer by Audio

Join Audio via Telephone

Dial in as using the number provided, however after entering the Meeting ID, you will be prompted to enter your Participant ID/Password. Simply enter this number followed by # and the video audio will then be synchronized.

Raising Your Hand

As the non-speaker if you wish to ask a question or make a point during the meeting it's good protocol to use the "Raise Hand" facility.

If the tool bar is not showing at the bottom of the Zoom window, place your cursor over the Zoom window so it appears and select the "Participants" icon.

A window listing other participants will appear, there is also a "Raise Hand" icon, click the icon to make it known to the Host that you would like to raise your hand.

If you wish to lower your hand, click the "Lower Hand" icon that will have replaced the "Raise Hand" icon.

Leave Meeting

To leave a meeting from Zoom on your desktop, select "End Meeting" then "Leave Meeting."

459-Norman Rd _ Address Mailing List

Name	Address	City, State, Zip
ABASHA FITYA	417 ROCKBRIDGE TRL	STONE MOUNTAIN GA 30083
ABITEW AMBAW D.	938 SETTLEMENT LN	STONE MOUNTAIN GA 30083
ABRAHAM LEUL G	4018 BONTURA CT	STONE MOUNTAIN GA 30083
ALEMAYEHU YARED A	876 MONMOUTH DR	STONE MOUNTAIN GA 30083
ALEMU ADANE	3933 GARFIELD DR	STONE MOUNTAIN GA 30083
AMDE TSEHAY	4120 BONTURA CT	STONE MOUNTAIN GA 30083
AMIN MOHAMAD BABU KHAN NUR	3947 GREYSTONE CT E	STONE MOUNTAIN GA 30083
ANDREWS JANET	3975 GARFIELD DR	STONE MOUNTAIN GA 30083
ASRA LENGAR	3998 BONTURA CT	STONE MOUNTAIN GA 30083
AVERY DEBORAH	4255 OXFORD CROSSING DR	DECATUR GA 30034
BAF 2 LLC	5001 PLAZA ON THE LK STE 200	AUSTIN TX 78746
BARBEE MILTON K	3984 GARFIELD DR	STONE MOUNTAIN GA 30083
BENNETT ANDREA	942 NORSE CT	STONE MOUNTAIN GA 30083
BENVENUTI MICHAEL E	3942 GARFIELD DR	STONE MOUNTAIN GA 30083
BERLAT INVESTMENT HOLDING LLC	P O BOX 232	STONE MOUNTAIN GA 30086
BOTORO DESSIE	4140 VIKING CT	STONE MOUNTAIN GA 30083
BOWMAN JAMES H	928 SETTLEMENT LN	STONE MOUNTAIN GA 30083
BOYER DEON O	3987 BONTURA CT	STONE MOUNTAIN GA 30083
BRADLEY KARMYN D	921 SETTLEMENT LN	STONE MOUNTAIN GA 30083
BRODERICK FRANK W	964 VIKING DR	STONE MOUNTAIN GA 30083
BROOKS ERIN A	3964 STONEVIEW CIR	STONE MOUNTAIN GA 30083
BROWN TRACY L	3941 GREYSTONE CT E	STONE MOUNTAIN GA 30083
BYRD DAPHNE	937 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
CALVIN REO MANAGEMENT LLC	3760 SIXES RD STE 126	CANTON GA 30114
CHERKOSE HAILU	4138 NORMAN RD	STONE MOUNTAIN GA 30083
CHHETRI GURU	3121 MAYS CT	DECATUR GA 30033
CHHETRI HIRA	4038 NORMAN RD	STONE MOUNTAIN GA 30083
COBBETT ERIN A	4139 VIKING CT	STONE MOUNTAIN GA 30083
COLEMAN DEBORAH B	8519 RICHMOND AVE	ALEXANDRIA VA 22309
CORNELIUS JAMES L	4032 STONEVIEW CIR	STONE MOUNTAIN GA 30083
CROSBY JANICE M	4088 NORMAN RD	STONE MOUNTAIN GA 30083
DAMON SCOTT	4073 ECHO WOODS DR	CLARKSTON GA 30021

DASOUZA ARTHUR	3986 BONTURA CT	STONE MOUNTAIN GA 30083
DAVIES VIVIAN	1601 ALDER CT SE	ATLANTA GA 30317
DEBESA DANIEL	4026 BONTURA CT	STONE MOUNTAIN GA 30083
DEKALB BOARD OF EDUCATION	1701 MOUNTAIN INDUSTRIAL BLVD	STONE MOUNTAIN GA 30083
DESALEGN MERSHA M	4122 SPARTAN LN	STONE MOUNTAIN GA 30083
DO TUAN MANH	3936 GARFIELD DR	STONE MOUNTAIN GA 30083
DOKAMO MISGANU H	4032 BONTURA CT	STONE MOUNTAIN GA 30083
EDWARDS ANITA G	976 VIKING DR	STONE MOUNTAIN GA 30083
EDWARDS FREDERICK	916 SETTLEMENT LN	STONE MOUNTAIN GA 30083
EDWARDS JUDY YOLANDA	4004 STONEVIEW CIR	STONE MOUNTAIN GA 30083
EDWARDS MARY KATHERINE	975 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
ELLIOTT JEAN	3999 BONTURA CT	STONE MOUNTAIN GA 30083
FABIAN FRANCES IONE	3983 NORMAN RD	STONE MOUNTAIN GA 30083
FALCO JOHN	4051 ECHO WOODS	CLARKSTON GA 30021
FALLS ZACK	3992 BONTURA CT	ATLANTA GA 30345
FARLEY DWAYNE E	4261 ANTELOPE LN	SNELLVILLE GA 30039
FAZACKERLEY ANDREW	1010 VIKING DR	STONE MOUNTAIN GA 30083
FERRIN REID P	3956 GREYSTONE CT E	STONE MOUNTAIN GA 30083
FORTNER LINDA CONNELLY	933 VIKING DR	STONE MOUNTAIN GA 30083
FOSTER TINEY	3943 GARFIELD DR	STONE MOUNTAIN GA 30083
FRAZIER CHRISTINE E	941 VIKING DR	STONE MOUNTAIN GA 30083
FRENCH ROBERT	968 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
FYR SFR BORROWER LLC	3505 KOGER BLVD STE 400	DULUTH GA 30096
GAVINS SONIA C	862 MAXEY HILL CT	STONE MOUNTAIN GA 30083
GEBREMEDHIN GIDEY	P O BOX 1214	CLARKSTON GA 30021
GEE RONNIE	877 MONMOUTH DR	STONE MOUNTAIN GA 30083
GHIDEY YEMANE	855 MONMOUTH DR	STONE MOUNTAIN GA 30083
GORNSTEIN JOAN	4078 NORMAN RD	STONE MOUNTAIN GA 30083
GREER THOMAS STIRLING	4147 NORMAN RD NW	STONE MOUNTAIN GA 30083
GUERRA JOEL ED	4016 STONEVIEW CIR	STONE MOUNTAIN GA 30083
GURUNG PAL M	4024 STONEVIEW CIR	STONE MOUNTAIN GA 30083
GUZMAN WILLEHADO	3993 BONTURA CT	STONE MOUNTAIN GA 30083
HADERA ELSA ZEWDU	1019 VIKING DR	STONE MOUNTAIN GA 30083
HANKTON JOYCE MARIE	1097 COTTON OAK DR	LAWRENCEVILLE GA 30045
HAQU AMONUL	4064 STONEVIEW CIR	STONE MOUNTAIN GA 30083

HASSEN JEMAL S	866 MONMOUTH DR	STONE MOUNTAIN GA 30083
HAYNES CHRISTOPHER G	992 BAY POINTE WAY SW	LILBURN GA 30047
HIGHSMITH JOHN HOLMES	4067 ECHO WOODS DR	CLARKSTON GA 30021
HRITZ STEPHEN J	3950 GARFIELD DR	STONE MOUNTAIN GA 30083
HUSSEINI NOORULHAQ	4052 BONTURA CT	STONE MOUNTAIN GA 30083
HUSSEINI NOORULHAQ S	4049 BONTURA CT	STONE MOUNTAIN GA 30083
IRBY SUSAN L W	4023 NORMAN RD	STONE MOUNTAIN GA 30083
JACKSON JANAE G	982 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
JAMA SAID HASSAN	4146 NORMAN RD	STONE MOUNTAIN GA 30083
JENKINS ALEX LIVING TRUST	89 2ND AVE SE	ATLANTA GA 30317
JONES ELLIOT JR	4019 NORMAN RD	STONE MOUNTAIN GA 30083
KAMRUZZAMAN MOHAMMAD	3991 NORMAN RD	STONE MOUNTAIN GA 30083
KHOWAJA ABDUL KARIM	927 SETTLEMENT LN	STONE MOUNTAIN GA 30083
KIM ANDREW J	916 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
KING BATTLE JHUMIKEA T	949 VIKING DR	STONE MOUNTAIN GA 30083
KING DAWN M	975 VIKING DR	STONE MOUNTAIN GA 30083
KNOWLES CHRISTOPHER	4117 SPARTAN LN	STONE MOUNTAIN GA 30083
LAM TAN NHAN	4125 SPARTAN LN	STONE MOUNTAIN GA 30083
LAMB SANDRA HER ESTATE PERS RE	P O BOX 13513	FLINT MI 48501
LAMBMO DEBEBE T	4072 BONTURA CT	STONE MOUNTAIN GA 30083
LARRY J R	4027 BONTURA CT	STONE MOUNTAIN GA 30083
LE NGU VAN	4043 ECHO WOODS DR	CLARKSTON GA 30021
LE NGUYET YEN THI	1027 VIKING DR	STONE MOUNTAIN GA 30083
LEWIS GERALDINE H	950 NORSE CT	STONE MOUNTAIN GA 30083
LEWIS JACQUELINE L	958 NORSE CT	STONE MOUNTAIN GA 30083
LI BOI	3951 NORMAN RD	STONE MOUNTAIN GA 30083
LIN JASPER	915 SETTLEMENT LN	STONE MOUNTAIN GA 30083
LITTLE BUTCH	4000 STONEVIEW CIR	STONE MOUNTAIN GA 30083
LONGMORE HUGH T	4007 BONTURA CT	STONE MOUNTAIN GA 30083
LOPEZ DELCID NORMA C	4012 BONTURA CT	STONE MOUNTAIN GA 30083
MADDOX HENRY B	986 VIKING DR	STONE MOUNTAIN GA 30083
MADEBO ELIAS W	873 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
MAHGOUB ALI S	5910 MASTERS CLUB DR	SUWANEE GA 30024
MAJHI BUDDHI	3946 GREYSTONE CT E	STONE MOUNTAIN GA 30083
MARKITON GEOFFREY M	4104 SPARTAN LN	STONE MOUNTAIN GA 30083

MASON JOHN D	4030 NORMAN RD	STONE MOUNTAIN GA 30083
MATTHEWS DAVID TIMOTHY SR	960 GARFIELD CT	STONE MOUNTAIN GA 30083
MATTOX PAIGE	3959 GARFIELD DR	STONE MOUNTAIN GA 30083
MCPHEE BLONEVA M	915 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
MEZA CLETO ADRIANO	908 SETTLEMENT LN	STONE MOUNTAIN GA 30083
MID TOWN PARTNERS LLC	2701 WINDEMERE DR	VALDOSTA GA 31602
MIGNOTT OSWALD	4096 BONTURA CT	STONE MOUNTAIN GA 30083
MILLER JAMES D	4112 BONTURA CT	STONE MOUNTAIN GA 30083
MILLER JAMES RICHARD JR	3928 GREYSTONE CT E	STONE MOUNTAIN GA 30083
MINER KEVIN JOSHUA	3952 GREYSTONE CT E	STONE MOUNTAIN GA 30083
MINER KEVIN JOSHUA	3952 GREYSTONE CT	STONE MOUNTAIN GA 30083
MOHAMAD NOJUMA	4043 STONEVIEW CIR	STONE MOUNTAIN GA 30083
MORRIS GWENNETTA L	4087 SPARTAN LN	STONE MOUNTAIN GA 30083
MORRISON-LEE CYNTHIA	3934 GREYSTONE CT E	STONE MOUNTAIN GA 30083
MOSLEY GREGORY	4006 BONTURA CT	STONE MOUNTAIN GA 30083
MURRAY GLENN E	974 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
MWENDANABABO LUBUNGA	4101 SPARTAN LN	STONE MOUNTAIN GA 30083
NGUYEN AN T	1011 VIKING DR	STONE MOUNTAIN GA 30083
NGUYEN HAO H	856 MAXEY HILL CT	STONE MOUNTAIN GA 30083
NGUYEN HUNG DUC	3940 GREYSTONE CT E	STONE MOUNTAIN GA 30083
NGUYEN THU THAO	760 ANNA LN	ALPHARETTA GA 30004
NGUYEN TUONG BA	4035 ECHO WOODS DR	CLARKSTON GA 30021
NOUKAYSONE MALAYVANH	3971 SANS SOUCI CT	CLARKSTON GA 30021
NUREN FATIMA H	951 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
OVERBY DEBRA ANN	3970 GARFIELD DR	STONE MOUNTAIN GA 30083
PATTON MARTHA A	911 SETTLEMENT LN	STONE MOUNTAIN GA 30083
PERI KEITH	4035 NORMAN RD	STONE MOUNTAIN GA 30083
PHAM HUNG D	901 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
PHILIPPI WESTLEY J	4037 STONEVIEW CIR	STONE MOUNTAIN GA 30083
PHILLIPS JANICE ANN	990 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
PITTMAN RONNIE E	4027 ECHO WOODS DR	CLARKSTON GA 30021
POWELL OONA MAUD	996 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
PRADHAN GANGA M	921 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
PU MA	4101 NORMAN RD	STONE MOUNTAIN GA 30083
QUACH MAN V	4059 ECHO WOODS DR	CLARKSTON GA 30021

RAMSEY MARY LOUISE	3986 STONEVIEW CIR	STONE MOUNTAIN GA 30083
RANDALL JAMES D	3990 NORMAN RD	STONE MOUNTAIN GA 30083
REIS STEPHEN	1034 VIKING DR	STONE MOUNTAIN GA 30083
RICKARD BARBARA A	4116 BONTURA CT	STONE MOUNTAIN GA 30083
RITZ STEPHEN J	989 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
ROONEY BRUCE N	3983 GARFIELD DR	STONE MOUNTAIN GA 30083
SABREE HAAZIM S	4046 BONTURA CT	STONE MOUNTAIN GA 30083
SADIKOVA GULNORA	4029 NORMAN RD	STONE MOUNTAIN GA 30083
SALIH-SINDY AMIN	4050 STONEVIEW CIR	STONE MOUNTAIN GA 30083
SANCHEZ DE VASQUEZ NUBIA I	3980 STONEVIEW CIR	STONE MOUNTAIN GA 30083
SAY LIN	954 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
SEBHAT TSIGE	4019 BONTURA CT	STONE MOUNTAIN GA 30083
SHEIKH ALI M	4093 SPARTAN LN	STONE MOUNTAIN GA 30083
SHIVER SOMMER LEEANN	4104 BONTURA CT	STONE MOUNTAIN GA 30083
SHUMAN PAUL G	3965 SANS SOUCI CT	CLARKSTON GA 30021
SIBLEY ANDREA L	3987 GARFIELD DR	STONE MOUNTAIN GA 30083
SIMON ELIJAH	985 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
SISAY MOGUS T	4038 BONTURA CT	STONE MOUNTAIN GA 30083
SMITH CARL V	3970 NORMAN RD	STONE MOUNTAIN GA 30083
SON TRI NGOC	944 VIKING DR	STONE MTN GA 30083
SOUDER VINNIE	4013 BONTURA CT	STONE MOUNTAIN GA 30083
SPANN BRUCE E	849 MONMOUTH DR	STONE MOUNTAIN GA 30083
SPARKS ROY ALLEN	4115 NORMAN RD	STONE MOUNTAIN GA 30083
SPARKS TERRY LEE	983 VIKING DR	STONE MOUNTAIN GA 30083
SPIVEY HUGH B	4069 NORMAN RD	STONE MOUNTAIN GA 30083
SPIVEY HUGH B SR	339 NUNNALLY FARM RD	MONROE GA 30655
SULTAN MOHAMMAD NASIM AMIR	3998 STONEVIEW CIR	STONE MOUNTAIN GA 30083
TAMANG YUBA R	909 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
TEKA TESFAYE ADDISU	1031 OTELLO AVE	CLARKSTON GA 30021
TEKESTE BELAY	925 VIKING DR	STONE MOUNTAIN GA 30083
THAWNG BIAK	876 BELLE GLADE DR	STONE MOUNTAIN GA 30083
THEPHRAVONG PRASITHKEUN	4139 NORMAN RD	STONE MOUNTAIN GA 30083
THOMAS SHIRLEY	3980 GARFIELD DR	STONE MOUNTAIN GA 30083
THOMPSON DAVID JAMES	3982 NORMAN RD	STONE MOUNTAIN GA 30083
THONG XUONG SUONG	948 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083

TOLIFERRO PAYTON	934 VIKING DR	STONE MOUNTAIN GA 30083
TOWNES JENNIFER	4079 ECHO WOODS DR	CLARKSTON GA 30021
TRAN BAO QUYEN T	3959 NORMAN RD	STONE MOUNTAIN GA 30083
TSEGAYE GETACHEW	260 GALESBURG DR	LAWRENCEVILLE GA 30044
VEST TERESA L	4096 NORMAN RD	STONE MOUNTAIN GA 30083
VO CHINH VAN	3988 GARFIELD DR	STONE MOUNTAIN GA 30083
VOGT LEONARD LEO	861 MAXEY HILL CT	STONE MOUNTAIN GA 30083
VOYLES DIANE K	865 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083
WALKER ZAKIYA	4129 NORMAN RD	STONE MOUNTAIN GA 30083
WALTER AUGUST GRAGE REVOCABL	954 VIKING DR	STONE MOUNTAIN GA 30083
WAMUKA ELIAS	4080 BONTURA CT	STONE MOUNTAIN GA 30083
WARREN ROY D CO INC	3984 STONEVIEW CIR	STONE MOUNTAIN GA 30083
WARSAME SADO	2697 IMPERIAL HILLS DR	TUCKER GA 30084
WEETMAN SUSIE	905 SETTLEMENT LN	STONE MOUNTAIN GA 30083
WELDERMARIAM ABEBA	4089 BONTURA CT	STONE MOUNTAIN GA 30083
WELDU YOHANNES N	916 VIKING DR	STONE MOUNTAIN GA 30083
WEST CHARLES ROBERT III	903 SETTLEMENT LN	STONE MOUNTAIN GA 30083
WILKES THEODORE M JR	3933 GREYSTONE CT E	STONE MOUNTAIN GA 30083
WILLIAMS ESTELLE COLLINS	873 MAXEY HILL CT	STONE MOUNTAIN GA 30083
WINKLER ANDREA L	3975 NORMAN RD	STONE MOUNTAIN GA 30083
WOODLEY CYNTHIA D	1026 VIKING DR	STONE MOUNTAIN GA 30083
YEMER ENDALECH A	4114 SPARTAN LN	STONE MOUNTAIN GA 30083
YOO PETER H	3951 GARFIELD DR	STONE MOUNTAIN GA 30083
ZHENG JIAN JUN	962 HOLLY HEDGE RD	STONE MOUNTAIN GA 30083

Battle Law, P.C.
Commercial Real Estate & Zoning
www.battlelawpc.com

MICHELE L. BATTLE, ESQ.
President

April 22, 2021

RE: The Cottages at Spivey Lake Project
A Proposed Rezoning of 3943, 4039, 4083, 4069, 4021 and 4029 Norman Road, DeKalb County

Dear Resident:

We would like to invite you to join our Zoom Video Meeting on **Wednesday, April 28, 2021**, from 6:30 pm to 7:30 pm EST to discuss a proposed rezoning for the above-referenced property. My client, Mosaic Communities, in partnership with the Spivey family, which has owned the property for over 150 years, is seeking to rezone the 34.93 acre property to allow for the development of a community-centric, walkable, conservation community comprised of up to 230 cottage-style single family attached and detached homes.

Below are the meeting instructions. There are multiple ways for you to join the meeting, including via your computer, tablet, or cell phone, with or without video. If you are unable to make it, but would like to learn more, please contact our office at (404) 601-7616 ext. 2 or email us at bdc@battlelawpc.com and we'll send you a summary of the meeting.

Hi there,

You are invited to a Zoom meeting.
When: April 28, 2021 at 6:30 PM Eastern Time (US and Canada)

Register in advance for this meeting:
https://otago.zoom.us/join

Meeting ID: 823 0532 2191

Passcode: 217764

After registering, you will receive a confirmation email containing information about joining the meeting.

Please contact our offices if you have any questions regarding the meeting.

Sincerely,

Michele L. Battle
Michèle L. Battle

One West Court Square, Suite 750 Decatur, Georgia 30030
Phone: 404.601.7616 • Fax: 404.745.0045 • mlb@battlelawpc.com

Zoom Step by Step Instructions

Go to https://otago.zoom.us/join and Enter the Meeting ID that you have been provided with in the appropriate field and click "Join" (the meeting ID will be a 9 digit or 10 digit number)

If joining from a mobile Device

If you are joining from a mobile device (Android smartphone/tablet, Apple iPhone/iPad) then it will simply prompt you to download the Zoom Cloud Meeting app from the App/Play Store.

If joining from a computer

When entering a Zoom meeting for the first time from a computer you may need to download a small application file. This process is easy to complete on all commonly used browsers. Google Chrome should automatically download the file.

Just before Entering the meeting you will be prompted to enter a display name. This name is simply to identify you in the meeting.

Join Audio via Computer

You will then be prompted how you wish to join your audio. If you wish to join audio via the telephone, follow the instructions further down, otherwise simply select Join Computer by Audio.

Join Audio via Telephone

Dial in using **(**646**)** 558-8656, after entering the Meeting ID, you will be prompted to enter your Participant ID/Password. Simply enter this number followed by # and the video audio will then be synchronized.

Raising Your Hand

As the non-speaker if you wish to ask a question or make a point during the meeting it's good protocol to use the "Raise Hand" facility.

If the tool bar is not showing at the bottom of the Zoom window, place your cursor over the Zoom window so it appears and select the "Participants" icon.

A window listing other participants will appear, there is also a "Raise Hand" icon, click the icon to make it known to the Host that you would like to raise your hand.

If you wish to lower your hand, click the "Lower Hand" icon that will have replaced the "Raise Hand" icon.

Leave Meeting

To leave a meeting from Zoom on your desktop, select "End Meeting" then "Leave Meeting."

459-Spivey Cottages sign in Sheet

First Name	Last Name	Email	Registration Time	Approval Status
Angela		mom25as@gmail.com	4/25/2021 16:25	approved
Lee French		inframan36207@yahoo.com	4/26/2021 22:30	approved
Joan	Wheeler	joanxher3stooges@gmail.com	4/26/2021 14:07	approved
Valerie	P.	wadeandvalerie@gmail.com	4/28/2021 18:34	approved
Davis	Moore	davis.a.moore@gmail.com	4/23/2021 7:08	approved
Fred	Edwards	uqobo@bellsouth.net	4/27/2021 12:04	approved
Victoria	Webb	vic@furiousdreams.com	4/28/2021 18:31	approved
Andrea	Bennett	andrea0599@gmail.com	4/28/2021 18:32	approved
Keith	Peri	keith@sellsatl.com	4/28/2021 18:34	approved
Gina	Sgro	ginasgro@gmail.com	4/28/2021 18:27	approved
Paul	Shuman	pgshuman@aol.com	4/22/2021 16:13	approved
JSUN		jsunbelw@gmail.com	4/28/2021 19:16	approved
Martha	Sparks	janesparks22@gmail.com	4/28/2021 15:24	approved
		mlb@battlelawpc.com	4/28/2021 18:28	approved
Audrey Gao		gaoxy0909@gmail.com	4/28/2021 18:43	approved
stephen		dasadhad@gmail.com	4/28/2021 18:29	approved
Paula	Chambers	champf@att.net	4/28/2021 18:32	approved
Ronald	Abercrombie	RABERCR@emory.edu	4/28/2021 14:06	approved
Samantha	Altfest	altfest.samantha@gmail.com	4/27/2021 11:21	approved
tracy		tracy.bishop@scrippstv.com	4/28/2021 18:51	approved
Walter	Grage	wagsr41@gmail.com	4/25/2021 11:08	approved
Susan Baker		shbaker@bellsouth.net	4/28/2021 18:16	approved
Connie Perry		cgnrperry@bellsouth.net	4/28/2021 18:26	approved
Galaxy S10e		cocooreo77@gmail.com	4/28/2021 18:39	approved
Dean Moore		deanmoore64@gmail.com	4/24/2021 8:53	approved
John	McGuinness	hopintolife@gmail.com	4/28/2021 13:18	approved
JANICE	CROSBY	janmdc@yahoo.com	4/22/2021 16:04	approved
ginny	matthews	matthewsvirginia@att.net	4/26/2021 19:17	approved
Jack	Logan	jackloganhomes@gmail.com	4/26/2021 23:12	approved
ann mccormack		mccorman@bellsouth.net	4/28/2021 18:31	approved
Batoya	Clements	bclem21@msn.com	4/28/2021 18:56	approved
Alem		alem.giorgis@gmail.com	4/28/2021 19:56	approved

Nathan	Williams	nate@walkmosaic.com	4/28/2021 18:24	approved
Nicole	Keating	nkeating2003@yahoo.com	4/28/2021 18:31	approved
joan		jjkidd@comcast.net	4/28/2021 18:27	approved
cynthia	Woodley	woodley.cynthia@yahoo.com	4/28/2021 18:33	approved
David	Skretch	silvermartin28@msn.com	4/28/2021 17:34	approved
Angela Baldwin		abtvc3@yahoo.com	4/28/2021 18:29	approved
Eric	Kronberg	ekronberg@kronbergua.com	4/28/2021 18:59	approved
Tony	Hall	tonyhall329@gmail.com	4/28/2021 18:28	approved
Karen	Gabrielson	kgabrielson@gsu.edu	4/28/2021 17:14	approved
MARGARET	SHUMAN	PMPSHUMAN@AOL.COM	4/22/2021 16:16	approved
Debbie	Lipscomb	cartamebdezine@gmail.com	4/27/2021 23:00	approved
Jacqueline	Harris	jaquilu958@gmail.com	4/27/2021 21:19	approved
Smilowitz		Sittingwithsharon@hotmail.com	4/26/2021 16:11	approved
Amina	Rasool	arasool@drgahs.org	4/28/2021 18:47	approved
Eric Ketcham		info@d4dresidency.org	4/28/2021 18:24	approved
SEAN	WATERS	s.patrick.waters@gmail.com	4/28/2021 15:20	approved
gregory	mosley	stoneview411@gmail.com	4/28/2021 18:26	approved
Adane A		adaneatl@yahoo.com	4/28/2021 18:35	approved
Tracey	Harris	traceymharris@gmail.com	4/28/2021 18:53	approved
Stephen	Powell	ranger1979.sp@gmail.com	4/28/2021 12:08	approved
Susan	Williams	shwilliams314@yahoo.com	4/28/2021 18:46	approved
Danielle	Blumenthal	Dlb@battlelawpc.com	4/28/2021 18:27	approved
Karen	Grage	kegrage@aol.com	4/22/2021 13:47	approved
Vivian		ShonnaDavies@yahoo.com	4/28/2021 18:29	approved
Mark	Jernigan	MARKJERNIGAN@OUTLOOK.COM	4/28/2021 18:39	approved
Jan	Phillips	janphillips3@gmail.com	4/28/2021 12:24	approved
Brian Bollinger		bbollinger@insightsourcing.com	4/27/2021 7:25	approved
Julia Green		juleeza@yahoo.com	4/28/2021 17:31	approved
Bebe	Joyner	bebejoyner@gmail.com	4/28/2021 18:26	approved
Gregory	Aide	gregory.aide@gmail.com	4/26/2021 10:00	approved
Phyllis	Rooney	pirooney62@gmail.com	4/27/2021 7:15	approved
Armond	Lewis	ArmondLewis@hotmail.com	4/28/2021 17:55	approved
Mags Malone		magsmalone19@gmail.com	4/28/2021 19:07	approved
Anita	Edwards	anita@anitaedwards.com	4/28/2021 10:08	approved

Oona	Powell	oona0099@gmail.com	4/28/2021 12:10	approved
Cara OBrien		cobrien@kronbergua.com	4/28/2021 18:33	approved
Nate Williams		ntwilliams32@gmail.com	4/28/2021 18:30	approved
Stephen	Ritz	sritzphd@hotmail.com	4/28/2021 18:32	approved
Deidre	Burton	deidreburton@hotmail.com	4/25/2021 14:19	approved

First Name	Last Name	Email	Registratio	Approval Status
Angela		mom25as@	########	approved
Lee French		inframan3€	########	approved
Joan	Wheeler	joanxher3s	########	approved
Valerie	P.	wadeandva	########	approved
Davis	Moore	davis.a.mo	########	approved
Fred	Edwards	uqobo@be	########	approved
Victoria	Webb	vic@furiou	########	approved
Andrea	Bennett	andrea059	########	approved
Keith	Peri	keith@sells	########	approved
Gina	Sgro	ginasgro@	########	approved
Paul	Shuman	pgshuman(	########	approved
JSUN		jsunbelw@	########	approved
Martha	Sparks	janesparks	########	approved
		mlb@battl	########	approved
Audrey Gao		gaoxy0909	########	approved
stephen		dasadhad@	########	approved
Paula	Chambers	champf@a	########	approved
Ronald	Abercromb	RABERCR@	########	approved
Samantha	Altfest	altfest.sam	########	approved
tracy		tracy.bisho	########	approved
Walter	Grage	wagsr41@	########	approved
Susan Baker		shbaker@b	########	approved
Connie Perry		cgnrperry@	########	approved
Galaxy S10e		cocooreo7	########	approved
Dean Moore		deanmoore	########	approved
John	McGuinnes	hopintolife	########	approved
JANICE	CROSBY	janmdc@ya	########	approved
ginny	matthews	matthewsv	########	approved
Jack	Logan	jackloganh	########	approved
ann mccormack		mccorman	########	approved
Batoya	Clements	bclem21@	########	approved
Alem		alem.giorgi	########	approved
Nathan	Williams	nate@walk	########	approved
Nicole	Keating	nkeating20	########	approved
joan		jjkidd@con	########	approved
cynthia	Woodley	woodley.cy	########	approved
David	Skretch	silvermarti	########	approved
Angela Baldwin		abtvc3@ya	########	approved
Eric	Kronberg	ekronberg(	########	approved
Tony	Hall	tonyhall32	########	approved
Karen	Gabrielson	kgabrielsor	########	approved
MARGARET	SHUMAN	PMPSHUM	########	approved
Debbie	Lipscomb	cartamebd	########	approved
Jacqueline	Harris	jaquilu958(	########	approved
Smilowitz		Sittingwith	########	approved
Amina	Rasool	arasool@d	########	approved

Eric Ketcham		info@d4dr	########	approved
SEAN	WATERS	s.patrick.w	########	approved
gregory	mosley	stoneview4	########	approved
Adane A		adaneatl@	########	approved
Tracey	Harris	traceymha	########	approved
Stephen	Powell	ranger197	########	approved
Susan	Williams	shwilliams3	########	approved
Danielle	Blumentha	Dlb@battle	########	approved
Karen	Grage	kegrage@a	########	approved
Vivian		ShonnaDav	########	approved
Mark	Jernigan	MARKJERN	########	approved
Jan	Phillips	janphillips3	########	approved
Brian Bollinger		bbollinger@	########	approved
Julia Green		juleeza@ya	########	approved
Bebe	Joyner	bebejoyner	########	approved
Gregory	Aide	gregory.aid	########	approved
Phyllis	Rooney	pirooney62	########	approved
Armond	Lewis	ArmondLev	########	approved
Mags Malone		magsmalor	########	approved
Anita	Edwards	anita@anit	########	approved
Oona	Powell	oona0099@	########	approved
Cara OBrien		cobrien@k	########	approved
Nate Williams		ntwilliams3	########	approved
Stephen	Ritz	sritzphd@h	########	approved
Deidre	Burton	deidreburt	########	approved

First Name	Last Name	Email	Registratio	Approval Status
Dean	Moore	deanmoore	########	approved
JANICE	CROSBY	janmdc@ya	########	approved
Michele	Battle	battlelawp	########	approved
Phyllis	Rooney	pirooney62	########	approved
Ann	McCormac	mccorman	########	approved
Nathan	Williams	nate@walk	########	approved
Davis	Moore	davis.a.mo	########	approved
Bob	Humphrey	linc396@b	########	approved
Victoria	Webb	vic@furiou	########	approved
Henry	Griesbach	hcabseirg@	########	approved
Nate Williams		ntwilliams3	########	approved
Joe	Arrington	jarring55@	########	approved
Danielle	Blumentha	Dlb@battle	########	approved
		mlb@battl	########	approved
joan gornstein		jgornstein@	########	approved

First Name	Last Name	Email	Registratio	Approval Status
Angela		mom25as@	########	approved
Lee French		inframan3€	########	approved
Joan	Wheeler	joanxher3s	########	approved
Valerie	P.	wadeandva	########	approved
Davis	Moore	davis.a.mo	########	approved
Fred	Edwards	uqobo@be	########	approved
Victoria	Webb	vic@furiou	########	approved
Andrea	Bennett	andrea059	########	approved
Keith	Peri	keith@sells	########	approved
Gina	Sgro	ginasgro@	########	approved
Paul	Shuman	pgshuman(	########	approved
JSUN		jsunbelw@	########	approved
Martha	Sparks	janesparks	########	approved
		mlb@battl	########	approved
Audrey Gao		gaoxy0909	########	approved
stephen		dasadhad@	########	approved
Paula	Chambers	champf@a	########	approved
Ronald	Abercromb	RABERCR@	########	approved
Samantha	Altfest	altfest.sam	########	approved
tracy		tracy.bisho	########	approved
Walter	Grage	wagsr41@	########	approved
Susan Baker		shbaker@b	########	approved
Connie Perry		cgnrperry@	########	approved
Galaxy S10e		cocooreo7	########	approved
Dean Moore		deanmoore	########	approved
John	McGuinnes	hopintolife	########	approved
JANICE	CROSBY	janmdc@ya	########	approved
ginny	matthews	matthewsv	########	approved
Jack	Logan	jackloganh	########	approved
ann mccormack		mccorman	########	approved
Batoya	Clements	bclem21@	########	approved
Alem		alem.giorgi	########	approved
Nathan	Williams	nate@walk	########	approved
Nicole	Keating	nkeating20	########	approved
joan		jjkidd@con	########	approved
cynthia	Woodley	woodley.cy	########	approved
David	Skretch	silvermarti	########	approved
Angela Baldwin		abtvc3@ya	########	approved
Eric	Kronberg	ekronberg(	########	approved
Tony	Hall	tonyhall32	########	approved
Karen	Gabrielson	kgabrielsor	########	approved
MARGARET	SHUMAN	PMPSHUM	########	approved
Debbie	Lipscomb	cartamebd	########	approved
Jacqueline	Harris	jaquilu958(	########	approved
Smilowitz		Sittingwith	########	approved
Amina	Rasool	arasool@d	########	approved

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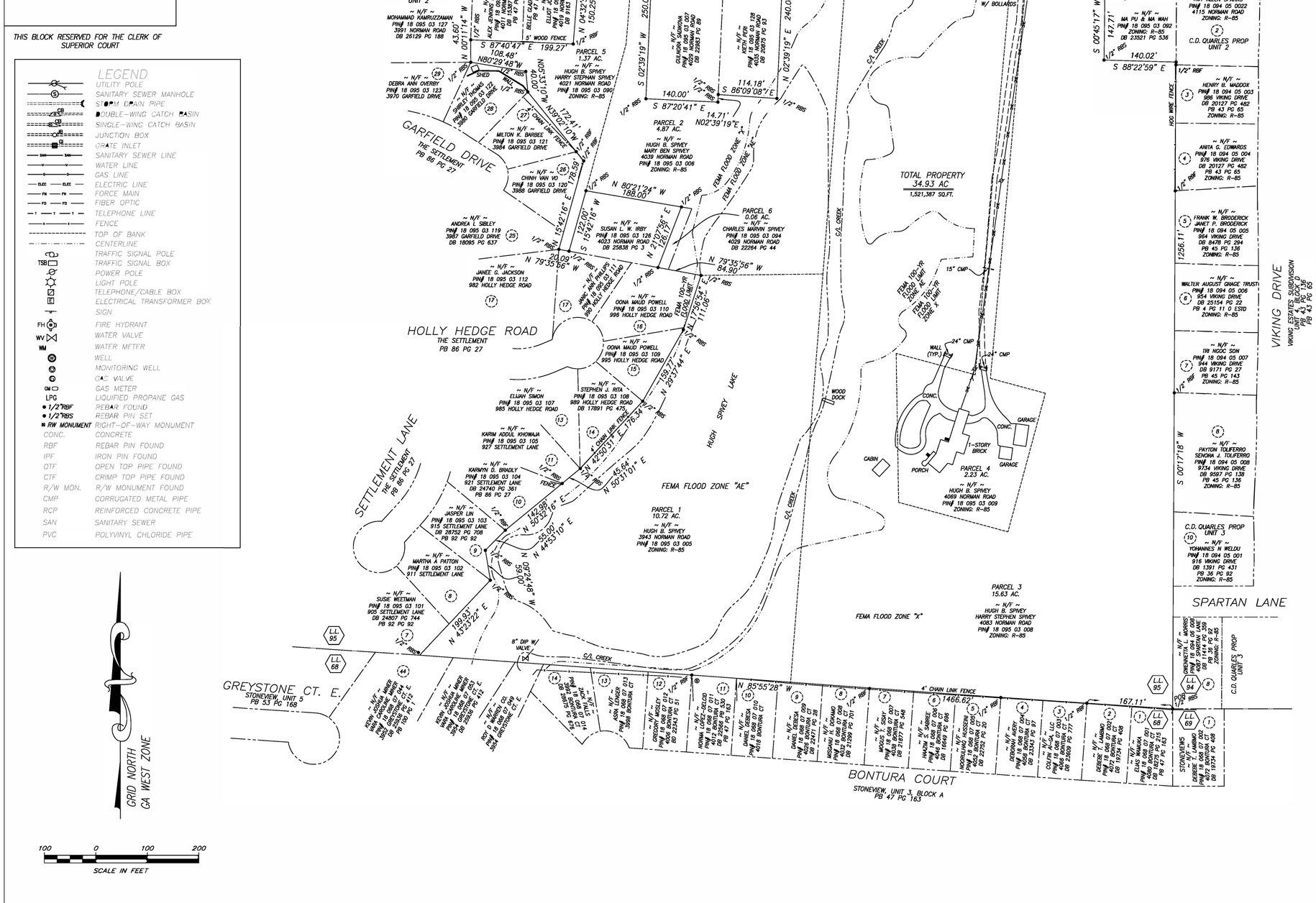
SAID TRACT OR PARCEL CONTAINS 34.93 AC/1,521,387 SQ.FT.

THIS BLOCK RESERVED FOR THE CLERK OF SUPERIOR COURT

LEGEND

- UTILITY POLE
- SANITARY SEWER MANHOLE
- STORM DRAIN PIPE
- DOUBLE-WING CATCH BASIN
- SINGLE-WING CATCH BASIN
- JUNCTION BOX
- CRATE INLET
- SANITARY SEWER LINE
- WATER LINE
- GAS LINE
- ELECTRIC LINE
- FORCE MAIN
- FIBER OPTIC
- TELEPHONE LINE
- FENCE
- TOP OF BANK
- CENTERLINE
- TRAFFIC SIGNAL POLE
- TSB — TRAFFIC SIGNAL BOX
- POWER POLE
- LIGHT POLE
- TELEPHONE/CABLE BOX
- ELECTRICAL TRANSFORMER BOX
- SIGN
- FH — FIRE HYDRANT
- WV — WATER VALVE
- WM — WATER METER
- W — WELL
- MW — MONITORING WELL
- GV — GAS VALVE
- GM — GAS METER
- LPG — LIQUIFIED PROPANE GAS
- ● 1/2"RBF — REBAR FOUND
- ● 1/2"RBS — REBAR PIN SET
- ■ RW MONUMENT — RIGHT-OF-WAY MONUMENT

CONC.	CONCRETE
RBF	REBAR PIN FOUND
IPF	IRON PIN FOUND
OTF	OPEN TOP PIPE FOUND
CTF	CRIMP TOP PIPE FOUND
R/W MON.	R/W MONUMENT FOUND
CMP	CORRUGATED METAL PIPE
RCP	REINFORCED CONCRETE PIPE
SAN	SANITARY SEWER
PVC	POLYVINYL CHLORIDE PIPE



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SURVEYOR'S NOTES

1. THE FIELD DATA ON WHICH THIS PLAT IS BASED WAS COMPLETED ON FEBRUARY 18, 2021.
2. THE FIELD DATA ON WHICH THIS PLAT IS BASED HAS A CLOSURE OF ONE FOOT IN 82,235 FEET AND AN ANGULAR ERROR OF 1" PER ANGLE, AND WAS ADJUSTED USING LEAST SQUARES.
3. THE LINEAR AND ANGULAR MEASUREMENTS SHOWN ON THIS PLAT WERE OBTAINED BY FIELD SURVEY USING A GEOMAX 90 ELECTRONIC TOTAL STATION.
4. THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 480,750 FEET.
5. LOCATION AND ARRANGEMENT OF UNDERGROUND UTILITIES ARE PROVIDED BY VISIBLE ACCESSIBLE FIELD EVIDENCE. THERE IS NO CERTAINTY OF THE ACCURACY OF THIS INFORMATION AND IT SHALL BE CONSIDERED IN THAT LIGHT BY THOSE USING THIS SURVEY. UTILITIES AND STRUCTURES NOT SHOWN MAY BE ENCOUNTERED. THE OWNER, HIS CONSULTANTS, AND HIS CONTRACTORS SHALL HEREBY DISTINCTLY UNDERSTAND THAT THIS SURVEYOR IS NOT RESPONSIBLE FOR THE SUFFICIENCY OF THE UNDERGROUND UTILITY INFORMATION PROVIDED HEREON.
6. REFERENCES: THE SETTLEMENT PB 86 PG 27
   STONEVIEW PB 47 PG 163
   VIKING ESTATES PB 43 PG 136

JACOB & HEFNER ASSOCIATES
3440 Blue Springs Road NW, Suite 101
Kennesaw, GA 30144
PHONE: (770) 672-2276
www.jacobandhefner.com

BOUNDARY SURVEY FOR:
ALDERWOOD CAPITAL, INC.

LOCATED IN LAND LOT 95, 18TH DISTRICT ~ 2ND SECTION
DEKALB COUNTY, GEORGIA

GEORGIA REGISTERED 3095 LAND SURVEYOR J. MATTHEW WELLBORN

FLOOD NOTE

THIS PROPERTY DOES LIE WITHIN AN AREA HAVING SPECIAL FLOOD HAZARDS AS PER FEMA FIRM MAP # 13089 C 0086 K DATED MARCH 4, 2019
PROPERTY LIES WITHIN A FLOOD HAZARD AREAS DESIGNATED ZONE X AND AE.

Survey No.:	G126	
Ordered By.:		
Description:	SURVEY	
Date Prepared:	3-8-2021	
Scale:	1"=100'	SHEET 1

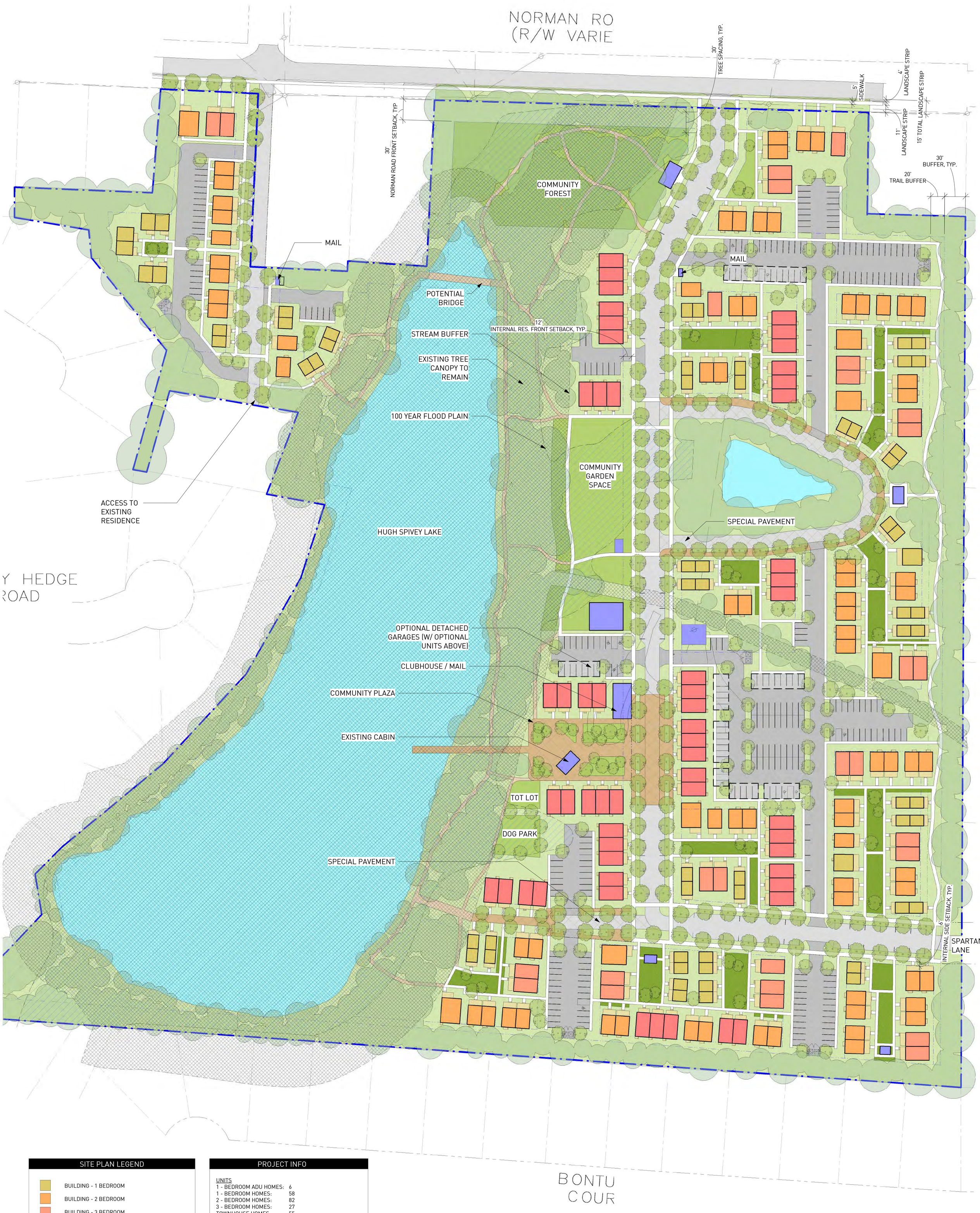


1 SURVEY
SD - 1.0 1" = 60'-0"

KRONBERG URBANISTS ARCHITECTS

HUGH SPIVEY LAKE

1" = 60'-0"
0' 30' 60' 120' 180'



SITE PLAN LEGEND

- BUILDING - 1 BEDROOM
- BUILDING - 2 BEDROOM
- BUILDING - 3 BEDROOM
- BUILDING - TOWNHOUSE
- BUILDING - COMMUNITY USE
- PORCH
- NEW SIDEWALK
- NATURAL WALKING PATH
- PLAZA
- NEW LANDSCAPE
- COTTAGE COURT
- 100 YEAR FLOOD PLAIN
- STREAM BUFFER

PROJECT INFO

UNITS

1 - BEDROOM ADU HOMES:	6
1 - BEDROOM HOMES:	58
2 - BEDROOM HOMES:	82
3 - BEDROOM HOMES:	27
TOWNHOUSE HOMES:	55
TOTAL HOMES:	**228**

PARKING

OFF-STREET:	308 (APP. 285 W/ GARAGES)
ON-STREET:	80
TOTAL PARKING:	**388** (APP. 365 W/ GARAGES)

1 SD - 1.1 SITE PLAN 1" = 60'-0"

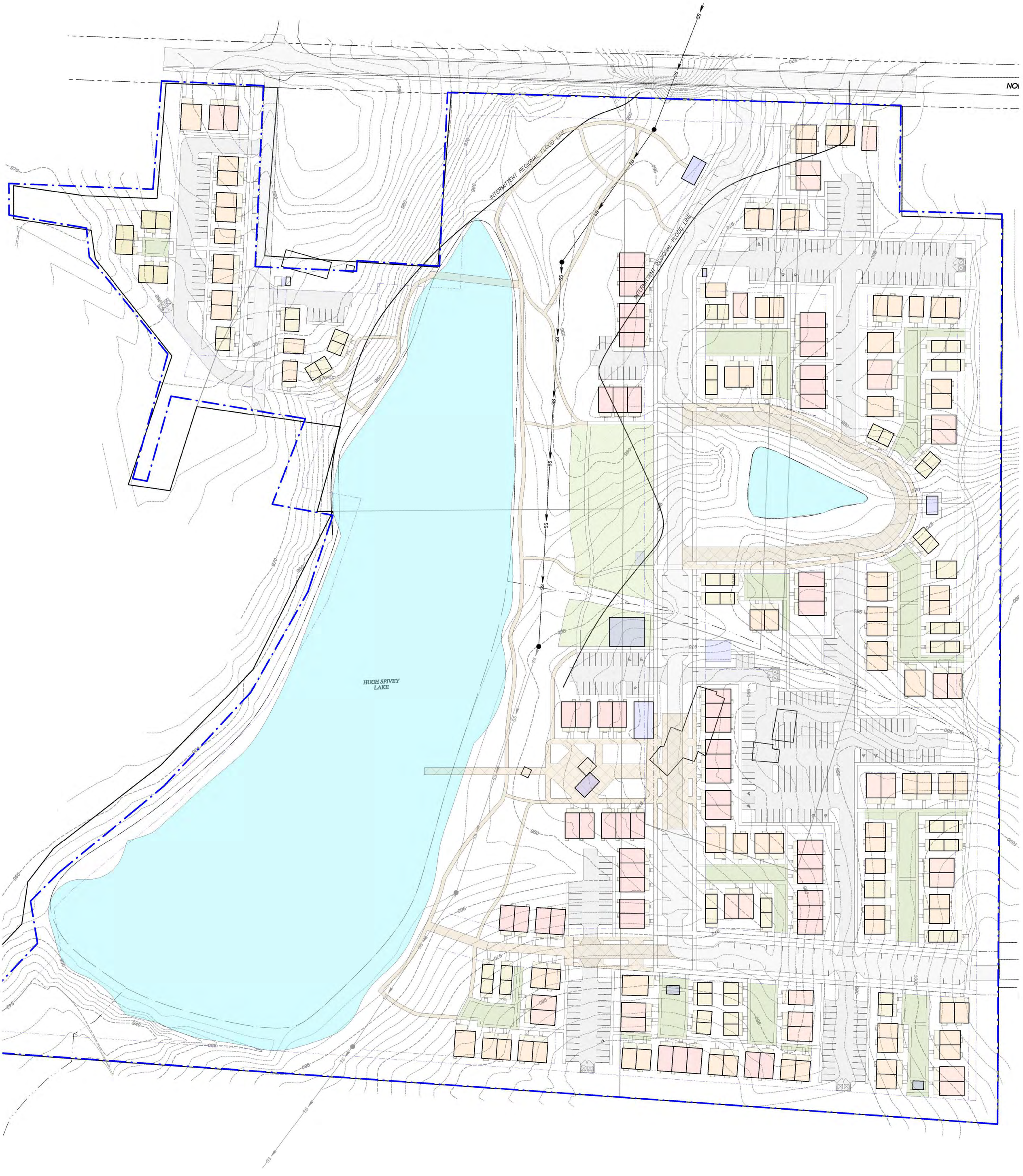
KRONBERG URBANISTS ARCHITECTS

HUGH SPIVEY LAKE

STATE OF GEORGIA ERIC JOHN KRONBERG CERTIFICATE NO. 030599 REGISTERED ARCHITECT

1" = 60'-0"

0' 30' 60' 120' 180'



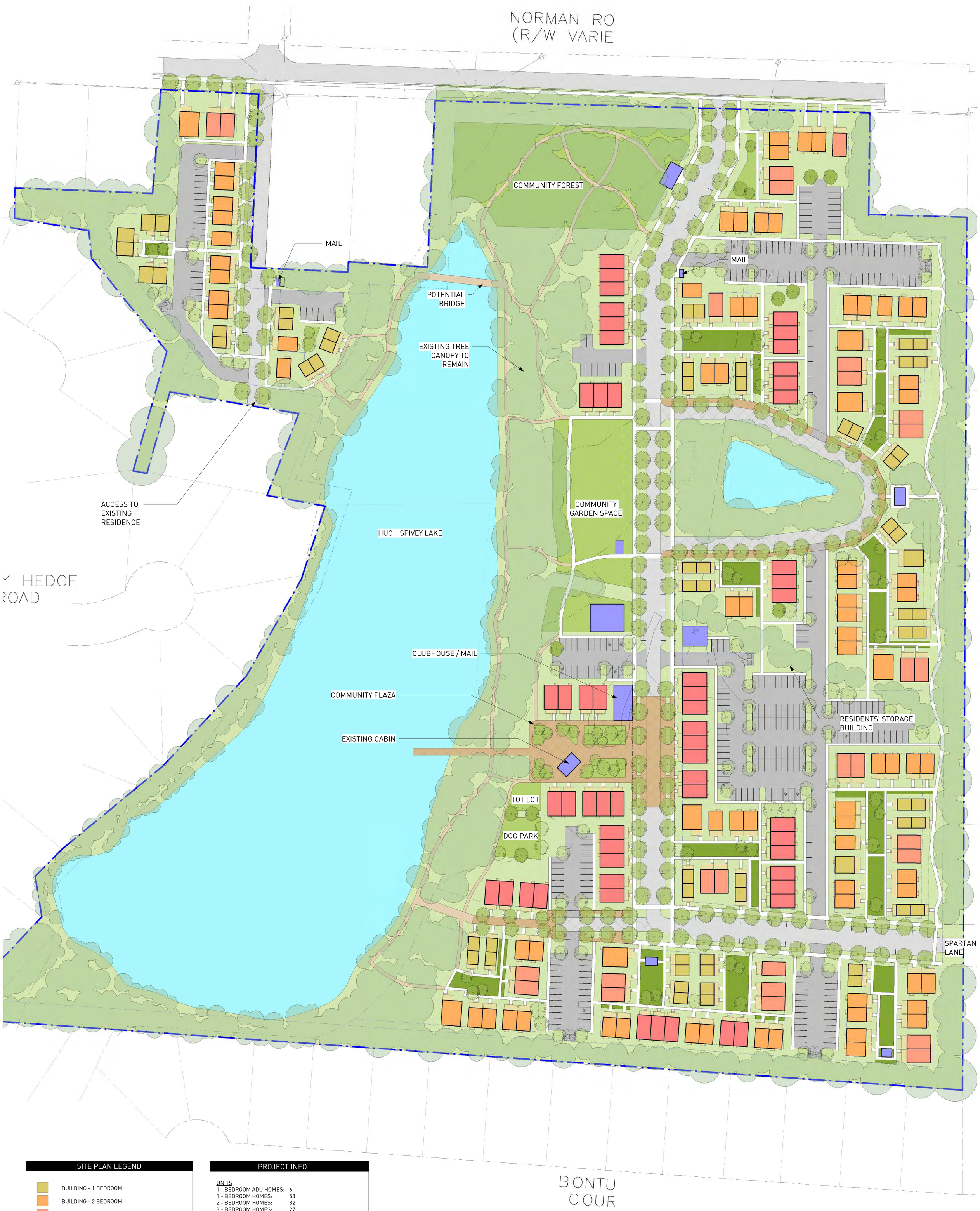
1 SITE PLAN - TOPO
SD - 1.2 1" = 60'-0"

KRONBERG URBANISTS ARCHITECTS

HUGH SPIVEY LAKE

STATE OF GEORGIA
ERIC JOHN KRONBERG
CERTIFICATE NO. 018998
REGISTERED ARCHITECT

1" = 60'-0"
0' 30' 60' 120' 180'



SITE PLAN LEGEND

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- BUILDING - 3 BEDROOM
- BUILDING - TOWNHOUSE
- BUILDING - COMMUNITY USE
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TOTAL HOMES:	**228**
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OFF-STREET:	308 (APP. 285 W/ GARAGES)
ON-STREET:	80
TOTAL PARKING:	**388** (APP. 365 W/ GARAGES)

1 SD - 1.3 SITE PLAN - COMMUNITY
1" = 60'-0"

KRONBERG URBANISTS ARCHITECTS

HUGH SPIVEY LAKE

STATE OF GEORGIA ERIC JOHN KRONBERG CERTIFICATE NO. 030599 REGISTERED ARCHITECT

1" = 60'-0"
0' 30' 60' 120' 180'

Home Type	# Bed	# Bath	Height (# of Stories)	Square Footage	Count in Plan
1-A	1	1	1	800	8
1-B	1	1	2	800	56
2-A	2	2	2	1,020	75
2-B	2	2	1	1,010	7
3-B	3	3	2	1,270	27
Townhouse	2-3	2.5	2	1,320	55
Total	-	-	-	-	**228**

Density	
Total Acreage of Site	34.93
Total # of Homes	228
Homes/AC	**6.53**

Density Bonus Calcs	
Base Density (Home/AC)	4
Public Improvement Bonus	20%
Amenity Proximity Bonus	20%
Additional Enhanced Open Space Bonus	50%
Total Allowed Density (Home/AC)	**7.60**

Public Improvement Bonus: Applicant provides public trail access
Amenity Proximity Bonus: Site is within 1/4 mile of Jolly Elementary School
Additional Enhanced Open Space Bonus: Enhanced open space comprises 20% of overall site

Parking	
Total # of Homes	228
# of Off-Street Parking Spaces	308
# of On-Street Parking Spaces	80
Total # of Parking Spaces	388
Parking Ratio (Spaces/Home)	**1.70**

Impervious Surface Calculations			
Impervious Surface Type	SF	Ac	% of Total Land
Street	99,516	2.28	6.54%
Sidewalks	74,984	1.72	4.93%
Parking	120,288	2.76	7.91%
Plaza	24,460	0.56	1.61%
Buildings/Porches	165,071	3.79	10.85%
Total Impervious Surface	484,319	11.12	31.83%
Total Pervious Surface	**1,037,232**	**23.81**	**68.17%**

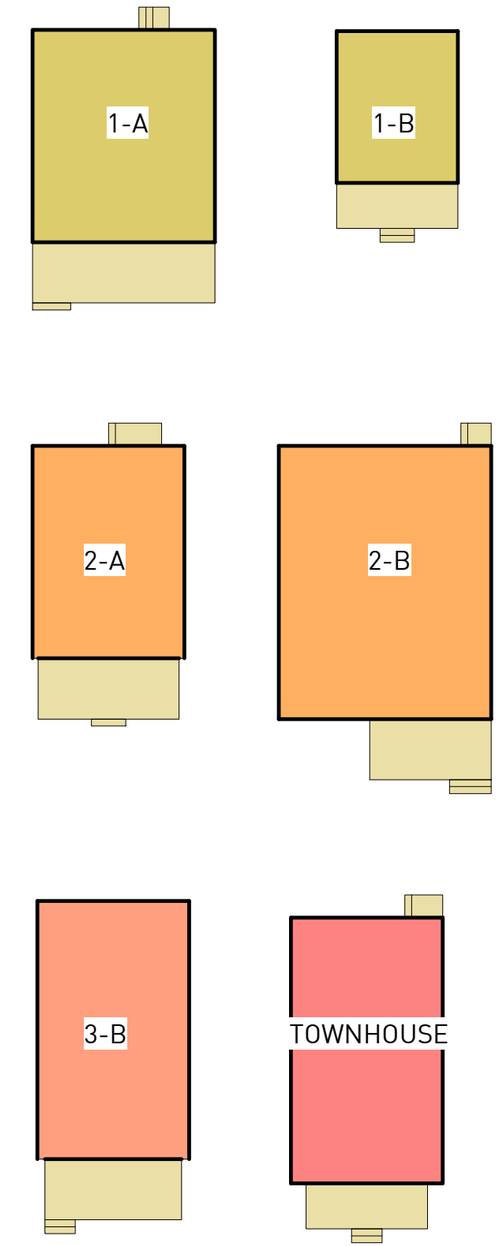
Open Space Amenity Calcs			
Open Space Type	SF	AC	% of Total Land
Area of Lake/Pond	328,793	7.55	21.61%
Area of Cottage Courts	46,819	1.07	3.08%
Area of Community Plaza	16,641	0.38	1.09%
Community Garden	33,100	0.76	2.18%
Community Forest	44,335	1.02	2.91%
Natural Walking Trails	18,247	0.42	1.20%
Untouched Tree Land	379,391	8.71	24.93%
Total Area of Amenitized Open Space	**487,935**	**11.20**	**32.07%**
Total Area of Untouched / Amenitized land	**894,713**	**20.54**	**58.80%**

Trail Network		
	Feet	Miles
Linear Distance of Trails / Sidewalks	17,093	3.24

Materials Used

Fiber cement (Hardi-Plank) for exterior siding and asphalt shingles for roofing.

HOME TYPES



PROGRAM CALCS

HUGH SPIVEY LAKE

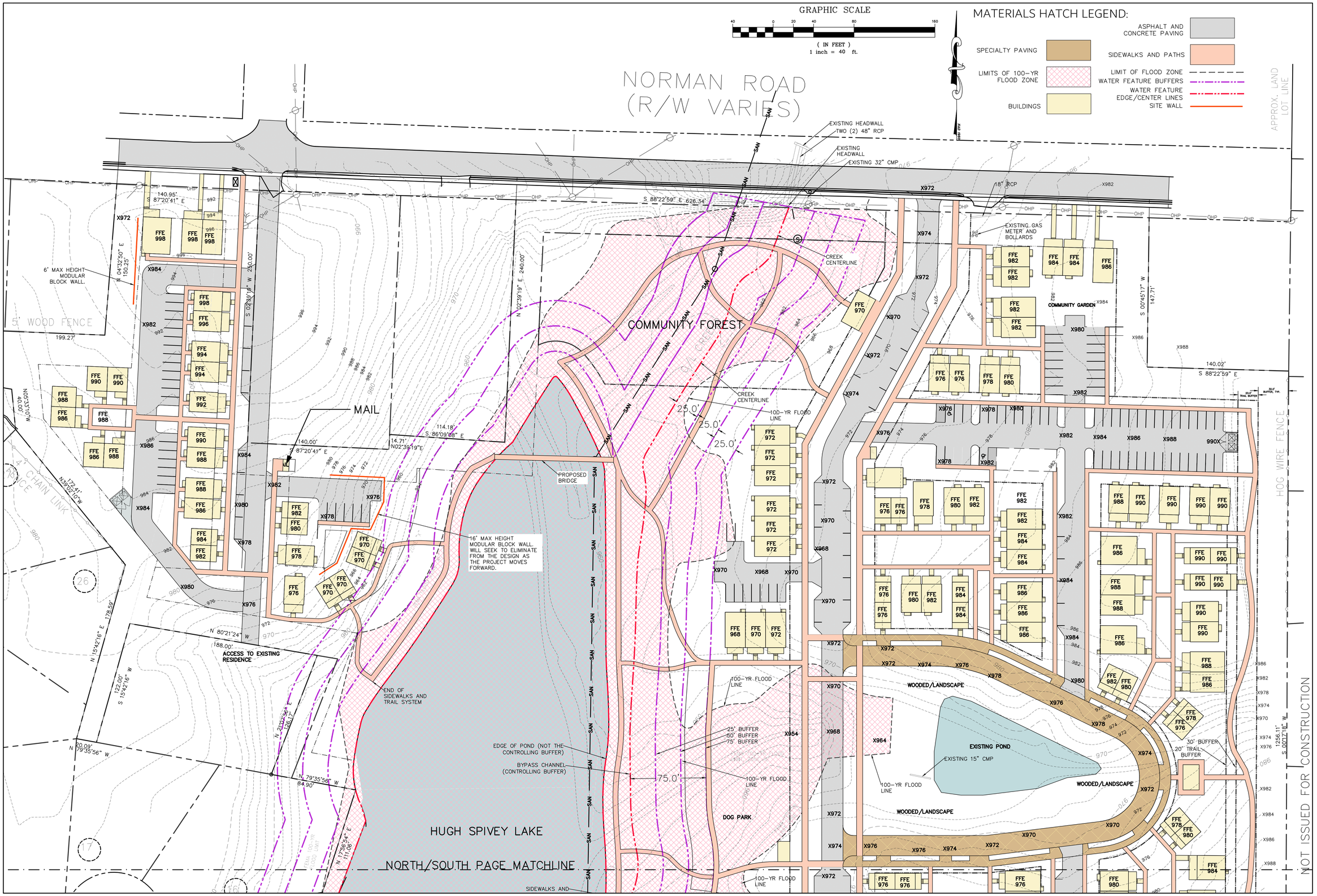
SD - 1.5

04/26/21

1" = 20'-0"

0' 10' 20' 40' 60'

KRONBERG URBANISTS ARCHITECTS



KRONBERG URBANISTS ARCHITECTS

GEORGIA REGISTERED No. 28688 PROFESSIONAL ENGINEER PAUL T. FLIPPO 028688

HUGH SPIVEY LAKE

UNICORPORATED DEKALB COUNTY, GA

MARK	DATE	DESCRIPTION
	04.26.21	CONCEPT DESIGN/ZONING PLAN

PROJECT ID	HSL
DRAWN BY	PF
CHECKED BY	PF
SHEET TITLE	

GRADING NORTH

DRAWING NO.

C1.0

MATERIALS HATCH LEGEND:

- ASPHALT AND CONCRETE PAVING
- SPECIALTY PAVING
- SIDEWALKS AND PATHS
- LIMITS OF 100-YR FLOOD ZONE
- LIMIT OF FLOOD ZONE
- WATER FEATURE BUFFERS
- WATER FEATURE EDGE/CENTER LINES
- BUILDINGS
- SITE WALL

NORTH/SOUTH PAGE MATCHLINE

SIDEWALKS AND TRAIL SYSTEM

TOTAL PROPERTY
34.93 AC
1,521,387 SQ.FT.

100-YR FLOOD LINE

75' BUFFER
50' BUFFER
25' BUFFER

100-YR FLOOD LINE

EDGE OF POND (NOT THE CONTROLLING BUFFER)

BYPASS CHANNEL (CONTROLLING BUFFER)

FEMA FLOOD ZONE "AE"

EXISTING 24" CMP

EXISTING 24" CMP

RESIDENTS' STORAGE BUILDING

30' BUFFER
20' TRAIL BUFFER

SPECIAL PAVEMENT

PARKING AT 6.5% LINEAR

DRIVE AT 20%

PARKING AT 6.5% LINEAR

SPARTAN LANE

5' MAX HEIGHT MODULAR BLOCK WALL.

5' MAX HEIGHT MODULAR BLOCK WALL.

8' MAX HEIGHT MODULAR BLOCK WALL.

MODULAR BLOCK WALL. VARIES FROM 2'-TO-10'.

SIDEWALKS AND TRAIL SYSTEM

END OF SIDEWALKS AND TRAIL SYSTEM

N 85°55'28" W 1466.62'

S 00°17'18" W 1256.11'

167.11'

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

NOT ISSUED FOR CONSTRUCTION

KRONBERG URBANISTS ARCHITECTS

GEORGIA REGISTERED No. 28688 PROFESSIONAL ENGINEER PAUL T. FLIPPO 028688

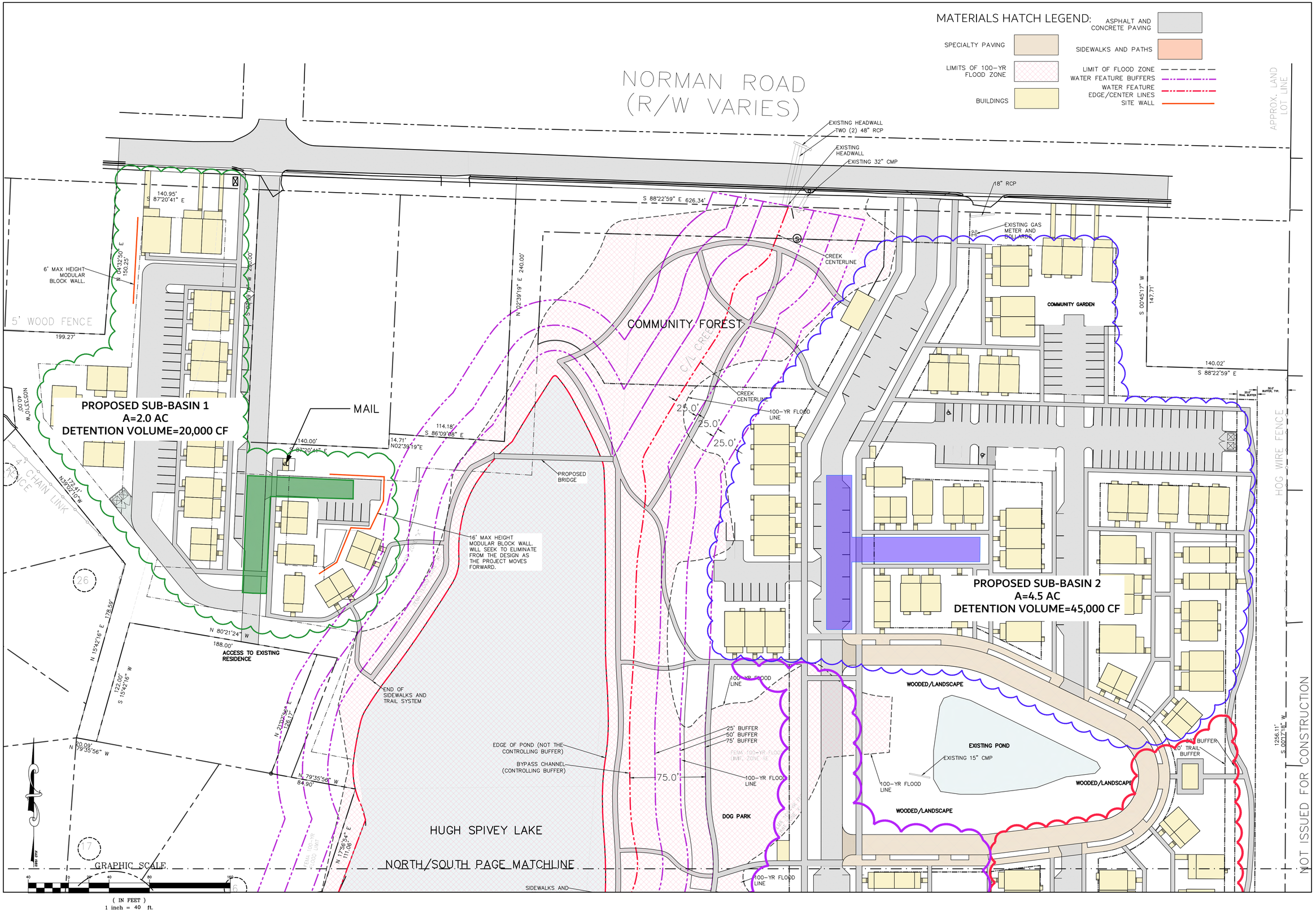
HUGH SPIVEY LAKE
UNICORPORATED DEKALB COUNTY, GA

MARK	DATE	DESCRIPTION
	04.26.21	CONCEPT DESIGN/ZONING PLAN

PROJECT ID	HSL
DRAWN BY	PF
CHECKED BY	PF
SHEET TITLE	

GRADING SOUTH

DRAWING NO.
C2.0



KRONBERG URBANISTS ARCHITECTS

GEORGIA REGISTERED No. 28688 PROFESSIONAL ENGINEER PAUL T. FLIPPO 028688

HUGH SPIVEY LAKE

UNICORPORATED DEKALB COUNTY, GA

MARK	DATE	DESCRIPTION
	04.26.21	CONCEPT DESIGN/ZONING PLAN

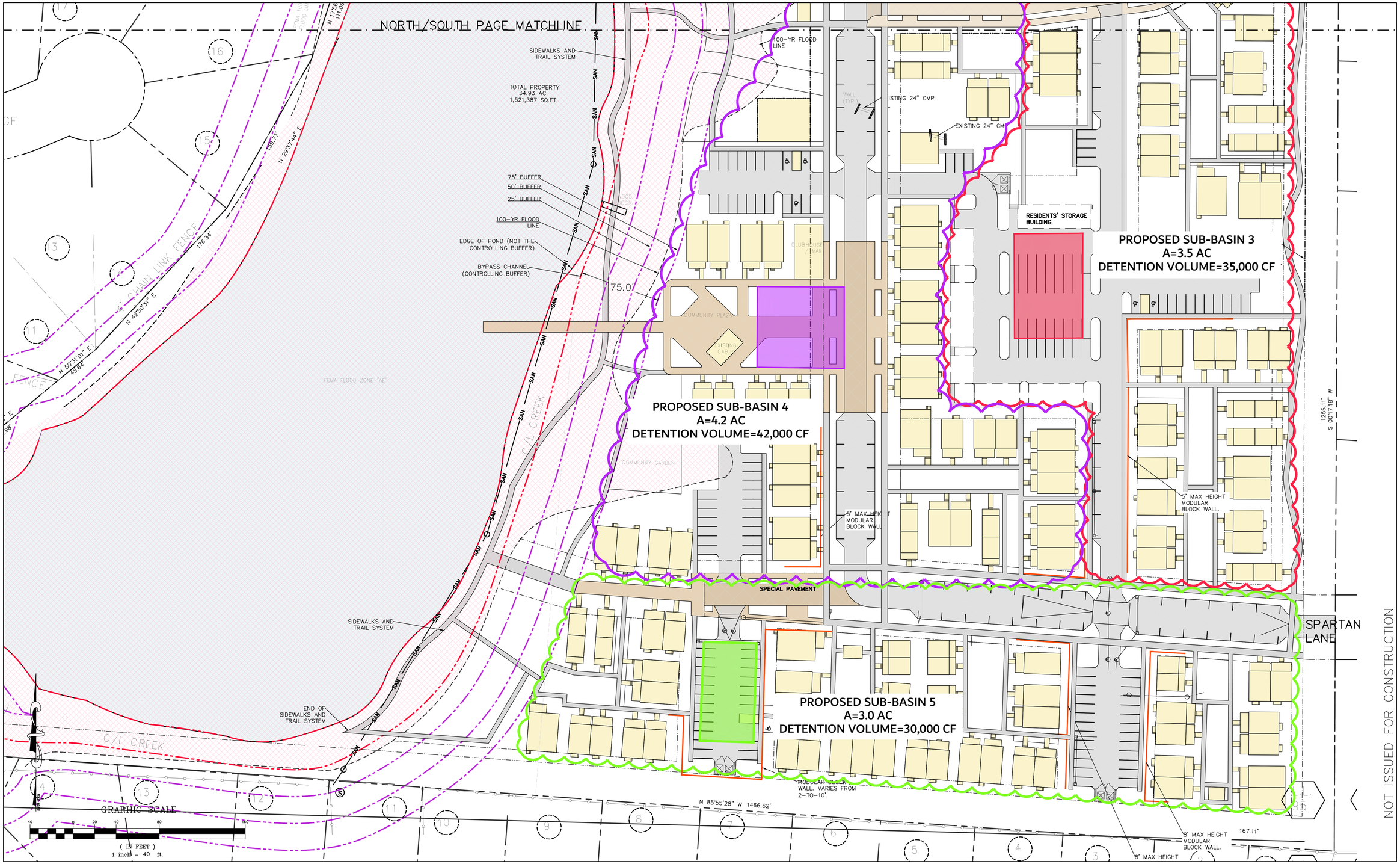
PROJECT ID	HSL
DRAWN BY	PF
CHECKED BY	PF
SHEET TITLE	

DETENTION CONCEPT PLAN NORTH

DRAWING NO. C2.1

MATERIALS HATCH LEGEND:

- ASPHALT AND CONCRETE PAVING
- SPECIALTY PAVING
- SIDEWALKS AND PATHS
- LIMITS OF 100-YR FLOOD ZONE
- LIMIT OF FLOOD ZONE
- WATER FEATURE BUFFERS
- BUILDINGS
- WATER FEATURE EDGE/CENTER LINES



KRONBERG URBANISTS ARCHITECTS

GEORGIA REGISTERED No. 28688 PROFESSIONAL ENGINEER PAUL T. FLIPPO 028688

HUGH SPIVEY LAKE

UNICORPORATED DEKALB COUNTY, GA

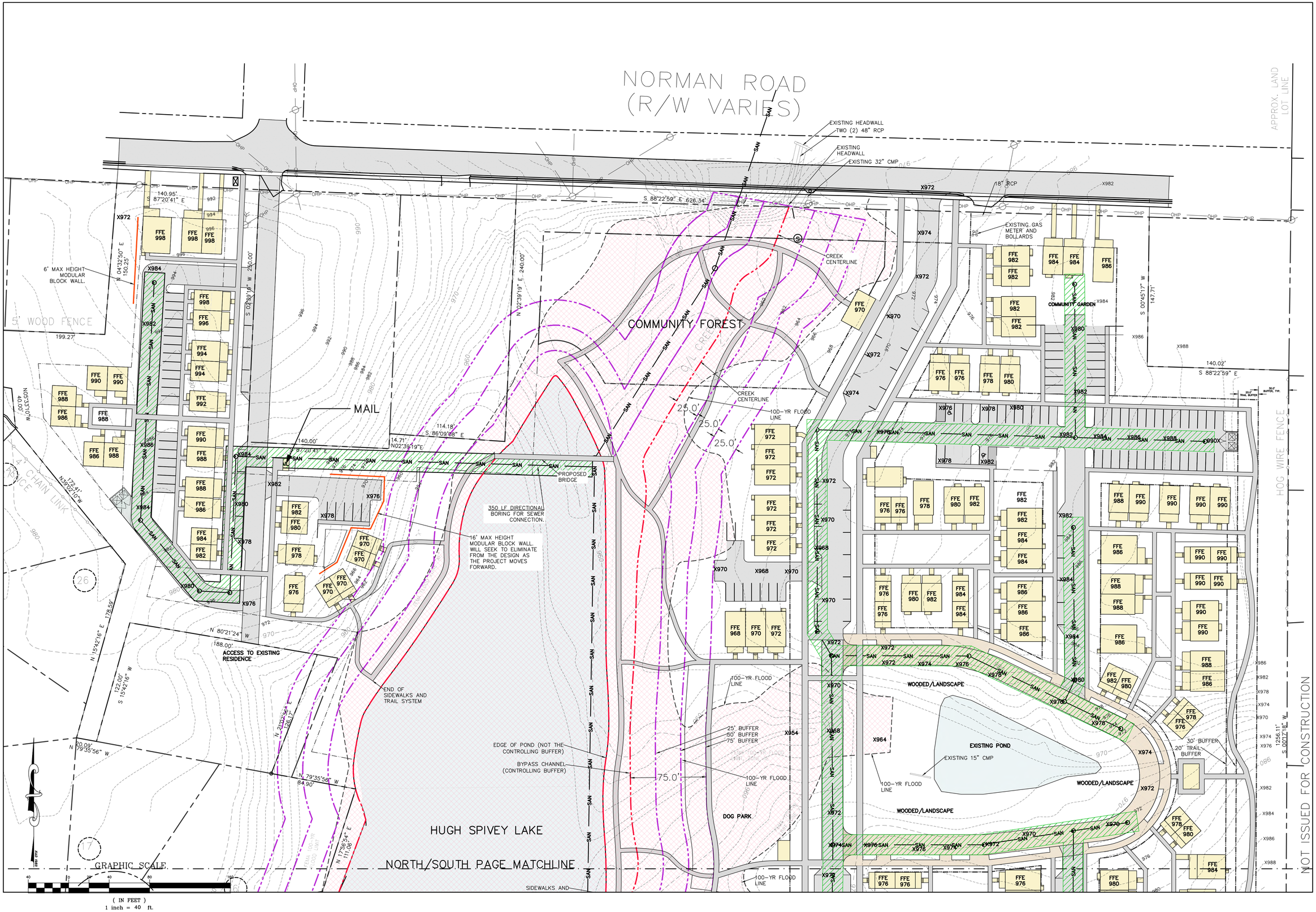
NOT ISSUED FOR CONSTRUCTION

MARK	DATE	DESCRIPTION
	04.26.21	CONCEPT DESIGN/ZONING PLAN

PROJECT ID	HSL
DRAWN BY	PF
CHECKED BY	PF
SHEET TITLE	

DETENTION CONCEPT PLAN SOUTH

DRAWING NO. C2.2



KRONBERG URBANISTS ARCHITECTS

GEORGIA REGISTERED No. 28688 PROFESSIONAL ENGINEER PAUL T. FLIPPO 028688

HUGH SPIVEY LAKE

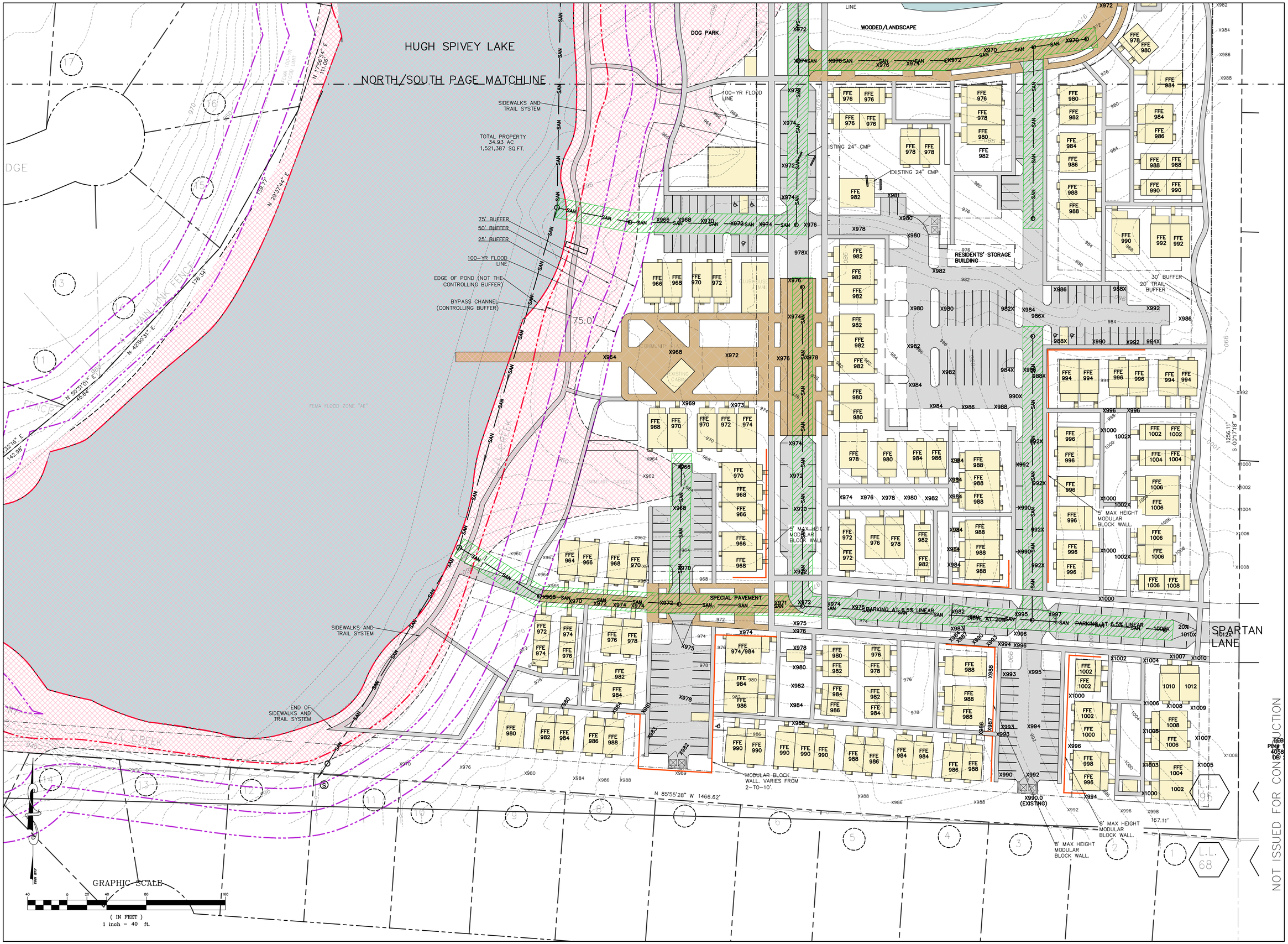
UNICORPORATED DEKALB COUNTY, GA

MARK	DATE	DESCRIPTION
	04.26.21	CONCEPT DESIGN/ZONING PLAN

PROJECT ID	HSL
DRAWN BY	PF
CHECKED BY	PF
SHEET TITLE	

SEWER CONCEPT NORTH

DRAWING NO. C3.1



KRONBERG URBANISTS ARCHITECTS

GEORGIA REGISTERED No. 28688 PROFESSIONAL ENGINEER PAUL T. FLIPPO 028688

HUGH SPIVEY LAKE

UNICORPORATED DEKALB COUNTY, GA

MARK	DATE	DESCRIPTION
	04.26.21	CONCEPT DESIGN/ZONING PLAN

PROJECT ID	HSL
DRAWN BY	PF
CHECKED BY	PF

SHEET TITLE

SEWER CONCEPT SOUTH

DRAWING NO.

C3.2

NOT ISSUED FOR CONSTRUCTION



ONE BEDROOM HOMES

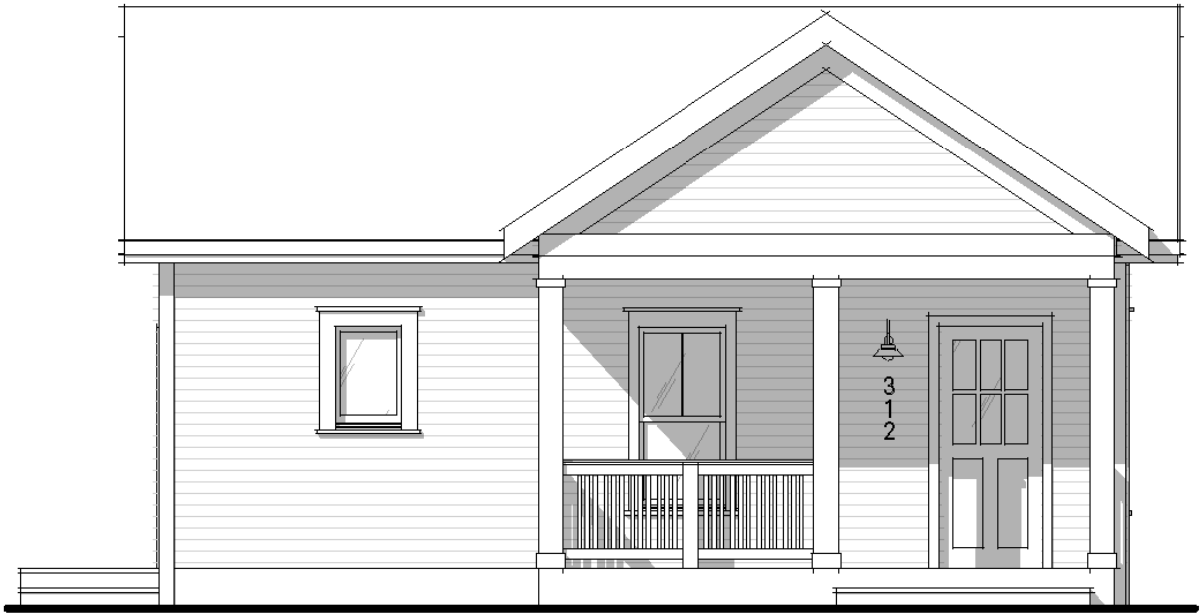
KRONBERG URBANISTS ARCHITECTS

1 BED COTTAGE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM
6 MECH CLOSET

1 BED COTTAGE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM
6 MECH CLOSET

1 BED COTTAGE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM
6 MECH CLOSET
7 POWDER



TWO BEDROOM HOMES

KRONBERG URBANISTS ARCHITECTS

2 BED COTTAGE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM

2 BED COTTAGE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM
6 MECH CLOSET
7 POWDER



THREE BEDROOM HOMES & TOWNHOUSES

KRONBERG URBANISTS ARCHITECTS

3 BED COTTAGE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM
6 MECH CLOSET

TOWNHOUSE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM
6 MECH CLOSET



DUPLEXES

KRONBERG
URBANISTS
ARCHITECTS

DUPLEX COTTAGE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM

DUPLEX COTTAGE



1 KITCHEN
2 LIVING
3 FRONT PORCH
4 BEDROOM
5 BATHROOM

STATEMENT OF INTENT

and

Other Material Required by
DeKalb County Zoning Ordinance
For
A Rezoning Application Pursuant to
DeKalb County Zoning Ordinance

of

Alderwood Capital Inc., d/b/a Mosaic Communities
c/o Battle Law, P.C.

for

34.93± Acres of Land on Norman Road
Being Tax Parcel Nos. 18 095 03 005, 18 095 03 006, 18 095 03 008,
18 095 03 090, 18 095 03 009 & 18 095 03 094
Unincorporated DeKalb County, Georgia

Submitted for Applicant by:

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I. STATEMENT OF INTENT

The Applicant, Alderwood Capital Inc., d/b/a Mosaic Communities, is seeking to develop a 228-home mixed-housing type conservation community on 34.93 acres of land, being Tax Parcel Nos. 18 095 03 005, 18 095 03 006, 18 095 03 008, 18 095 03 090, 18 095 03 009 & 18 095 03 094 located on Norman Road (the "Subject Property"). The proposed residential project is comprised of cottage houses and two/three family homes. The Subject Property is currently zoned R-85, with a land use designation of suburban (SUB). The Applicant is seeking to rezone the Subject Property to RSM for the development of the community at a density of 6.53 units per acre (the "Project").

PROJECT INFO	
UNITS	
1 - BEDROOM ADU HOMES:	6
1 - BEDROOM HOMES:	58
2 - BEDROOM HOMES:	82
3 - BEDROOM HOMES:	27
TOWNHOUSE HOMES:	55
TOTAL HOMES:	**228**
PARKING	
OFF-STREET:	308 (APP. 285 W/ GARAGES)
ON-STREET:	80
TOTAL PARKING:	**388** (APP. 365 W/ GARAGES)

For the past 157 years, the Spivey family has owned the Subject Property. In fact, many surrounding neighbors live in housing developments that were part of the original Spivey farm. Three years ago, Hugh Spivey, the last member of the Spivey family to live on the Subject Property, passed away. With his passing, the family knew that the future of the Subject Property would have to change. They began to lay the groundwork for a vision of a conservation community respectful of their family's legacy that maintains the Subject Property's pastoral charm, preserves the original 1860s Spivey family log cabin, and revitalizes the 7.5 acre lake that the Spiveys grew up on.

Mosaic Communities and its architects at Kronberg Urbanists Architects are aiming to transform the Subject Property into a walkable, community-oriented pocket neighborhood that incorporates the Spivey's vision and that of DeKalb County's Comprehensive Plan + Memorial Drive Revitalization Plan. The Project will be a conservation community that respects the natural landscape, with over 50% of the Subject Property to remain preserved and untouched. The remaining acreage will be amenitized and built out with clusters of upscale cottage homes + two/three family homes inspired by the Spivey family's historical log cabin.

The Applicant plans to make improvements to the beautiful Hugh Spivey Lake for residents to better appreciate and enjoy the Subject Property's idyllic setting. Additional amenities include a community garden, community forest, community plaza, dog park, tot lot, cottage court courtyards, and over 3 miles of walking trails/sidewalks. It is also important to Mosaic and the Spivey family that the Project be energy efficient and sustainable, which Mosaic intends to achieve by utilizing energy efficient appliances and building materials, on-site food production, a site plan that consumes less infrastructure and resources, and renewable energy.

The Project also aims to create community and a true sense of place, both essential in today's increasingly isolated world. According to the National Institute of Health, 3 in 5 Americans were lonely prior to COVID-19. This is partly due to our built environment. Humans are social by nature; we like to live around others. Single family development over the last half century has overshot our desire for privacy, leaving many people isolated on their own islands amidst a sea of houses and garages. We can do better. Research shows the physical and social qualities of a neighborhood impact well-being and mental health. Mosaic aims to build on this principle by organizing community events, providing resident move-in support, creating a dedicated community mobile app, and organizing volunteer opportunities. These efforts will be cultivated by an on-site property manager and resident life coordinator.

Owning a home demands substantial maintenance and upkeep while requiring a skill-set fewer and fewer Americans possess and time they are not willing to give. Nearly a third of Millennials don't own a hammer, a tool owned by 93% of Baby Boomers. Each generation is becoming increasingly less handy and able to manage DIY emergencies. Americans are also working later in life, leaving less time for home repairs and upkeep. Americans aged 65 or older are twice as likely to be working today as compared with 1985. Furthermore, from e-commerce and smart devices to meal delivery kits and ride hailing apps, Americans have shown a clear preference for convenience. Leasing a home is increasingly becoming a lifestyle choice for those looking for a hassle-free living experience without landscaping, maintenance, and repairs. With an on-site maintenance technician and property manager, the Project will cater to such households as well as those who choose to rent for other reasons such as a desire to downsize, move away from traditional apartment living, cultivate community, create an anchor to the area, etc.

This document is submitted both as a Statement of Intent and Impact Analysis with regard to this Application, a preservation of the Applicant's constitutional rights, and the Impact Analysis. A surveyed plat and conceptual site plan of the Subject Property controlled by the Applicant has been filed contemporaneously with the Application, along with other required materials.

II. IMPACT ANALYSIS

(a) Whether the zoning proposal is in conformity with the policies and intent of the land use plan;

The proposed zoning designation of RSM is in conformity with the policies and intent of the DeKalb County 2035 Comprehensive Plan Future Land Use Map, as the land use designation will remain suburban (SUB). The Project also supports the goals of the Memorial Drive Revitalization Plan, which the Subject Property is within the area of influence. The Memorial Drive Plan is centered on three core strategies, all of which are reflected in the vision for the Project: change the perception, create demand, and encouraging healthy redevelopment. A handful of excerpts from the Memorial Drive Plan that sync up with the Project are listed below.

CHANGE THE PERCEPTION	CREATE DEMAND	ENCOURAGE HEALTHY REDEVELOPMENT
"Initiatives needed to help people rethink perceptions"	"Generate a buzz and energy about the area"	"Revitalization not gentrification"
"Walkable, civically engaging"	"Support the creation of 'experiences' through amenitization of the area"	"Creating a positive regulatory environment receptive to private sector efforts"
"See the corridor in a different light"	Household growth needed to drive positive transformation	To support redevelopment, "it is appropriate to change the comprehensive plan designation and zoning for individual properties"
"The area needs a rebranding"	"Encourage trail and active mode networks"	
"Incremental victories needed to help revitalize the area"		

(b) Whether the proposed zoning will be a use that is suitable in view of the use and development of adjacent and nearby property;

The proposed conservation community is suitable for the area. The property is located in a residential community single family residential and zoned R-85. The proposed zoning designation of RSM would allow for a slightly higher density, but will remain consistent with the residential aspect of adjacent properties and within the Suburban land use category. All homes will be single family scale, include no more than two stories, and be properly distanced from existing residences to not encumber occupants' quality of life.

(c) Whether the subject property has a reasonable economic use as currently zoned;

The Subject Property has marginal use as currently zoned due to the development costs associated with the Subject Property (floodplains, lake maintenance, topography, large lot and home size requirements, lack of existing usable infrastructure, etc.) The value of the Subject Property is significantly diminished by its current zoning restrictions. There is a lake located on the Subject Property which, while beautiful and a significant asset to the community, limits the usable acreage. There are also substantial floodplains. The cost of the land, however, along with construction costs on a challenging site such as the Subject Property demand creative layouts, greater density, and the clustering of homes to allow for a development that will support revitalization without gentrification, a key tenant of the Memorial Drive Revitalization Plan. The existing RS-85 zoning designation would allow fewer homes at prices unattainable for the surrounding area, consume more resources due to its inefficient land use, and likely involve a traditional developer coming in and clear-cutting the trees & constructing oversized suburban tract homes that 1) do not match the surrounding demographics (over 75% of households within a 3 mile radius of the Subject Property are 1, 2, or 3 person households) and 2) cater to garages and automobiles versus humans. The

Subject Property is a unique site, with a unique history, and warrants unique consideration from a zoning and land use standpoint.

(d) Whether the proposed zoning will adversely affect the existing use or usability of adjacent or nearby property;

The proposed conservation community is suitable for the area and will have a positive effect on adjacent properties. The Project will be an asset to the greater community through its 3+ miles of trails/sidewalks, lake improvements and access, and community events. The Applicant will allow and encourage the existing farm/organic garden to remain on the Subject Property. Additionally, the Project will preserve a large amount of the natural landscape and the Spivey family's historic log cabin, which are both important to the greater community.

The Project will have a positive impact as it will support the growth and development of the surrounding area. Additionally, the introduction of new, quality housing and enhanced amenities will help raise property values within the surrounding residential communities. If the Project's homes were sold to individual homebuyers, they would surely set a new high in terms of pricing (as measured on a $/Sq Ft basis). New development is needed in the area in order to bring new residents and support the revitalization of Memorial Drive + downtown Clarkston. Part of the challenge in the surrounding neighborhood is that current homeowners tend to age in place, leaving little opportunity for prospective residents to relocate to the area. Adding households to the community will help spur population growth and increased tax revenues, all of which will support existing local businesses as well as bring in new retail and commercial.

The current (2020) property tax bill for the combined six parcels is just south of $10,000. Furthermore, since these will be rental homes, there will be no homestead exemptions, frozen exemption, and/or e-host credits typically offered to owner-occupied homes. Mosaic estimates that after its development is built out and stabilized, property tax revenues for the County may reach north of $500,000 per year depending on the final number of homes.

Therefore, based upon the foregoing, the proposed rezoning will not adversely affect the existing use or usability of adjacent or nearby properties. The proposed use is consistent with the surrounding residential uses, and may add additional amenities for the enjoyment of nearby residents. Furthermore, the additional tax revenue for the County may provide additional resources to support adjacent infrastructure and future multi-modal connectivity.

(e) *Whether the zoning proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools; and*

The proposed use will not cause any excessive or burdensome use on the existing streets, transportation facilities, utilities or schools in the area. Target residents for the Project will be smaller households primarily comprised of the Baby Boomer, Millennial, and older Gen-Z demographic cohorts. Such households include few children and therefore place a minimal burden on the school system.

(f) *Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the zoning proposal.*

How people live is changing. When the Spivey family built many of the existing subdivisions surrounding the proposed community, the world was a very different place. Suburban living was touted as being the answer to congested urban living environments, with large lot developments, large homes, and plenty of distance between houses. To live in suburbia meant having all of the latest household goods, and you definitely needed a car, because living in suburbia was about commuting to work. In fact, in DeKalb County, sidewalks were almost unheard of except in commercial areas. Most subdivisions were built with no sidewalks and little consideration for infrastructure such as stormwater detention, stream buffers, etc. The lesson learned from the golden era of suburban subdivisions is that all that glitters isn't gold. Many of the challenges suburban communities are facing in terms of traffic congestion, stormwater runoff issues, and marginally walkable communities stems from the unforeseen consequences of the suburban experience.

The proposed community is in line with what future growth and development in suburban areas should look like. We are proposing a community that has a mixture of residential uses that addresses the needs of individuals who are not interested in homeownership and do not want to live in an apartment, but are also not interested in renting out a single-family home that doesn't have the walkability, sense of community or environmental preservation that the proposed community will offer.

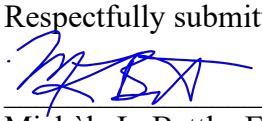
There are some who say that this is not the right location, but we challenge that position as Spivey Lake is an oasis in the middle of a typical suburban community. The Project deserves more than just a cookie-cutter residential subdivision. The Applicant is seeking to develop a community that will attract households with income levels between $55,000.00 and $75,000.00. These individuals will be seeking an alternative living experience in an area near the Memorial Drive corridor that DeKalb County is seeking to reinvigorate. These residents will support the County's push to bring new retailers and restaurants into the area as it shows new growth and development at higher income levels. More of the same will bring more of the same. If the redevelopment of Memorial

III. CONCLUSION

For the foregoing reasons, the Applicant respectfully requests that the Rezoning Application at issue be approved. The Applicant also invites and welcomes any comments from Staff or other officials of DeKalb County so that such recommendations or input might be incorporated as conditions of approval of this Application. Please note that the Applicant's Notice of Constitutional Allegations and Preservation of Constitutional Rights has been submitted with this Application and are attached hereto and by this reference incorporated herein.

This 28th day of April, 2021.

Respectfully submitted,



Michèle L. Battle, Esq.
Attorney For Applicant

Campaign Contribution Disclosure Statements
Last Updated 2/24/2021

CAMPAIGN CONTRIBUTIONS DISCLOSURE STATEMENT

Pursuant to the provisions of 36 O.C.G.A. 67(A), please find below a list of those contributions made by Michèle L Battle or Battle Law, P.C. in the past two years, aggregating $250.00 or more, to local government officials who will consider this application.

NAME OF GOV'T OFFICIAL	OFFICIAL **POSITION**	AMOUNT OF **CONTRIBUTION**
Ted Terry	**Commissioner**	**$500**
Mereda Davis Johnson	**Commissioner**	**$250**

By: _____
Printed Name: Michele L Battle

TRAFFIC IMPACT STUDY FOR

SPIVEY LAKE RESIDENTIAL DEVELOPMENT

DATE:
April 28, 2021

LOCATION:
DeKalb County, Georgia

PREPARED FOR:
Mosaic Communities

PREPARED BY:
NV5 Engineers and Consultants, Inc.
1255 Canton Street, Suite G
Roswell, GA 30075

NV5
nv5.com

EXECUTIVE SUMMARY

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The development has a projected build out date of 2024 and will generate a total of 1,844 new daily trips. Of these daily volumes, 121 (28 entering and 93 exiting) are expected to occur in the AM peak hour while 147 (92 entering and 55 exiting) are expected to occur in the PM peak hour.

The development will contain two (2) full access points along Norman Road and one (1) access point as an extension of Spartan Lane.

Existing intersections adjacent to the planned development were evaluated to determine if new roadway geometries or traffic controls will be needed once the development is built.

The following intersections were evaluated in this study:

1. Otello Avenue/Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

The analysis uses adjustment factors applied to existing traffic counts as a baseline condition to account for the decrease in traffic due to the COVID-19 pandemic. Under baseline conditions, all intersections operate at a level of service (LOS) “D” or better at each approach.

No-Build conditions for this study show that the assumed 3.4% growth rate does not have a significant effect on the study network. With the increased growth, the intersections do increase in delay (as expected) and only two approaches increase in overall LOS compared to baseline conditions. All intersections continue to operate satisfactorily at an overall LOS D or better.

The additional project trips from the Spivey Lake Residential Development do not significantly affect the study network. With the added trips, the intersections do increase in delay (as expected), but do not change the overall levels of service experienced in the No-Build conditions.

Based on GDOT criteria, the eastern site driveway (Driveway 2) for the development warrants a right-turn deceleration lane. However, the installation of the turn lane is at the discretion of DeKalb County.

Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.

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A. Introduction

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes.

This traffic study analyzes the impact of new traffic added to the local roadways upon the occupancy of the residential development.

This study includes analysis of the Existing and Baseline Conditions, No-Build Conditions (including background growth and expected traffic from adjacent/nearby developments), and Build Conditions at the following intersections:

1. Otello Avenue/ Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

The report summarizes background and projected traffic at the study locations, analysis of traffic impacts including level of service (LOS) and conclusions and recommendations from the analysis.

Figure 1 depicts the site location in DeKalb County. The study intersections listed above are depicted in Figure 2. A copy of the development concept plan is included in the Appendix.

Figure 1. Vicinity Map

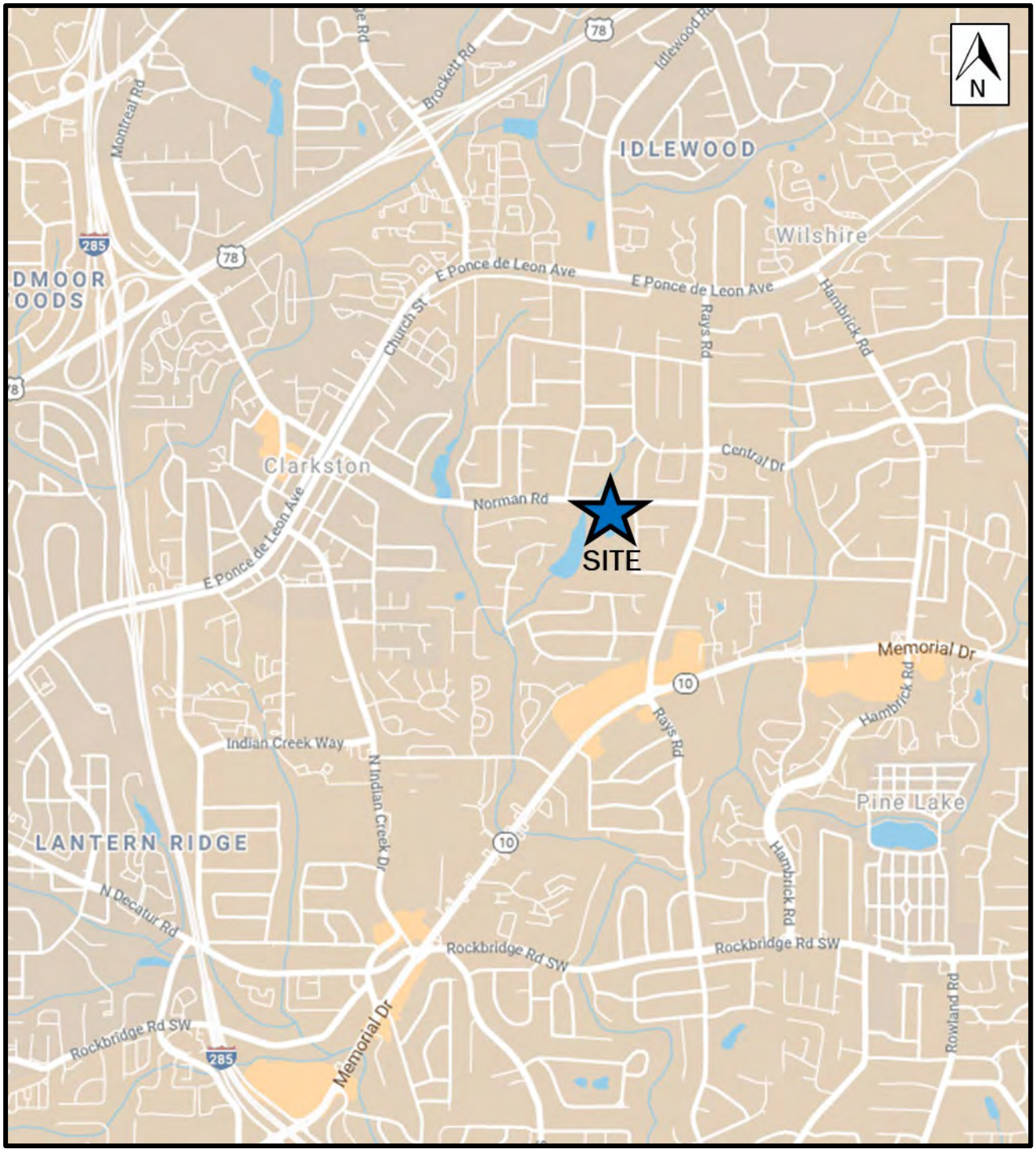
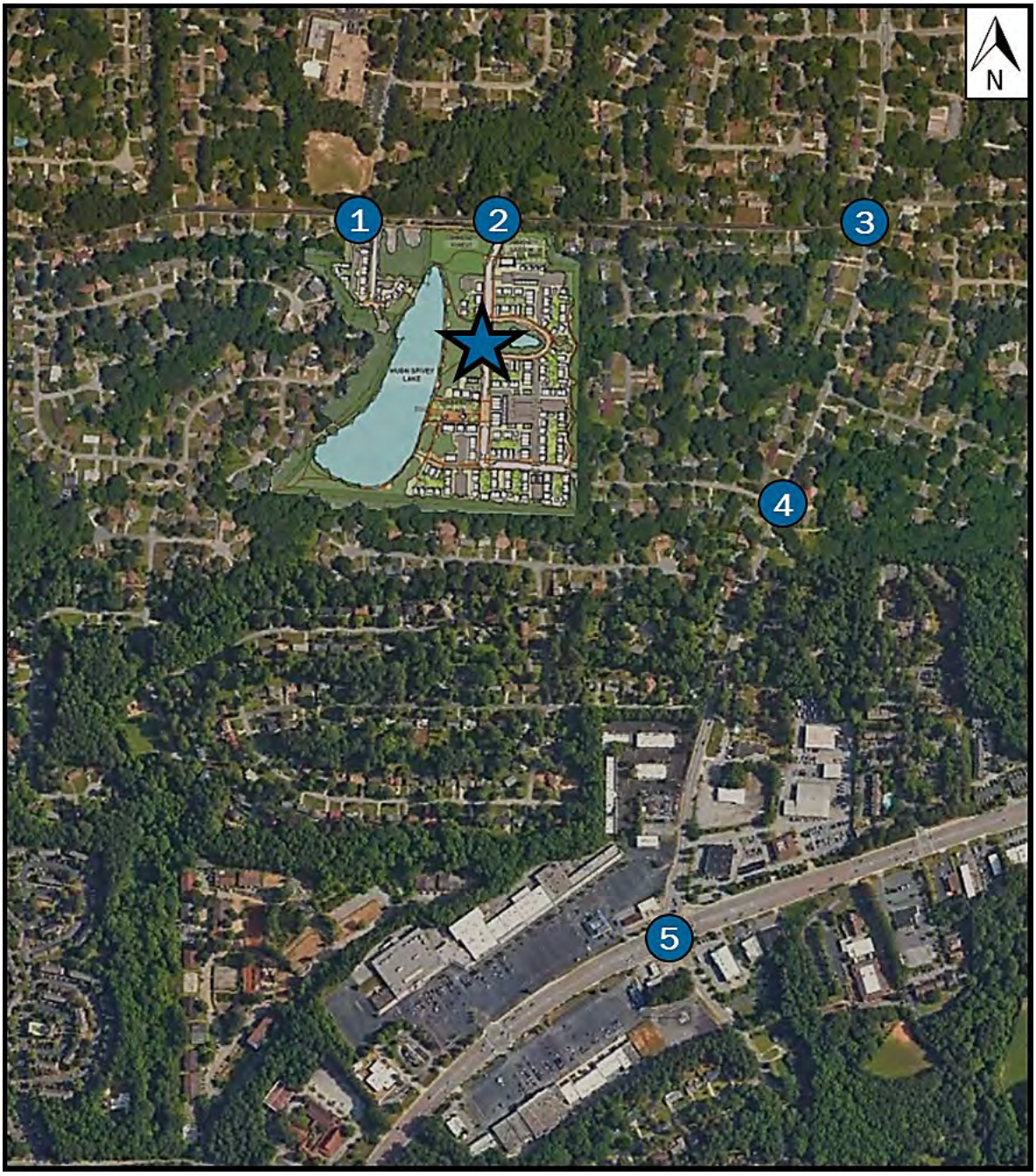


Figure 2. Site Location Aerial



1. Otello Avenue/ Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

B. Existing Conditions

B.1. Transportation Facilities

Norman Road is an east-west, two-lane undivided, collector roadway with a posted speed of 35 MPH. The road is in a school zone beginning 0.2 mile west of its intersection with Otello Avenue and ending 0.1 mile east of said intersection. The roadway facilitates access to primarily residential land. The roadway will service two access points for the subject development.

Otello Road is a north-south, two-lane undivided, local roadway with a posted speed of 25 MPH. Jolly Elementary School is located along the roadway 400 feet north of its intersection with Norman Road. Northbound traffic is prohibited from 7:15 AM to 8:15 AM and 1:45 PM to 2:45 PM. Land uses along the roadway are residential and institutional.

Spartan Lane is an east-west, two-lane undivided, local residential roadway with a posted speed of 25 MPH. The roadway will service one access point for the subject development.

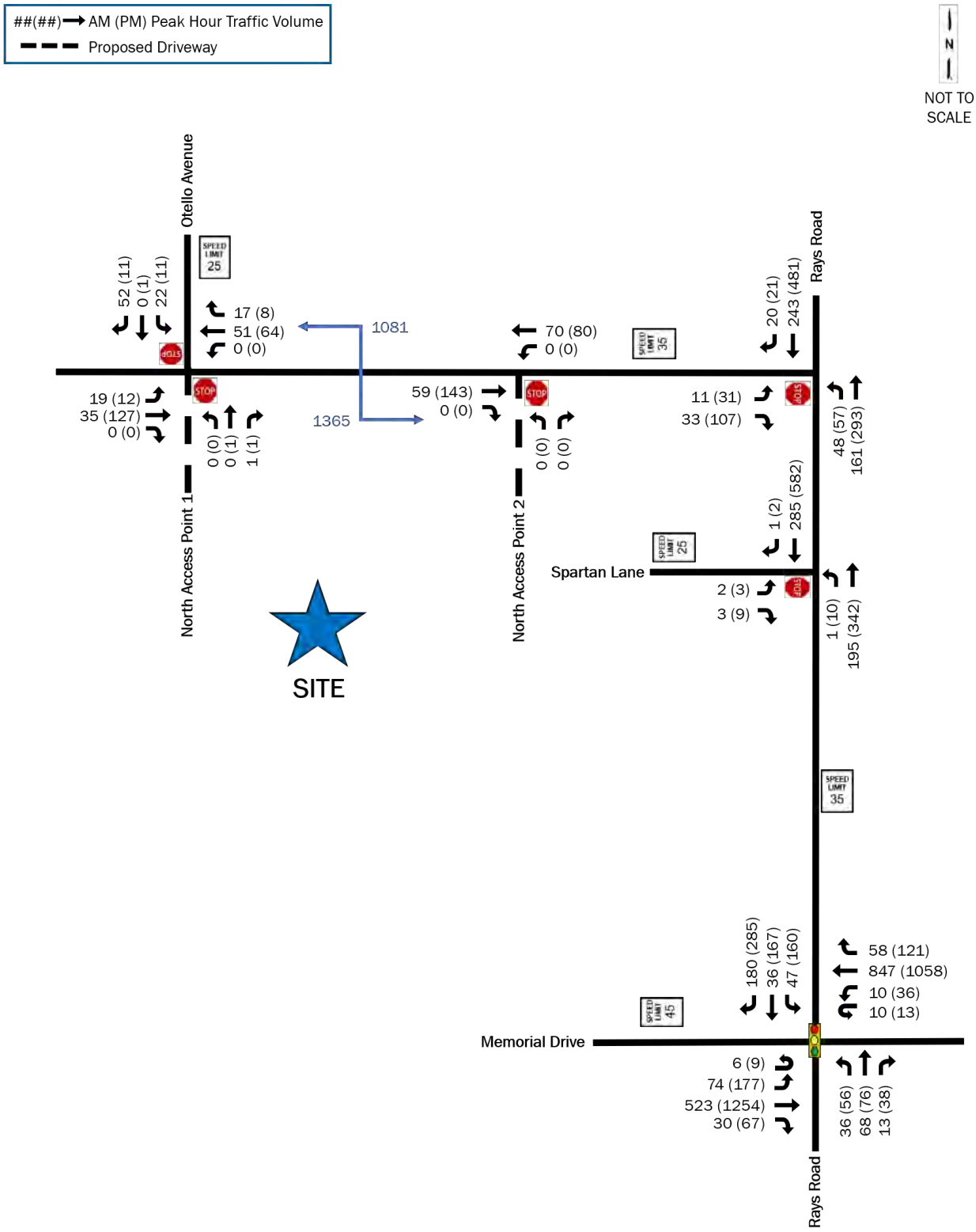
Rays Road is a north-south, two-lane undivided, collector roadway with a posted speed of 35 MPH. The roadway provides access to Memorial Drive approximately one mile south of its intersection with Norman Road. The roadway facilitates access to primarily residential land uses with commercial/retail land uses surrounding Memorial Drive. Rays Road has an AADT of about 10,700 vehicles per day near the study intersection.

Memorial Drive (SR-10) is a six-lane, major arterial roadway with a posted speed of 45 MPH. The roadway provides access to I-285 approximately two miles southwest of its intersection with Rays Road. There are a plethora of land uses along the roadway within the vicinity of the project including commercial/retail, institutional, medical, and residential. Memorial Drive has an AADT of about 40,800 vehicles per day near the study intersection.

B.2. Traffic Counts

Weekday peak period turning movement counts were collected at the existing intersections depicted in Figure 2 on Thursday, March 25, 2021 while schools were in session. Bi-directional traffic counts were also collected on Norman Road near the site on Thursday, March 25, 2021. The daily traffic recorded along Norman Road was 2,446 vehicles. The turning peak hour counts at the study intersections are shown in Figure 3 (Existing Traffic Volumes). The count worksheets are included in Appendix B.

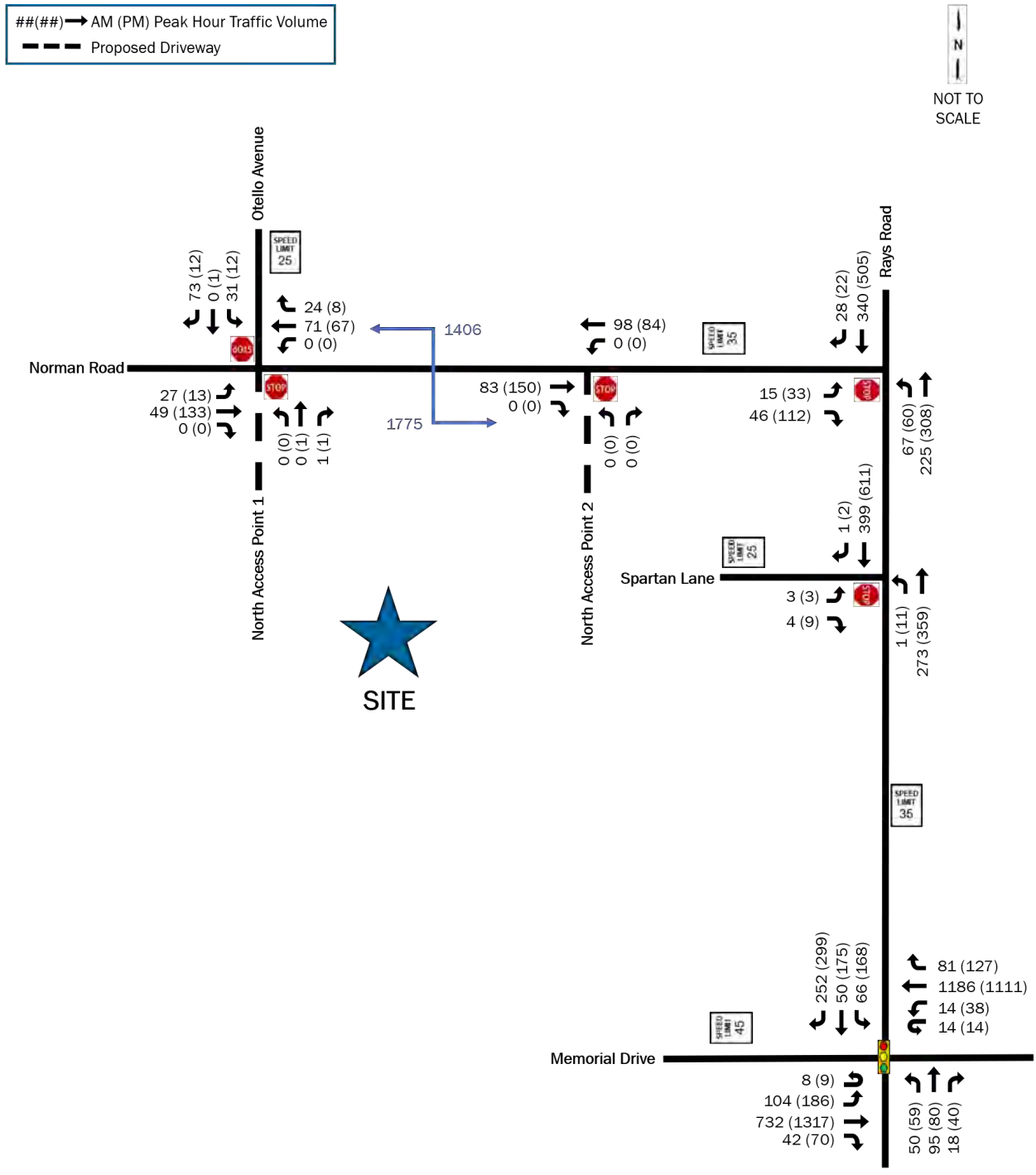
Figure 3: Existing Volumes (2021)



B.3. Baseline Adjustment

The analysis utilizes an adjustment factor to account for the decrease in traffic due to the COVID-19 pandemic. The factors were developed using counts from the Georgia Department of Transportation's (GDOT) Automated Traffic Signal Performance Measures (ATSPM). Turning movement counts recorded at the intersection of Memorial Drive (SR 10) and Rays Road in March 2019 were compared to counts recorded in March 2021 at the same intersection. From the data, the analysis uses a factor of 1.4 applied to the AM peak hour counts and a factor of 1.05 applied to the PM peak hour counts at each of the study intersections depicted in Figure 2. The adjusted volumes (Baseline Volumes) are depicted in Figure 4. The No-Build and Build scenarios in the study utilize these volumes as baseline conditions. The adjustment factor worksheet and supporting data are included in Appendix B.

Figure 4: Baseline Volumes (2021)



C. Future Conditions

C.1. Background Data Collection

The growth rate in the study area is based upon an analysis of historical traffic counts collected by the Georgia Department of Transportation (GDOT). The project is expected to be built-out in 2024. To account for ambient growth in the area, the baseline traffic counts were grown by 3.4% per year for three years. The growth rate considers historical GDOT traffic data collected along Rays Road, Memorial Drive, and Ponce de Leon Avenue. The expected volumes are depicted in Figure 5, 2024 No-Build Volumes. The historical counts and growth rate development worksheet are included in Appendix B.

C.2. Project Trip Generation

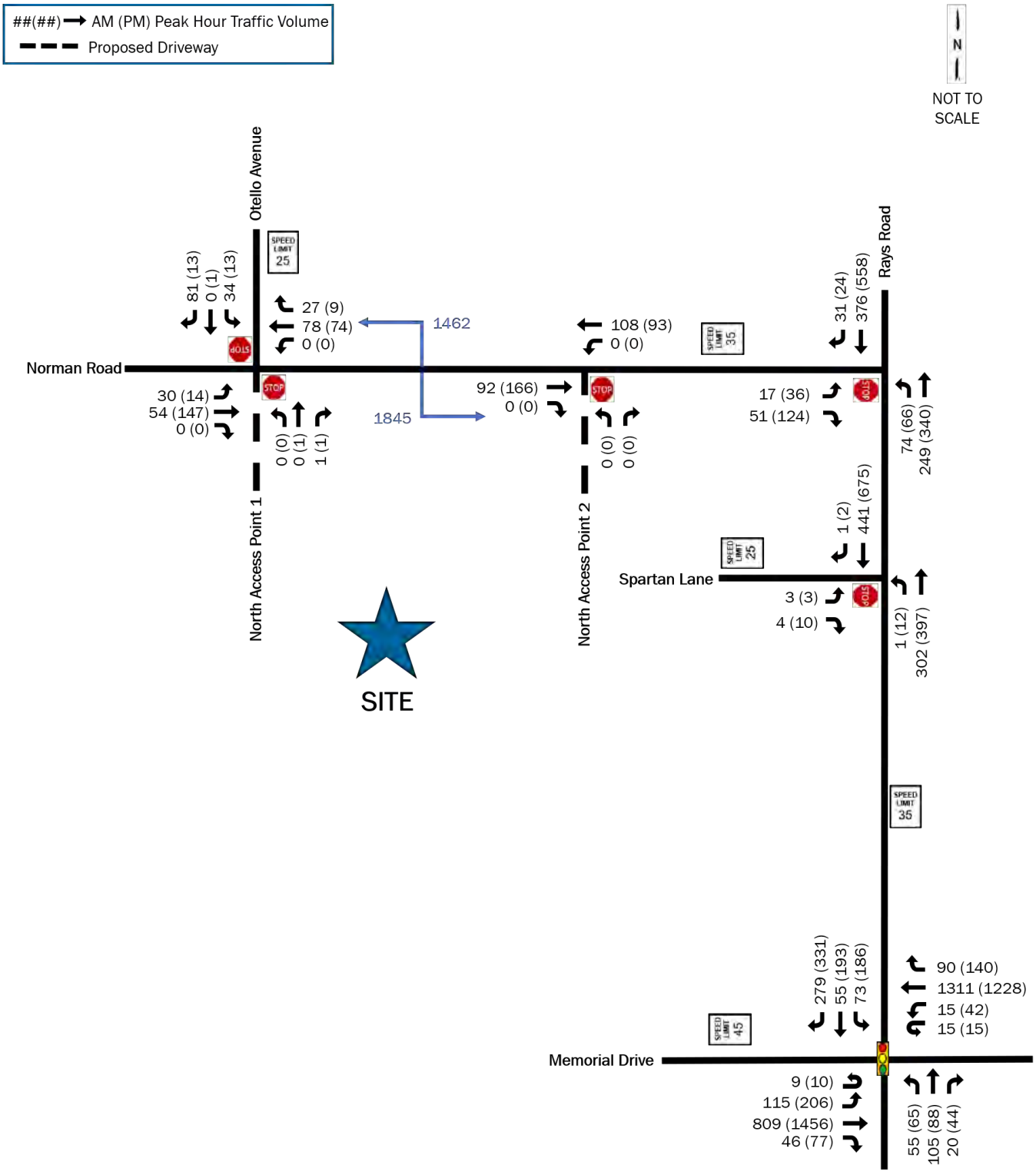
Table 1 summarizes the project trip generation calculated using the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017. The community consists of three types of dwelling units including 138 Two-Family Homes, 52 Townhomes, and 40 Single Family Detached Homes. The homes encompass two types of ITE Land Use Codes (LUC) including one for the single-family detached homes (LUC 210) and one for both the two-family home unit type and the townhome unit type (LUC 220). Table 1 below summarizes the daily and hourly trip generation of the proposed residential development. The scale of the project does not warrant trip reductions for pass-by and/or internal capture. Conservatively, the analysis does not consider reduced, generated trips to account for transit/multimodal use.

Table 1: Project Trip Generation

LAND USE	PERIOD	TOTAL	IN	OUT
Single Family Homes, LUC 210 (40 Dwelling Units)	Daily	448	224	224
	AM Peak Hour	33	8	25
	PM Peak Hour	42	26	16
***Two/Three Family Homes** (190 Dwelling Units - 138 Two-Family Homes, 52 Townhomes)	Daily	1,396	698	698
	AM Peak Hour	88	20	68
	PM Peak Hour	105	66	39
Total Net Trips	Daily	**1,844**	**922**	**922**
	AM Peak Hour	**121**	**28**	**93**
	PM Peak Hour	**147**	**92**	**55**

*Study utilizes ITE (Institute of Transportation Engineers) Land Use Code *Multi-Family Housing Low-Rise (LUC 220)*

Figure 5: 2024 No-Build Traffic Volumes



C.3. Trip Distribution and Assignment

The distribution and assignment of project trips for the development is based on an evaluation of traffic patterns typical of a residential development in addition to traffic patterns within the area, alongside an analysis of the collected traffic counts. Approximately 12% of the newly generated trips are expected to utilize Driveway 1 at Norman Road and Otello Avenue, 44% of the newly generated trips are expected to utilize Driveway 2 at Norman Road and the remaining 44% of the newly generated trips are expected to use Spartan Lane at Rays Road. An expected 34% of the generated trips will be distributed to/from the west via Norman Road, an estimated 18% of the newly generated trips will be distributed to/from the north via Rays Road. Approximately 48% of the newly generated trips will be distributed to/from the south via Memorial Drive. The trip generation is depicted in Figure 6. The project trips generated from the development utilize the trip distribution and are depicted in Figure 7. The No-Build plus project trips (Build Volumes) are depicted in Figure 8.

Figure 6: Trip Distribution

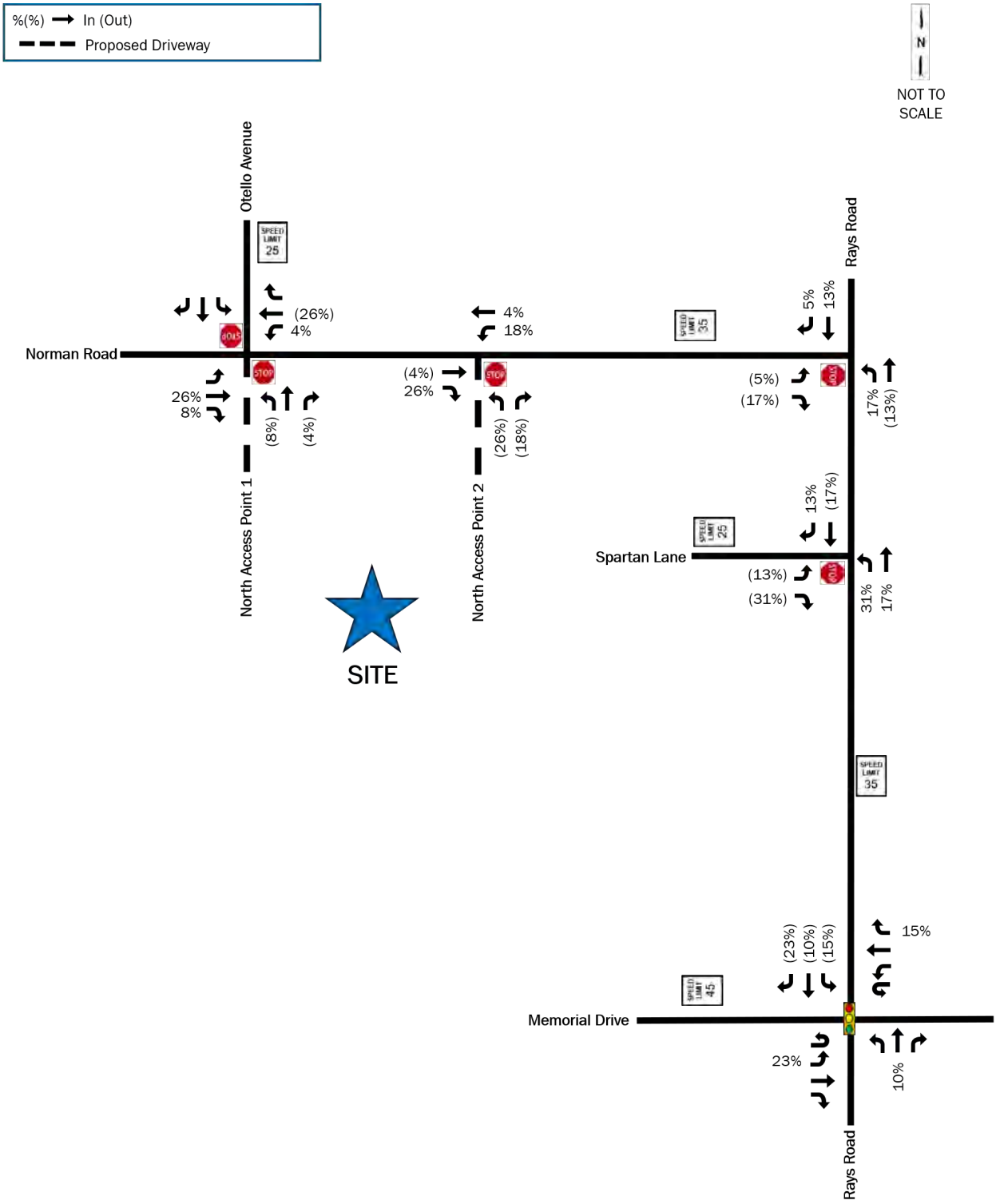


Figure 7: Project Development Trips

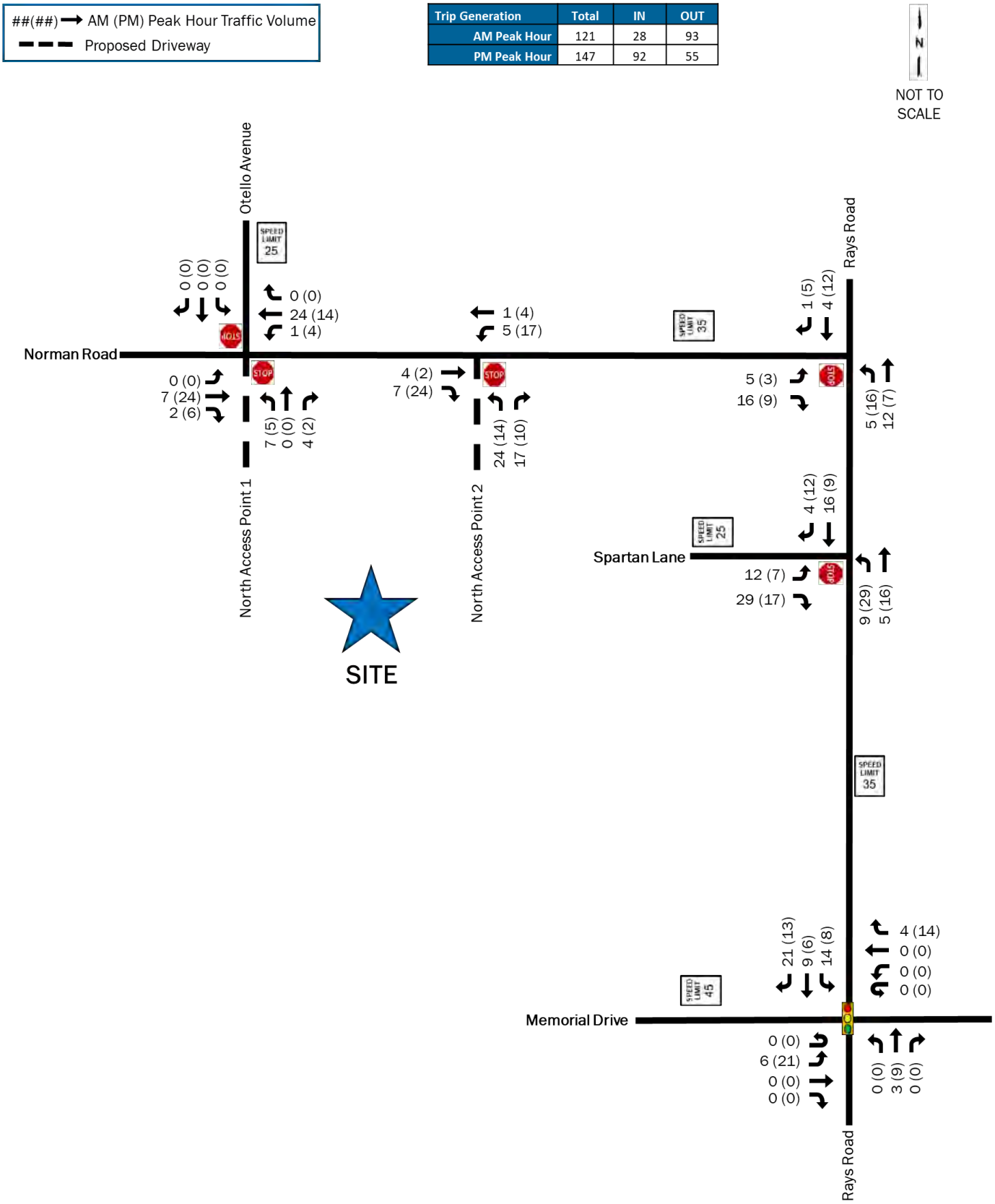
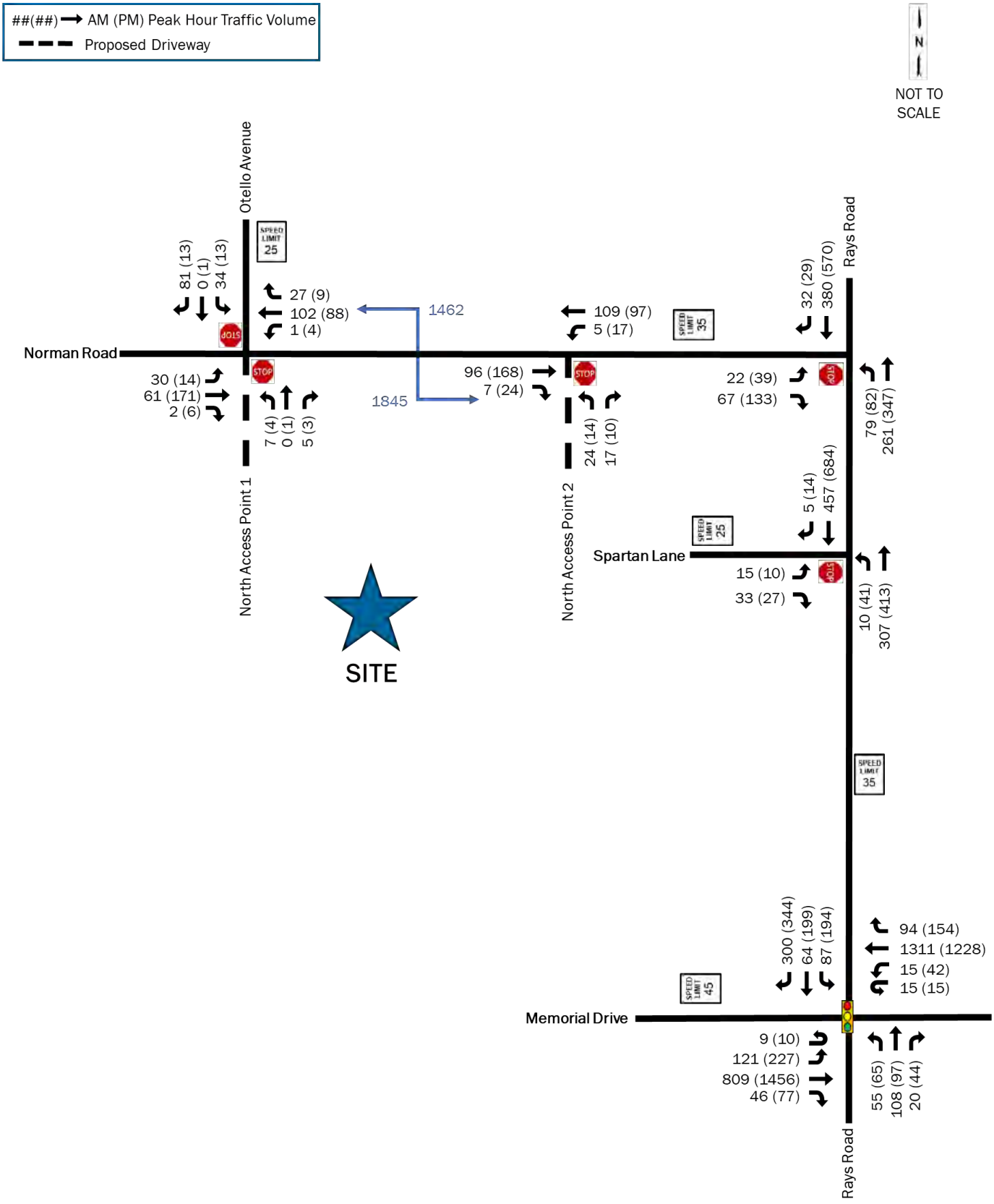


Figure 8: 2024 Build Traffic Volumes



D. Traffic Impact Analyses

The analysis in each of the scenarios for the study was performed using the traffic analysis software Synchro® 11. The analysis utilizes optimized signal timing with assumed cycle lengths of 120 seconds in the AM and PM peak hours. Average vehicular delays are calculated and reported as Levels of Service (LOS) as defined by the Highway Capacity Manual (HCM 6th Edition). HCM uses a grading system from A through F, where A is best (little to no delay) and F is worst (very heavy delay). HCM level of service (LOS) standards and Synchro® output reports are included in Appendix C.

D.1. 2021 Existing Capacity Analysis

The results of the 2021 existing conditions capacity analysis are shown in Table 2 and include analysis of the volumes presented in Figure 3.

Table 2: 2021 Existing Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	Dwy 1/Otello Rd & Norman Rd	Stop-Control	NB	8.5	A	9.8	A
			SB	9.6	A	9.6	A
			EBL	7.4	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	11.1	B	17.6	C
			NBL	8	A	8.7	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	10.9	B	14.8	B
			NBL	7.9	A	8.9	A
5	Rays Rd & Memorial Dr	Signal	EB	24.9	C	29.4	C
			WB	27.9	C	29.7	C
			NB	16.9	B	24.5	C
			SB	23.5	C	33.9	C
			Overall	**25.6**	**C**	**30.1**	**C**

The study assumes adequate operations as LOS D or better. As shown in Table 2, the overall traffic operations at the study intersection are satisfactory in existing conditions.

D.2. 2021 Baseline Capacity Analysis

The results of the 2021 baseline conditions capacity analysis are shown in Table 3 and include analysis of the volumes presented in Figure 4.

Table 3: 2021 Baseline Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	Dwy 1/Otello Rd & Norman Rd	Stop-Control	NB	8.6	A	9.8	A
			SB	10.2	B	9.6	A
			EBL	7.5	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	13.0	B	18.9	C
			NBL	8.4	A	8.9	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	12.5	B	15.4	C
			NBL	8.2	A	9.0	A
5	Rays Rd & Memorial Dr	Signal	EB	24.9	C	30.2	C
			WB	27.8	C	30.6	C
			NB	22.5	C	25.7	C
			SB	32.5	C	35.6	D
			Overall	**27.2**	**C**	**31.1**	**C**

The study assumes adequate operations as LOS D or better. As shown in Table 3, the overall traffic operations at the study intersection are satisfactory in baseline conditions.

D.3. 2024 No-Build Capacity Analysis

The results of the No-Build capacity analysis are shown in Table 4 and include analysis of the volumes presented in Figure 5.

Table 4: 2024 No-Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	DWY 1/Otello Rd & Norman Rd	Stop-Control	NB	8.6	A	10.0	B
			SB	10.5	B	9.8	A
			EBL	7.5	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	14.1	B	23.0	C
			NBL	8.5	A	9.1	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	13.2	B	16.7	C
			NBL	8.4	A	9.3	A
5	Rays Rd & Memorial Dr	Signal	EB	25.8	C	30.9	C
			WB	29.7	C	31.4	C
			NB	24.6	C	28.9	C
			SB	36.5	D	40.7	D
			Overall	**29.1**	**C**	**32.7**	**C**

As shown in Table 4, under No-Build conditions with the calculated growth rate of 3.4% in the area, the intersections operate adequately at overall acceptable levels of services. The intersections do increase in delay (as expected with the growth rate) with all intersections operating at a level of service (LOS) D or better overall and at each approach.

D.4. 2024 Build Conditions Capacity Analysis

The results of the 2024 Build conditions intersection capacity analysis are shown in Table 5 for No-Build plus project volumes (Figure 8).

Table 5: 2024 Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	DWY 1/Otello Rd & Norman Rd	Stop-Control	NB	10.7	B	10.5	B
			SB	10.8	B	10.1	B
			EBL	7.6	A	7.5	A
			WBL	7.4	A	7.6	A
2	DWY 2 & Norman Rd	Stop-Control	NB	9.6	A	10.2	B
			WBL	7.4	A	7.7	A
3	Rays Rd & Norman Rd	Stop-Control	EB	14.9	B	26.6	D
			NBL	8.6	A	9.3	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	14.0	B	20.0	C
			NBL	8.5	A	9.6	A
5	Rays Rd & Memorial Dr	Signal	EB	26.9	C	32.6	C
			WB	31.0	C	33.6	C
			NB	24.7	C	28.8	C
			SB	37.8	D	40.8	D
			Overall	**30.4**	**C**	**34.3**	**C**

As shown in Table 5, the overall traffic from the additional project trips from the Spivey Lake Residential Development do not significantly affect the study network. With the added trips, the intersections do increase in delay (as expected), but do not change the overall levels of service experienced in No-Build conditions.

E. GDOT Turn Lane Evaluations

The need for turn lanes was evaluated for both driveways along Norman Road and the existing intersection of Rays Road and Spartan Lane using methodologies from the Georgia Department of Transportation (GDOT) Access Manual. The results of the evaluation are summarized in Table 6. From the evaluation, given the amount of expected traffic at Driveway 2, a right-turn deceleration lane is recommended.

Table 6: GDOT Turn Lane Evaluations

ID	Intersection	Movement/ Turn Lane	GDOT Criteria met?
1	Driveway 1 / Otello Rd & Norman Rd	WBL	NO
		EBR	NO
2	Driveway 2 & Norman Rd	WBL	NO
		EBR	YES
4	Rays Rd & Spartan Ln	NBL	NO
		SBR	NO

F. Conclusions

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The proposed development will generate a daily total of 1,844 trips with 121 trips (28 entering and 93 exiting) during the AM peak hour, and 147 trips (92 entering and 55 exiting) during the PM peak hour. The following are conclusions from the study:

- Traffic operations at the study intersections are satisfactory (LOS D or better) in existing and baseline conditions.
- The conditions are expected to increase in delay as evidenced in the No-Build scenario due to the anticipated growth in the study area. Even with anticipated growth, the intersections are expected to operate at a level of service (LOS) D or better overall and at each approach.
- The addition of project traffic is expected to have little impact on the traffic operations at the study intersections. No improvements are recommended because the impact is minimal.
- Based on GDOT criteria, the eastern site driveway (Driveway 2) for the development warrants a right-turn deceleration lane. However, the installation of the turn lane is at the discretion of DeKalb County.

Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.

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APPENDIX A:

CONCEPT PLAN



UNIT TYPE	TOTAL
SINGLE-FAMILY HOME	40
TWO-FAMILY HOME	138
TOWNHOUSE	52
TOTAL	**230**

230 UNITS / 34.88 AC = 6.59 UNITS / AC

PARKING	TOTAL
90° SPACE	213
PARALLEL SPACE	108
GARAGE SPACE	54
TOTAL	**375**

375 TOTAL PARKING SPACES
- 3 CLUBHOUSE SPACES
-10 COMMUNITY GARDEN SPACES
= **362 RESIDENTIAL PARKING SPACES**

362 SPACES / 230 UNITS = **1.57 PARKING RATIO**

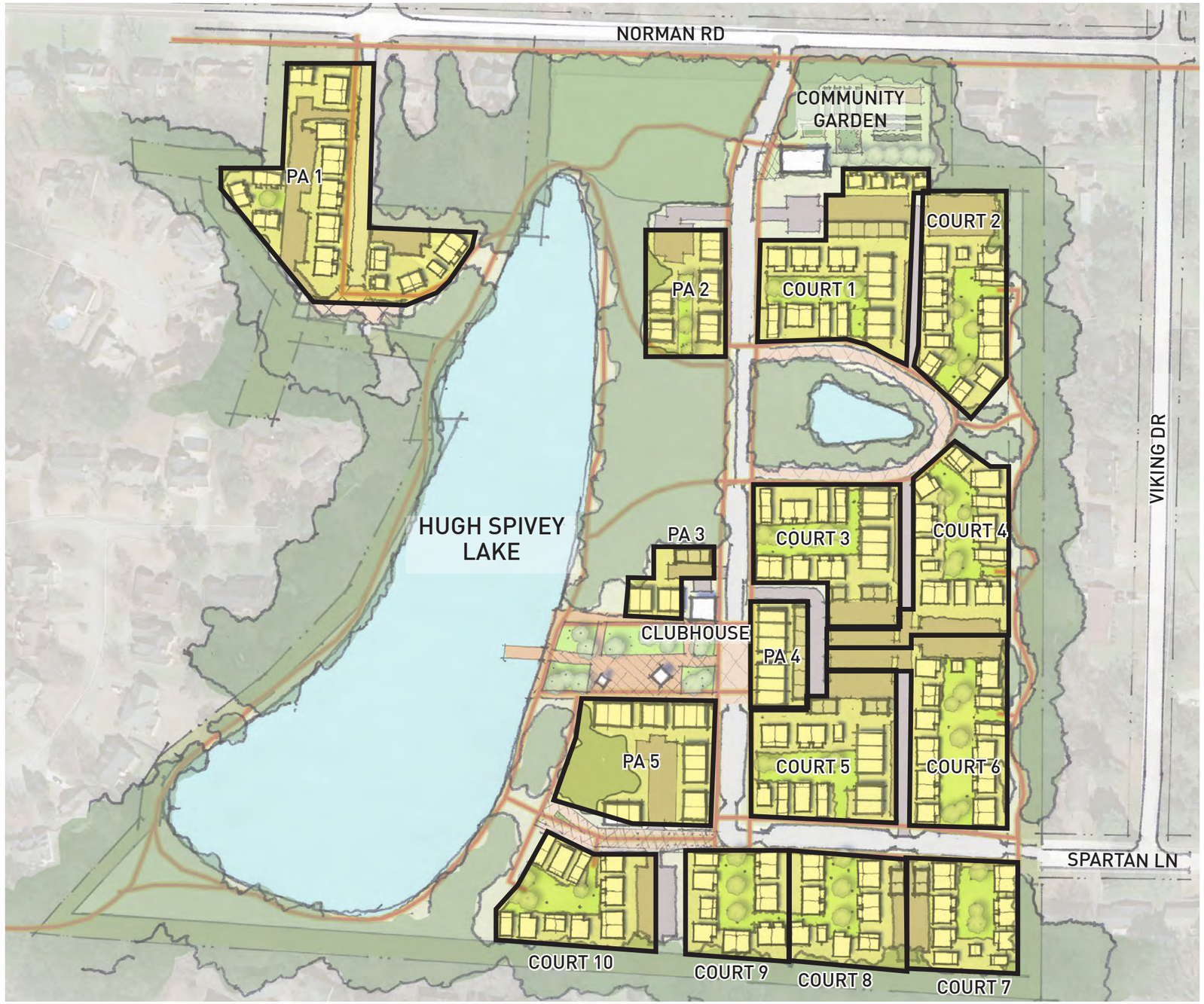
COTTAGE COURT COURTYARD
TRAIL
BUILDING

100 0 100 200 400 Feet

KRONBERG URBANISTS ARCHITECTS

SITE STUDY ILLUSTRATIVE PLAN

HUGH SPIVEY LAKE



RESIDENTIAL PROGRAM

BLOCK	SINGLE-FAMILY / TWO-FAMILY	ADU	TOWN-HOUSE	TOTAL	OFF-STREET PARKING
PA-1	11	16	-	27	26
PA-2	-	-	11	11	12
PA-3	-	-	4	4	6
PA-4	-	-	6	6	14
PA-5	-	-	16	16	17
COURT 1	7	10	5	22	31
COURT 2	12	6	-	18	22
COURT 3	7	6	5	18	23
COURT 4	12	7	-	19	24
COURT 5	6	5	5	16	26
COURT 6	14	6	-	20	24
COURT 7	11	1	-	12	11
COURT 8	10	3	-	13	11
COURT 9	11	2	-	13	13
COURT 10	9	6	-	15	13
TOTAL	**110**	**68**	**52**	**230**	**273**

230 UNITS / 34.88 AC = 6.59 UNITS / AC

1-STORY UNITS: APP. 10% (24 UNITS)
2-STORY UNITS: APP 90% (206 UNITS)

COMMUNITY GARDEN	TOTAL
AREA	0.64 AC
PARKING	10 SPACES

CLUBHOUSE	TOTAL
SF	1,400 SF
PARKING	3 SPACES

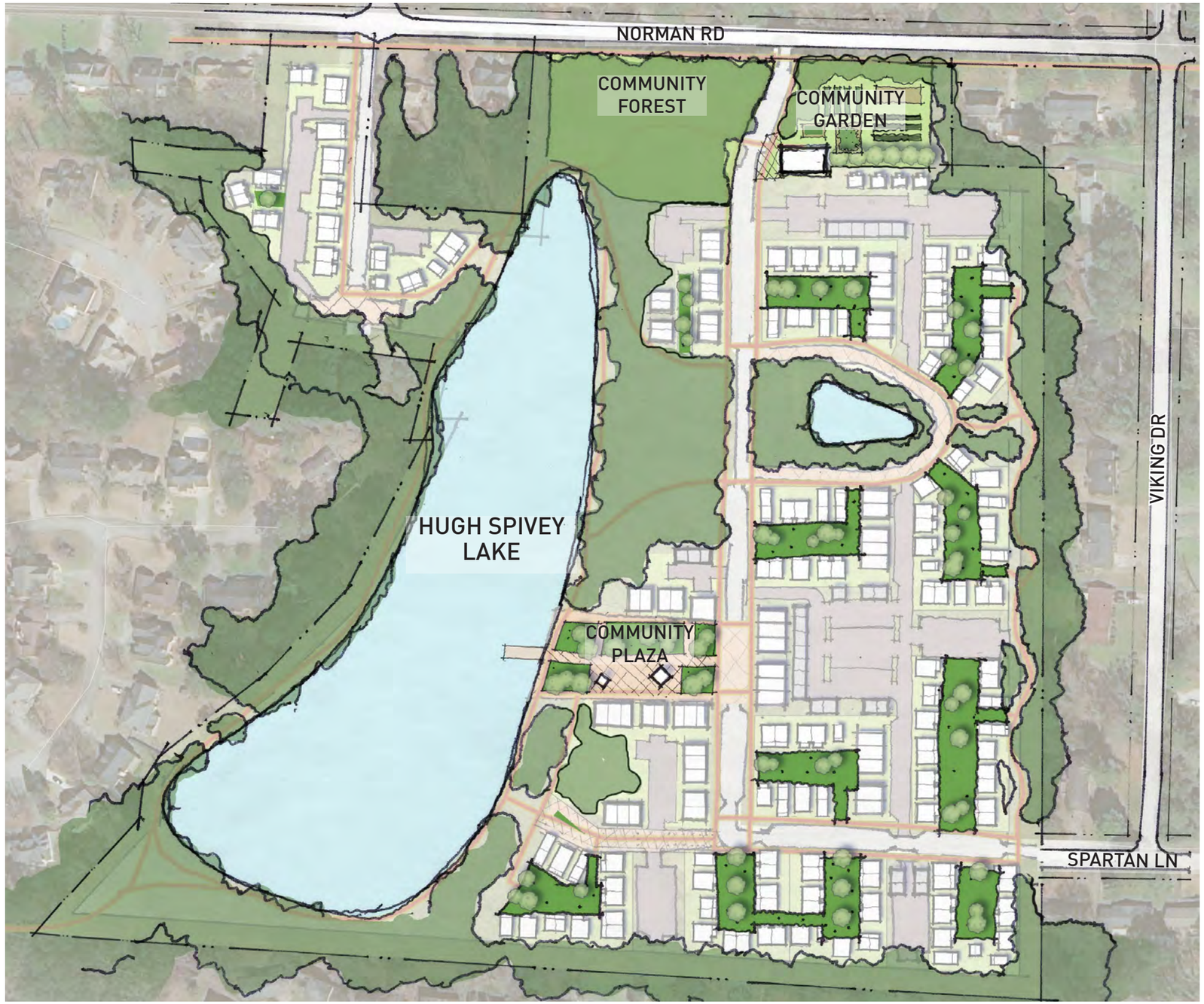
ON-STREET PARKING	TOTAL
PARALLEL SPACE	89

100 0 100 200 400 Feet

SITE STUDY CAPACITY DIAGRAM

HUGH SPIVEY LAKE

KRONBERG URBANISTS ARCHITECTS



UNDEVELOPED LAND	TOTAL (AC)
TOTAL SITE AREA	34.88
TOTAL UNDEVELOPED AREA	18.00

18.00 AC UNDEVELOPED / 34.88 AC TOTAL = 51.6% OF LAND UNTOUCHED

AREA OF COMMUNITY AMENITIES	TOTAL (AC)
COMMUNITY GARDEN	0.64
COMMUNITY FOREST	1.21
COMMUNITY PLAZA	0.65
COTTAGE COURT COURTYARDS	2.03
HUGH SPIVEY LAKE	7.00 AC
TOTAL	**11.53 AC**

TRAILS	TOTAL MILES
LINEAR DISTANCE OF TRAILS	2.1

COTTAGE COURT COURTYARD
TRAIL
BUILDING

100 0 100 200 400 Feet

SITE STUDY GREEN SPACE DIAGRAM

HUGH SPIVEY LAKE

KRONBERG URBANISTS ARCHITECTS

APPENDIX B:

TRAFFIC COUNTS,

GROWTH RATE &

ADJUSTMENT FACTOR

WORKSHEETS

Project ID: 21-180077-001
Location: Otello Ave & Norman Rd
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Otello Ave Northbound						Otello Ave Southbound						Norman Rd Eastbound						Norman Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	8	0	10	0	0	18	7	6	1	0	0	14	0	7	10	0	0	17	49
7:15 AM	0	0	0	0	0	0	8	0	23	0	0	31	3	7	0	0	0	10	0	17	5	0	0	22	63
7:30 AM	0	0	1	0	2	1	6	0	11	0	0	17	6	12	0	0	2	18	0	15	1	0	0	16	52
7:45 AM	0	0	0	0	3	0	0	0	8	0	0	8	3	10	0	0	2	13	0	12	1	0	0	13	34
Total	0	0	1	0	5	1	22	0	52	0	0	74	19	35	1	0	4	55	0	51	17	0	0	68	198
8:00 AM	0	0	0	0	1	0	4	0	4	0	0	8	6	8	0	0	0	14	0	18	2	0	0	20	42
8:15 AM	0	1	0	0	1	1	4	0	5	0	0	9	2	4	1	0	1	7	0	18	0	0	0	18	35
8:30 AM	0	0	0	0	1	0	3	0	2	0	1	5	0	12	0	0	1	12	0	14	3	0	1	17	34
8:45 AM	0	0	0	0	1	0	1	0	2	0	0	3	5	10	0	0	0	15	1	15	3	0	0	19	37
Total	0	1	0	0	4	1	12	0	13	0	1	25	13	34	1	0	2	48	1	65	8	0	1	74	148
BREAK																									
4:00 PM	0	0	0	0	1	0	3	0	2	0	0	5	1	25	0	0	2	26	0	18	1	0	0	19	50
4:15 PM	0	0	0	0	0	0	6	0	2	0	0	8	5	22	0	0	2	27	1	15	1	0	0	17	52
4:30 PM	0	0	0	0	0	0	6	0	1	0	0	7	3	25	0	0	0	28	0	13	2	0	0	15	50
4:45 PM	0	0	0	0	0	0	7	0	0	0	0	7	3	22	0	0	1	25	1	15	0	0	0	16	48
Total	0	0	0	0	1	0	22	0	5	0	0	27	12	94	0	0	5	106	2	61	4	0	0	67	200
5:00 PM	0	0	0	0	1	0	3	0	2	0	0	5	5	28	0	0	0	33	0	12	1	0	0	13	51
5:15 PM	0	0	0	0	4	0	2	1	4	0	0	7	3	30	0	0	2	33	0	20	5	0	2	25	65
5:30 PM	0	0	1	0	0	1	1	0	3	0	0	4	3	37	0	0	2	40	0	19	0	0	0	19	64
5:45 PM	0	1	0	0	0	1	5	0	2	0	0	7	1	32	0	0	0	33	0	13	2	0	0	15	56
Total	0	1	1	0	5	2	11	1	11	0	0	23	12	127	0	0	4	139	0	64	8	0	2	72	236
Grand Total	0	2	2	0	15	4	67	1	81	0	1	149	56	290	2	0	15	348	3	241	37	0	3	281	782
Apprch %	0.0	50.0	50.0	0.0	375.0		45.0	0.7	54.4	0.0	0.7		16.1	83.3	0.6	0.0	4.3		1.1	85.8	13.2	0.0	1.1		
Total %	0.0	0.3	0.3	0.0	1.9	0.5	8.6	0.1	10.4	0.0	0.1	19.1	7.2	37.1	0.3	0.0	1.9	44.5	0.4	30.8	4.7	0.0	0.4	35.9	
Cars, PU, Vans	0	2	2	0		4	58	1	73	0		132	55	286	2	0		343	3	229	36	0		268	747
% Cars, PU, Vans	0.0	100.0	100.0	0.0		100.0	86.6	100.0	90.1	0.0		88.6	98.2	98.6	100.0	0.0		98.6	100.0	95.0	97.3	0.0		95.4	95.5
Heavy trucks	0	0	0	0		0	9	0	8	0		17	1	4	0	0		5	0	12	1	0		13	35
%Heavy trucks	0.0	0.0	0.0	0.0		0.0	13.4	0.0	9.9	0.0		11.4	1.8	1.4	0.0	0.0		1.4	0.0	5.0	2.7	0.0		4.6	4.5

Project ID: 21-180077-001
Location: Otello Ave & Norman Rd
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Otello Ave Northbound					Otello Ave Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	0	0	0	0	0	8	0	10	0	18	7	6	1	0	14	0	7	10	0	17	49
7:15 AM	0	0	0	0	0	8	0	23	0	31	3	7	0	0	10	0	17	5	0	22	63
7:30 AM	0	0	1	0	1	6	0	11	0	17	6	12	0	0	18	0	15	1	0	16	52
7:45 AM	0	0	0	0	0	0	0	8	0	8	3	10	0	0	13	0	12	1	0	13	34
Total Volume	0	0	1	0	1	22	0	52	0	74	19	35	1	0	55	0	51	17	0	68	198
% App. Total	0.0	0.0	100.0	0.0	100	29.7	0.0	70.3	0.0	100	34.5	63.6	1.8	0.0	100	0.0	75.0	25.0	0.0	100	
PHF					0.250					0.597					0.764					0.773	0.786
Cars, PU, Vans	0	0	1	0	1	17	0	45	0	62	19	32	1	0	52	0	45	16	0	61	176
% Cars, PU, Vans	0.0	0.0	100.0	0.0	100.0	77.3	0.0	86.5	0.0	83.8	100.0	91.4	100.0	0.0	94.5	0.0	88.2	94.1	0.0	89.7	88.9
Heavy trucks	0	0	0	0	0	5	0	7	0	12	0	3	0	0	3	0	6	1	0	7	22
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	22.7	0.0	13.5	0.0	16.2	0.0	8.6	0.0	0.0	5.5	0.0	11.8	5.9	0.0	10.3	11.1

PM

	Otello Ave Northbound					Otello Ave Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	0	0	0	0	0	3	0	2	0	5	5	28	0	0	33	0	12	1	0	13	51
5:15 PM	0	0	0	0	0	2	1	4	0	7	3	30	0	0	33	0	20	5	0	25	65
5:30 PM	0	0	1	0	1	1	0	3	0	4	3	37	0	0	40	0	19	0	0	19	64
5:45 PM	0	1	0	0	1	5	0	2	0	7	1	32	0	0	33	0	13	2	0	15	56
Total Volume	0	1	1	0	2	11	1	11	0	23	12	127	0	0	139	0	64	8	0	72	236
% App. Total	0.0	50.0	50.0	0.0	100	47.8	4.3	47.8	0.0	100	8.6	91.4	0.0	0.0	100	0.0	88.9	11.1	0.0	100	
PHF					0.500					0.821					0.869					0.720	0.908
Cars, PU, Vans	0	1	1	0	2	11	1	11	0	23	11	126	0	0	137	0	62	8	0	70	232
% Cars, PU, Vans	0.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	91.7	99.2	0.0	0.0	98.6	0.0	96.9	100.0	0.0	97.2	98.3
Heavy trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	0	0	2	4
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.8	0.0	0.0	1.4	0.0	3.1	0.0	0.0	2.8	1.7

Project ID: 21-180077-002
Location: Rays Rd & Norman Rd
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Norman Rd Eastbound						Norman Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	18	23	0	0	0	41	0	34	3	0	0	37	0	0	7	0	0	7	0	0	0	0	0	0	85
7:15 AM	13	44	0	0	0	57	0	42	5	0	0	47	5	0	9	0	0	14	0	0	0	0	0	0	118
7:30 AM	14	40	0	0	0	54	0	40	1	0	0	41	9	0	10	0	0	19	0	0	0	0	0	0	114
7:45 AM	12	37	0	0	0	49	0	45	4	0	0	49	5	0	9	0	0	14	0	0	0	0	0	0	112
Total	57	144	0	0	0	201	0	161	13	0	0	174	19	0	35	0	0	54	0	0	0	0	0	0	429
8:00 AM	11	39	0	0	0	50	0	61	6	0	0	67	3	0	8	0	0	11	0	0	0	0	0	0	128
8:15 AM	12	31	0	0	0	43	0	49	5	0	0	54	2	0	8	0	0	10	0	0	0	0	0	0	107
8:30 AM	10	48	0	0	0	58	0	63	6	0	0	69	1	0	7	0	0	8	0	0	0	0	0	0	135
8:45 AM	15	43	0	0	0	58	0	70	3	0	0	73	5	0	10	0	0	15	0	0	0	0	0	0	146
Total	48	161	0	0	0	209	0	243	20	0	0	263	11	0	33	0	0	44	0	0	0	0	0	0	516
BREAK																									
4:00 PM	10	69	0	0	0	79	0	110	2	0	0	112	5	0	22	0	0	27	0	0	0	0	0	0	218
4:15 PM	13	78	0	0	1	91	0	114	9	0	0	123	5	0	16	0	0	21	0	0	0	0	0	0	235
4:30 PM	10	73	0	0	0	83	0	143	6	0	0	149	11	0	21	0	0	32	0	0	0	0	0	0	264
4:45 PM	11	57	0	0	0	68	0	115	1	0	0	116	7	0	18	0	0	25	0	0	0	0	0	0	209
Total	44	277	0	0	1	321	0	482	18	0	0	500	28	0	77	0	0	105	0	0	0	0	0	0	926
5:00 PM	13	75	0	0	0	88	0	101	3	0	0	104	6	0	27	0	0	33	0	0	0	0	0	0	225
5:15 PM	15	63	0	0	0	78	0	143	12	0	0	155	6	0	20	0	0	26	0	0	0	0	0	0	259
5:30 PM	15	78	0	0	0	93	0	135	4	0	0	139	12	0	26	0	0	38	0	0	0	0	0	0	270
5:45 PM	14	77	0	0	0	91	0	102	2	0	0	104	7	0	34	0	0	41	0	0	0	0	0	0	236
Total	57	293	0	0	0	350	0	481	21	0	0	502	31	0	107	0	0	138	0	0	0	0	0	0	990
Grand Total	206	875	0	0	1	1081	0	1367	72	0	0	1439	89	0	252	0	0	341	0	0	0	0	0	0	2861
Apprch %	19.1	80.9	0.0	0.0	0.1		0.0	95.0	5.0	0.0	0.0		26.1	0.0	73.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	7.2	30.6	0.0	0.0	0.0	37.8	0.0	47.8	2.5	0.0	0.0	50.3	3.1	0.0	8.8	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	202	849	0	0		1051	0	1334	68	0		1402	85	0	242	0		327	0	0	0	0		0	2780
% Cars, PU, Vans	98.1	97.0	0.0	0.0		97.2	0.0	97.6	94.4	0.0		97.4	95.5	0.0	96.0	0.0		95.9	0.0	0.0	0.0	0.0		0.0	97.2
Heavy trucks	4	26	0	0		30	0	33	4	0		37	4	0	10	0		14	0	0	0	0		0	81
%Heavy trucks	1.9	3.0	0.0	0.0		2.8	0.0	2.4	5.6	0.0		2.6	4.5	0.0	4.0	0.0		4.1	0.0	0.0	0.0	0.0		0.0	2.8

Project ID: 21-180077-002
Location: Rays Rd & Norman Rd
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
8:00 AM	11	39	0	0	50	0	61	6	0	67	3	0	8	0	11	0	0	0	0	0	128
8:15 AM	12	31	0	0	43	0	49	5	0	54	2	0	8	0	10	0	0	0	0	0	107
8:30 AM	10	48	0	0	58	0	63	6	0	69	1	0	7	0	8	0	0	0	0	0	135
8:45 AM	15	43	0	0	58	0	70	3	0	73	5	0	10	0	15	0	0	0	0	0	146
Total Volume	48	161	0	0	209	0	243	20	0	263	11	0	33	0	44	0	0	0	0	0	516
% App. Total	23.0	77.0	0.0	0.0	100	0.0	92.4	7.6	0.0	100	25.0	0.0	75.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.901					0.901					0.733						0.884
Cars, PU, Vans	48	152	0	0	200	0	223	20	0	243	11	0	32	0	43	0	0	0	0	0	486
% Cars, PU, Vans	100.0	94.4	0.0	0.0	95.7	0.0	91.8	100.0	0.0	92.4	100.0	0.0	97.0	0.0	97.7	0.0	0.0	0.0	0.0	0.0	94.2
Heavy trucks	0	9	0	0	9	0	20	0	0	20	0	0	1	0	1	0	0	0	0	0	30
%Heavy trucks	0.0	5.6	0.0	0.0	4.3	0.0	8.2	0.0	0.0	7.6	0.0	0.0	3.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	5.8

PM

	Rays Rd Northbound					Rays Rd Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	13	75	0	0	88	0	101	3	0	104	6	0	27	0	33	0	0	0	0	0	225
5:15 PM	15	63	0	0	78	0	143	12	0	155	6	0	20	0	26	0	0	0	0	0	259
5:30 PM	15	78	0	0	93	0	135	4	0	139	12	0	26	0	38	0	0	0	0	0	270
5:45 PM	14	77	0	0	91	0	102	2	0	104	7	0	34	0	41	0	0	0	0	0	236
Total Volume	57	293	0	0	350	0	481	21	0	502	31	0	107	0	138	0	0	0	0	0	990
% App. Total	16.3	83.7	0.0	0.0	100	0.0	95.8	4.2	0.0	100	22.5	0.0	77.5	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.941					0.810					0.841						0.917
Cars, PU, Vans	56	291	0	0	347	0	477	20	0	497	31	0	105	0	136	0	0	0	0	0	980
% Cars, PU, Vans	98.2	99.3	0.0	0.0	99.1	0.0	99.2	95.2	0.0	99.0	100.0	0.0	98.1	0.0	98.6	0.0	0.0	0.0	0.0	0.0	99.0
Heavy trucks	1	2	0	0	3	0	4	1	0	5	0	0	2	0	2	0	0	0	0	0	10
%Heavy trucks	1.8	0.7	0.0	0.0	0.9	0.0	0.8	4.8	0.0	1.0	0.0	0.0	1.9	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.0

Project ID: 21-180077-003
Location: Rays Rd & Spartan Ln
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Spartan Ln Eastbound						Spartan Ln Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	1	36	0	0	0	37	0	46	0	0	0	46	0	0	0	0	0	0	0	0	0	0	1	0	83
7:15 AM	2	59	0	0	0	61	0	48	0	0	0	48	0	0	1	0	0	1	0	0	0	0	0	0	110
7:30 AM	0	46	0	1	0	47	0	58	0	0	0	58	0	0	1	0	0	1	0	0	0	0	0	0	106
7:45 AM	0	48	0	0	0	48	0	51	0	0	0	51	0	0	2	0	0	2	0	0	0	0	2	0	101
Total	3	189	0	1	0	193	0	203	0	0	0	203	0	0	4	0	0	4	0	0	0	0	3	0	400
8:00 AM	0	45	0	0	0	45	0	71	0	0	0	71	0	0	1	0	0	1	0	0	0	0	0	0	117
8:15 AM	0	41	1	0	0	42	0	60	1	0	0	61	0	0	1	0	0	1	0	0	0	0	0	0	104
8:30 AM	0	58	0	0	0	58	0	76	0	0	0	76	0	0	1	0	0	1	0	0	0	0	0	0	135
8:45 AM	1	51	0	0	0	52	0	78	0	0	0	78	2	0	0	0	1	2	0	0	0	0	0	0	132
Total	1	195	1	0	0	197	0	285	1	0	0	286	2	0	3	0	1	5	0	0	0	0	0	0	488
BREAK																									
4:00 PM	1	88	0	0	0	89	0	132	1	0	0	133	0	0	0	0	0	0	0	0	0	0	1	0	222
4:15 PM	1	89	0	0	0	90	0	129	1	0	0	130	1	0	2	0	1	3	0	0	0	0	0	0	223
4:30 PM	1	86	0	0	0	87	0	166	0	0	0	166	0	0	1	0	1	1	0	0	0	0	1	0	254
4:45 PM	2	74	0	0	0	76	0	133	0	0	0	133	0	0	4	0	0	4	0	0	0	0	2	0	213
Total	5	337	0	0	0	342	0	560	2	0	0	562	1	0	7	0	2	8	0	0	0	0	4	0	912
5:00 PM	2	84	0	0	0	86	0	123	0	0	0	123	1	0	2	0	0	3	0	0	0	0	0	0	212
5:15 PM	4	86	0	0	0	90	0	169	2	0	0	171	2	0	2	0	0	4	0	0	0	0	0	0	265
5:30 PM	2	98	0	0	0	100	0	157	0	0	0	157	0	0	1	0	0	1	0	0	0	0	0	0	258
5:45 PM	0	78	0	0	0	78	0	125	0	0	0	125	0	0	1	0	0	1	0	0	0	0	0	0	204
Total	8	346	0	0	0	354	0	574	2	0	0	576	3	0	6	0	0	9	0	0	0	0	0	0	939
Grand Total	17	1067	1	1	0	1086	0	1622	5	0	0	1627	6	0	20	0	3	26	0	0	0	0	7	0	2739
Apprch %	1.6	98.3	0.1	0.1	0.0		0.0	99.7	0.3	0.0	0.0		23.1	0.0	76.9	0.0	11.5		0.0	0.0	0.0	0.0	0.0		
Total %	0.6	39.0	0.0	0.0	0.0	39.6	0.0	59.2	0.2	0.0	0.0	59.4	0.2	0.0	0.7	0.0	0.1	0.9	0.0	0.0	0.0	0.0	0.3	0.0	
Cars, PU, Vans	16	1034	1	0		1051	0	1579	5	0		1584	6	0	19	0		25	0	0	0	0		0	2660
% Cars, PU, Vans	94.1	96.9	100.0	0.0		96.8	0.0	97.3	100.0	0.0		97.4	100.0	0.0	95.0	0.0		96.2	0.0	0.0	0.0	0.0		0.0	97.1
Heavy trucks	1	33	0	1		35	0	43	0	0		43	0	0	1	0		1	0	0	0	0		0	79
%Heavy trucks	5.9	3.1	0.0	100.0		3.2	0.0	2.7	0.0	0.0		2.6	0.0	0.0	5.0	0.0		3.8	0.0	0.0	0.0	0.0		0.0	2.9

Project ID: 21-180077-003
Location: Rays Rd & Spartan Ln
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Spartan Ln Eastbound					Spartan Ln Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
8:00 AM	0	45	0	0	45	0	71	0	0	71	0	0	1	0	1	0	0	0	0	0	117
8:15 AM	0	41	1	0	42	0	60	1	0	61	0	0	1	0	1	0	0	0	0	0	104
8:30 AM	0	58	0	0	58	0	76	0	0	76	0	0	1	0	1	0	0	0	0	0	135
8:45 AM	1	51	0	0	52	0	78	0	0	78	2	0	0	0	2	0	0	0	0	0	132
Total Volume	1	195	1	0	197	0	285	1	0	286	2	0	3	0	5	0	0	0	0	0	488
% App. Total	0.5	99.0	0.5	0.0	100	0.0	99.7	0.3	0.0	100	40.0	0.0	60.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.849					0.917					0.625						0.904
Cars, PU, Vans	1	184	1	0	186	0	265	1	0	266	2	0	3	0	5	0	0	0	0	0	457
% Cars, PU, Vans	100.0	94.4	100.0	0.0	94.4	0.0	93.0	100.0	0.0	93.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	93.6
Heavy trucks	0	11	0	0	11	0	20	0	0	20	0	0	0	0	0	0	0	0	0	0	31
%Heavy trucks	0.0	5.6	0.0	0.0	5.6	0.0	7.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4

PM

	Rays Rd Northbound					Rays Rd Southbound					Spartan Ln Eastbound					Spartan Ln Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	2	74	0	0	76	0	133	0	0	133	0	0	4	0	4	0	0	0	0	0	213
5:00 PM	2	84	0	0	86	0	123	0	0	123	1	0	2	0	3	0	0	0	0	0	212
5:15 PM	4	86	0	0	90	0	169	2	0	171	2	0	2	0	4	0	0	0	0	0	265
5:30 PM	2	98	0	0	100	0	157	0	0	157	0	0	1	0	1	0	0	0	0	0	258
Total Volume	10	342	0	0	352	0	582	2	0	584	3	0	9	0	12	0	0	0	0	0	948
% App. Total	2.8	97.2	0.0	0.0	100	0.0	99.7	0.3	0.0	100	25.0	0.0	75.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.880					0.854					0.750						0.894
Cars, PU, Vans	10	338	0	0	348	0	577	2	0	579	3	0	9	0	12	0	0	0	0	0	939
% Cars, PU, Vans	100.0	98.8	0.0	0.0	98.9	0.0	99.1	100.0	0.0	99.1	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	99.1
Heavy trucks	0	4	0	0	4	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	9
%Heavy trucks	0.0	1.2	0.0	0.0	1.1	0.0	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9

Project ID: 21-180077-004
Location: Rays Rd & Memorial Dr/SR 10
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Memorial Dr/SR 10 Eastbound						Memorial Dr/SR 10 Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	2	8	2	0	0	12	3	3	39	1	0	46	14	96	3	0	0	113	2	199	13	0	0	214	385
7:15 AM	3	12	2	0	0	17	6	6	41	0	0	53	21	96	3	0	0	120	0	204	20	0	0	224	414
7:30 AM	4	14	4	0	0	22	16	14	38	0	1	68	18	116	2	2	0	138	1	191	12	1	0	205	433
7:45 AM	9	15	2	0	1	26	10	6	35	0	0	51	21	148	9	0	0	178	0	229	11	0	0	240	495
Total	18	49	10	0	1	77	35	29	153	1	1	218	74	456	17	2	0	549	3	823	56	1	0	883	1727
8:00 AM	12	13	3	0	0	28	14	11	53	0	1	78	19	131	8	2	0	160	5	215	13	1	0	234	500
8:15 AM	8	17	4	0	0	29	15	7	41	0	1	63	17	132	8	3	0	160	1	200	15	3	0	219	471
8:30 AM	7	23	4	0	1	34	8	12	51	0	0	71	17	112	5	1	0	135	4	203	19	6	0	232	472
8:45 AM	17	19	3	0	0	39	13	12	56	0	0	81	27	122	4	0	1	153	2	183	15	3	0	203	476
Total	44	72	14	0	1	130	50	42	201	0	2	293	80	497	25	6	1	608	12	801	62	13	0	888	1919
BREAK																									
4:00 PM	18	17	13	0	1	48	50	43	76	0	0	169	59	269	21	1	0	350	5	254	28	8	0	295	862
4:15 PM	20	14	6	0	0	40	40	28	71	0	0	139	55	275	14	4	0	348	10	248	36	6	0	300	827
4:30 PM	13	18	6	0	2	37	39	48	68	0	0	155	46	297	16	4	0	363	12	276	21	10	1	319	874
4:45 PM	7	17	10	0	0	34	48	41	66	0	1	155	33	253	17	4	0	307	8	243	26	5	1	282	778
Total	58	66	35	0	3	159	177	160	281	0	1	618	193	1094	68	13	0	1368	35	1021	111	29	2	1196	3341
5:00 PM	15	20	6	0	0	41	30	31	65	0	1	126	42	304	14	2	0	362	6	280	29	3	0	318	847
5:15 PM	14	17	12	0	1	43	41	48	74	0	0	163	43	327	18	3	0	391	9	266	32	3	0	310	907
5:30 PM	16	26	11	0	1	53	51	45	88	0	0	184	48	327	10	3	0	388	12	259	30	3	0	304	929
5:45 PM	11	13	9	0	2	33	38	43	58	0	0	139	44	296	25	1	0	366	9	253	30	4	1	296	834
Total	56	76	38	0	4	170	160	167	285	0	1	612	177	1254	67	9	0	1507	36	1058	121	13	1	1228	3517
Grand Total	176	263	97	0	9	536	422	398	920	1	5	1741	524	3301	177	30	1	4032	86	3703	350	56	3	4195	10504
Apprch %	32.8	49.1	18.1	0.0	1.7		24.2	22.9	52.8	0.1	0.3		13.0	81.9	4.4	0.7	0.0		2.1	88.3	8.3	1.3	0.1		
Total %	1.7	2.5	0.9	0.0	0.1	5.1	4.0	3.8	8.8	0.0	0.0	16.6	5.0	31.4	1.7	0.3	0.0	38.4	0.8	35.3	3.3	0.5	0.0	39.9	
Cars, PU, Vans	172	261	97	0		530	404	395	897	1		1697	499	3186	170	30		3885	85	3567	336	55		4043	10155
% Cars, PU, Vans	97.7	99.2	100.0	0.0		98.9	95.7	99.2	97.5	100.0		97.5	95.2	96.5	96.0	100.0		96.4	98.8	96.3	96.0	98.2		96.4	96.7
Heavy trucks	4	2	0	0		6	18	3	23	0		44	25	115	7	0		147	1	136	14	1		152	349
%Heavy trucks	2.3	0.8	0.0	0.0		1.1	4.3	0.8	2.5	0.0		2.5	4.8	3.5	4.0	0.0		3.6	1.2	3.7	4.0	1.8		3.6	3.3

Project ID: 21-180077-004
Location: Rays Rd & Memorial Dr/SR 10
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Memorial Dr/SR 10 Eastbound					Memorial Dr/SR 10 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
7:45 AM	9	15	2	0	26	10	6	35	0	51	21	148	9	0	178	0	229	11	0	240	495
8:00 AM	12	13	3	0	28	14	11	53	0	78	19	131	8	2	160	5	215	13	1	234	500
8:15 AM	8	17	4	0	29	15	7	41	0	63	17	132	8	3	160	1	200	15	3	219	471
8:30 AM	7	23	4	0	34	8	12	51	0	71	17	112	5	1	135	4	203	19	6	232	472
Total Volume	36	68	13	0	117	47	36	180	0	263	74	523	30	6	633	10	847	58	10	925	1938
% App. Total	30.8	58.1	11.1	0.0	100	17.9	13.7	68.4	0.0	100	11.7	82.6	4.7	0.9	100	1.1	91.6	6.3	1.1	100	
PHF					0.860					0.843					0.889					0.964	0.969
Cars, PU, Vans	36	67	13	0	116	42	36	167	0	245	67	488	29	6	590	9	805	54	10	878	1829
% Cars, PU, Vans	100.0	98.5	100.0	0.0	99.1	89.4	100.0	92.8	0.0	93.2	90.5	93.3	96.7	100.0	93.2	90.0	95.0	93.1	100.0	94.9	94.4
Heavy trucks	0	1	0	0	1	5	0	13	0	18	7	35	1	0	43	1	42	4	0	47	109
%Heavy trucks	0.0	1.5	0.0	0.0	0.9	10.6	0.0	7.2	0.0	6.8	9.5	6.7	3.3	0.0	6.8	10.0	5.0	6.9	0.0	5.1	5.6

PM

	Rays Rd Northbound					Rays Rd Southbound					Memorial Dr/SR 10 Eastbound					Memorial Dr/SR 10 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	15	20	6	0	41	30	31	65	0	126	42	304	14	2	362	6	280	29	3	318	847
5:15 PM	14	17	12	0	43	41	48	74	0	163	43	327	18	3	391	9	266	32	3	310	907
5:30 PM	16	26	11	0	53	51	45	88	0	184	48	327	10	3	388	12	259	30	3	304	929
5:45 PM	11	13	9	0	33	38	43	58	0	139	44	296	25	1	366	9	253	30	4	296	834
Total Volume	56	76	38	0	170	160	167	285	0	612	177	1254	67	9	1507	36	1058	121	13	1228	3517
% App. Total	32.9	44.7	22.4	0.0	100	26.1	27.3	46.6	0.0	100	11.7	83.2	4.4	0.6	100	2.9	86.2	9.9	1.1	100	
PHF					0.802					0.832					0.964					0.965	0.946
Cars, PU, Vans	55	76	38	0	169	157	166	282	0	605	173	1227	66	9	1475	36	1040	120	13	1209	3458
% Cars, PU, Vans	98.2	100.0	100.0	0.0	99.4	98.1	99.4	98.9	0.0	98.9	97.7	97.8	98.5	100.0	97.9	100.0	98.3	99.2	100.0	98.5	98.3
Heavy trucks	1	0	0	0	1	3	1	3	0	7	4	27	1	0	32	0	18	1	0	19	59
%Heavy trucks	1.8	0.0	0.0	0.0	0.6	1.9	0.6	1.1	0.0	1.1	2.3	2.2	1.5	0.0	2.1	0.0	1.7	0.8	0.0	1.5	1.7

Prepared by National Data & Surveying Services

VOLUME

Norman Rd Bet. Otello Ave & Viking Dr

Day: Thursday
Date: 3/25/2021

City: Stone Mountain
Project #: GA21_180078_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,365	1,081	2,446

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			4		3		7		12:00			16		14		30	
00:15			4		2		6		12:15			17		19		36	
00:30			4		4		8		12:30			18		12		30	
00:45			5	17	0	9	5	26	12:45			22	73	9	54	31	127
01:00			6		2		8		13:00			22		16		38	
01:15			2		5		7		13:15			23		15		38	
01:30			3		3		6		13:30			22		22		44	
01:45			4	15	2	12	6	27	13:45			21	88	17	70	38	158
02:00			4		2		6		14:00			23		29		52	
02:15			1		2		3		14:15			22		22		44	
02:30			1		4		5		14:30			26		14		40	
02:45			4	10	2	10	6	20	14:45			32	103	15	80	47	183
03:00			1		0		1		15:00			40		14		54	
03:15			2		0		2		15:15			47		20		67	
03:30			1		0		1		15:30			42		20		62	
03:45			1	5	1	1	2	6	15:45			27	156	27	81	54	237
04:00			0		1		1		16:00			26		15		41	
04:15			0		1		1		16:15			29		20		49	
04:30			3		1		4		16:30			33		15		48	
04:45			1	4	1	4	2	8	16:45			29	117	12	62	41	179
05:00			2		1		3		17:00			32		17		49	
05:15			1		3		4		17:15			31		26		57	
05:30			6		2		8		17:30			41		16		57	
05:45			4	13	9	15	13	28	17:45			39	143	21	80	60	223
06:00			4		4		8		18:00			29		17		46	
06:15			9		11		20		18:15			31		17		48	
06:30			4		21		25		18:30			38		15		53	
06:45			5	22	29	65	34	87	18:45			21	119	19	68	40	187
07:00			7		21		28		19:00			22		11		33	
07:15			20		18		38		19:15			24		14		38	
07:30			18		21		39		19:30			20		7		27	
07:45			14	59	10	70	24	129	19:45			19	85	13	45	32	130
08:00			11		20		31		20:00			12		18		30	
08:15			12		16		28		20:15			10		12		22	
08:30			10		19		29		20:30			15		11		26	
08:45			13	46	18	73	31	119	20:45			10	47	11	52	21	99
09:00			14		15		29		21:00			8		4		12	
09:15			9		15		24		21:15			9		8		17	
09:30			13		10		23		21:30			15		14		29	
09:45			8	44	17	57	25	101	21:45			6	38	6	32	12	70
10:00			9		8		17		22:00			11		6		17	
10:15			10		11		21		22:15			9		5		14	
10:30			14		13		27		22:30			9		10		19	
10:45			19	52	10	42	29	94	22:45			4	33	5	26	9	59
11:00			17		25		42		23:00			2		1		3	
11:15			12		7		19		23:15			3		1		4	
11:30			16		15		31		23:30			8		3		11	
11:45			13	58	15	62	28	120	23:45			5	18	6	11	11	29
TOTALS				345		420		765	TOTALS				1020		661		1681
SPLIT %				45.1%		54.9%		31.3%	SPLIT %				60.7%		39.3%		68.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,365	1,081	2,446

AM Peak Hour				10:45		06:30		06:45	PM Peak Hour				14:45		13:30		15:00
AM Pk Volume				64		89		139	PM Pk Volume				161		90		237
Pk Hr Factor				0.842		0.767		0.891	Pk Hr Factor				0.856		0.776		0.884
7 - 9 Volume	0	0		105		143		248	4 - 6 Volume	0	0		260		142		402
7 - 9 Peak Hour				07:15		08:00		07:15	4 - 6 Peak Hour				17:00		17:00		17:00
7 - 9 Pk Volume	0	0		63		73		132	4 - 6 Pk Volume	0	0		143		80		223
Pk Hr Factor	0.000	0.000		0.788		0.913		0.846	Pk Hr Factor	0.000	0.000		0.872		0.769		0.929

Growth Rate Calculations

Percentage Growth											
Roadway	**County**	**Traffic Count Station**	**2016 Traffic Volumes**	**2017 Traffic Volumes**	**2018 Traffic Volumes**	**2019 Traffic Volumes**	**2020 Traffic Volumes by Linear Regress.**	**2021 Traffic Volumes by Linear Regress.**	**2024 Traffic Volumes by Linear Regress.**	**Annual Growth 2020 to 2022**	**Annual Growth 2020 to 2025**
Rays Rd	DeKalb	089-3995	9,860	10,100	10,500	10,700	11,020	11,312	12,188	2.6%	2.6%
Memorial Dr	DeKalb	089-3049	33,200	35,100	35,000	40,800	41,700	43,970	50,780	5.4%	5.2%
E Ponce de Leon Ave	DeKalb	089-3743	18,700	19,800	18,800	19,000	19,050	19,040	19,010	-0.1%	-0.1%
Weighted Average			**61,760**	**65,000**	**64,300**	**70,500**	**71,770**	**74,322**	**81,978**	**3.6%**	**3.4%**

Adjustment Factor Calculations

2019

	Eastbound	Westbound	Northbound	Southbound	Total
8:00 AM	971	1014	117	196	2298
6:00 PM	1560	721	143	350	2774

2021

	Eastbound	Westbound	Northbound	Southbound	Total
8:00 AM	576	807	87	171	1641
6:00 PM	1050	1311	122	303	2786

	Eastbound	Westbound	Northbound	Southbound	Total
	2019/2021	2019/2021	2019/2021	2019/2021	AVG
8:00 AM	1.69	1.26	1.40	1.15	1.37
6:00 PM	1.49	0.55	1.00	1.16	1.05

AM	1.40
PM	1.05

ATSPM
Automated Traffic Signal Performance Measures

GDOT
Georgia Department of Transportation
(http://www.dot.ga.gov)

Signal

Signal Selection

Signal ID

7740 Select **SR 10 @ Rays Road**

Signal List

Signal Map

Region

--Select Region--

Metric Type

--Select a Metric--

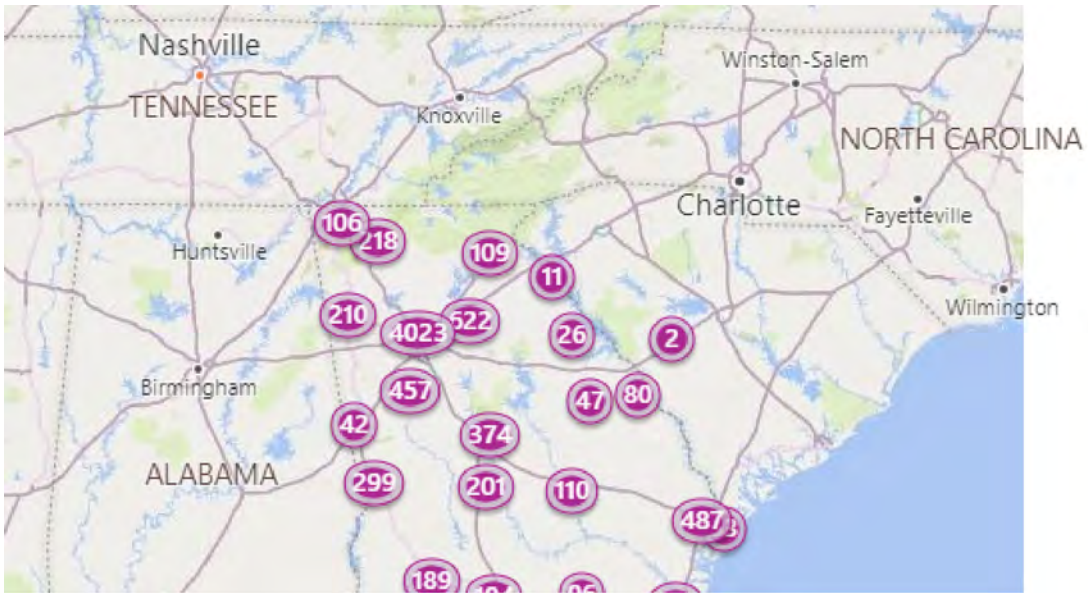


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Chart Selection

Metrics List

- Purdue Phase Termination
- Split Monitor
- Pedestrian Delay
- Preemption Details
- Turning Movement Counts
- Purdue Coordination Diagram
- Approach Volume
- Approach Delay
- Arrivals On Red
- Purdue Split Failure
- Left Turn Gap Analysis

Turning Movement Counts Options

Thru Movement Y-axis Max

1000

Turn Movement Y- axis Max

300

Volume Bin Size

60

- [x] **Show MovementType Volume**
- [x] **Show Total Volume**
- [x] **Show Data Table**

Date Selection

Start Date

03/20/2019 | 12:00 | AM

March 2019

Su	Mo	Tu	We	Th	Fr	Sa

Privacy - Terms

End Date

03/20/2019 | 11:59 | PM

Reset Date

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Create Chart

-	Vehicle														
	Eastbound			Westbound			Northbound				Southbound				
	L	T	Total	L	T	Total	L	T	TR	Total	L	T	R	Total	Vehicle Total
12:00 AM	35	292	327	3	116	119	4	7	4	15	23	20	34	77	538
1:00 AM	29	132	161	0	53	53	5	6	2	13	14	15	20	49	276
2:00 AM	23	111	134	3	53	56	6	7	3	16	9	8	17	34	240
3:00 AM	12	94	106	1	49	50	3	2	0	5	5	6	29	40	201
4:00 AM	8	92	100	3	78	81	5	12	5	22	10	10	37	57	260
5:00 AM	22	186	208	4	227	231	12	20	5	37	9	9	65	83	559
6:00 AM	52	434	486	6	710	716	27	32	16	75	17	27	91	135	1412
7:00 AM	53	839	892	10	1336	1346	55	80	32	167	25	45	160	230	2635
8:00 AM	37	934	971	23	991	1014	50	43	24	117	29	47	120	196	2298
9:00 AM	27	793	820	16	622	638	36	28	27	91	29	36	130	195	1744
10:00 AM	60	792	852	23	506	529	37	34	24	95	32	34	119	185	1661
11:00 AM	44	877	921	29	534	563	38	29	20	87	35	44	126	205	1776
12:00 PM	54	1061	1115	25	547	572	43	44	30	117	41	62	128	231	2035
1:00 PM	69	1164	1233	20	613	633	53	38	42	133	46	67	122	235	2234
2:00 PM	55	1304	1359	31	697	728	60	49	37	146	38	73	144	255	2488
3:00 PM	46	1341	1387	27	639	666	56	34	29	119	39	98	156	293	
4:00 PM	46	1601	1647	26	738	764	57	54	39	150	35	133	157	325	

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5:00 PM	46	1595	1641	25	721	746	51	48	36	135	45	144	176	365	2887
6:00 PM	43	1517	1560	29	692	721	67	43	33	143	36	124	190	350	2774
7:00 PM	34	979	1013	22	481	503	40	34	30	104	34	83	127	244	1864
8:00 PM	42	868	910	32	421	453	36	35	20	91	33	63	104	200	1654
9:00 PM	44	699	743	23	291	314	32	24	15	71	34	37	78	149	1277
10:00 PM	46	511	557	12	256	268	11	12	19	42	23	28	68	119	986
11:00 PM	37	410	447	16	171	187	11	17	13	41	25	26	67	118	793
Total	964	18626	19590	409	11542	11951	795	732	505	2032	666	1239	2465	4370	37943

Privacy - Terms

ATSPM
Automated Traffic Signal Performance Measures

GDOT
Georgia Department of Transportation
(http://www.dot.ga.gov)

Signal

Signal Selection

Signal ID

7740 Select **SR 10 @ Rays Road**

Signal List

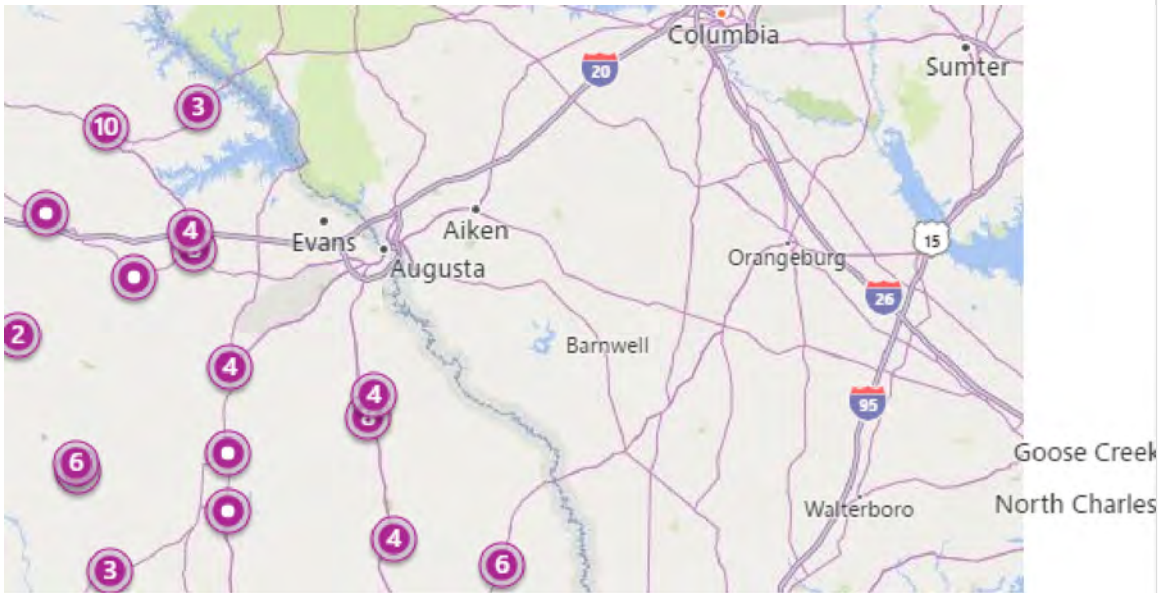
Signal Map

Region

--Select Region--

Metric Type

Turning Movement Counts



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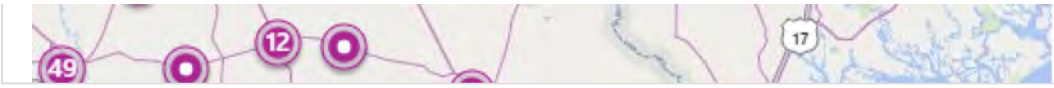

Chart Selection

Metrics List

- Purdue Phase Termination
- Split Monitor
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- Preemption Details
- Turning Movement Counts
- Purdue Coordination Diagram
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- Approach Delay
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- Purdue Split Failure
- Left Turn Gap Analysis

Turning Movement Counts Options

Thru Movement Y-axis Max

1000

Turn Movement Y- axis Max

300

Volume Bin Size

60

- [x] **Show MovementType Volume**
- [x] **Show Total Volume**
- [x] **Show Data Table**

Date Selection

Start Date

03/24/2021 12:00 AM

April 2021

Su	Mo	Tu	We	Th	Fr	Sa

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End Date

03/24/2021 | 11:59 | PM

Reset Date

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Create Chart

-	Vehicle														
	Eastbound			Westbound			Northbound				Southbound				
	L	T	Total	L	T	Total	L	T	TR	Total	L	T	R	Total	Vehicle Total
12:00 AM	36	272	308	5	236	241	10	6	8	24	22	18	25	65	638
1:00 AM	31	234	265	4	127	131	7	9	2	18	15	16	22	53	467
2:00 AM	18	182	200	1	102	103	7	4	2	13	11	8	14	33	349
3:00 AM	22	124	146	2	125	127	4	3	5	12	6	10	19	35	320
4:00 AM	18	126	144	4	104	108	9	8	4	21	11	6	32	49	322
5:00 AM	17	281	298	4	269	273	7	18	5	30	9	7	58	74	675
6:00 AM	22	201	223	3	425	428	11	19	10	40	20	16	63	99	790
7:00 AM	13	220	233	5	521	526	15	18	9	42	10	14	60	84	885
8:00 AM	30	546	576	15	807	822	32	33	22	87	30	31	111	172	1657
9:00 AM	37	571	608	18	824	842	34	40	26	100	27	58	86	171	1721
10:00 AM	31	581	612	10	821	831	26	31	21	78	30	41	103	174	1695
11:00 AM	38	738	776	16	1009	1025	33	38	28	99	41	52	125	218	2118
12:00 PM	48	784	832	26	1396	1422	50	45	35	130	42	59	136	237	2621
1:00 PM	48	838	886	25	1436	1461	48	53	32	133	48	70	136	254	2734
2:00 PM	52	889	941	28	1533	1561	59	52	39	150	51	80	142	273	2925
3:00 PM	46	977	1023	26	1635	1661	51	43	43	137	46	103	139	288	3109
4:00 PM	53	973	1026	29	1833	1862	50	41	30	121	44	97	121	262	
5:00 PM	52	1136	1188	26	1599	1625	52	47	44	143	45	112	155	312	

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6:00 PM	54	996	1050	17	1294	1311	47	44	31	122	44	121	138	303	2786
7:00 PM	48	837	885	29	940	969	53	31	30	114	46	49	107	202	2170
8:00 PM	54	697	751	16	816	832	44	43	30	117	43	64	56	163	1863
9:00 PM	46	563	609	17	643	660	20	22	22	64	35	44	87	166	1499
10:00 PM	44	419	463	13	428	441	15	17	19	51	29	32	61	122	1077
11:00 PM	42	330	372	16	280	296	12	20	8	40	28	31	42	101	809
Total	900	13515	14415	355	19203	19558	696	685	505	1886	733	1139	2038	3910	39769

Privacy - Terms

APPENDIX C:

SYNCHRO REPORTS

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	35	0	0	51	17	0	0	1	22	0	52
Future Vol, veh/h	19	35	0	0	51	17	0	0	1	22	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	24	44	0	0	65	22	0	0	1	28	0	66

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	87	0	0	44	0	0	201	179	44	169	168	76
Stage 1	-	-	-	-	-	-	92	92	-	76	76	-
Stage 2	-	-	-	-	-	-	109	87	-	93	92	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1509	-	-	1564	-	-	757	715	1026	750	725	953
Stage 1	-	-	-	-	-	-	915	819	-	883	832	-
Stage 2	-	-	-	-	-	-	896	823	-	865	819	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1564	-	-	696	704	1026	740	713	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	696	704	-	740	713	-
Stage 1	-	-	-	-	-	-	900	806	-	869	832	-
Stage 2	-	-	-	-	-	-	834	823	-	850	806	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.6	0	8.5	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1026	1509	-	-	1564	-	-	878
HCM Lane V/C Ratio	0.001	0.016	-	-	-	-	-	0.107
HCM Control Delay (s)	8.5	7.4	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	0	0	70	0	0
Future Vol, veh/h	59	0	0	70	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	0	0	76	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	64	0	140	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1538	-	853	1000
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1538	-	853	1000
Mov Cap-2 Maneuver	-	-	-	-	853	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1538	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	33	48	161	243	20
Future Vol, veh/h	11	33	48	161	243	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	13	38	55	183	276	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	581	288	299	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	476	749	1262	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	453	749	1262	-	-	-
Mov Cap-2 Maneuver	453	-	-	-	-	-
Stage 1	724	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1262	-	644	-	-
HCM Lane V/C Ratio	0.043	-	0.078	-	-
HCM Control Delay (s)	8	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	3	1	195	285	1
Future Vol, veh/h	2	3	1	195	285	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	2	3	1	217	317	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	537	318	318	0	-	0
Stage 1	318	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	505	723	1242	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	504	723	1242	-	-	-
Mov Cap-2 Maneuver	504	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	616	-	-
HCM Lane V/C Ratio	0.001	-	0.009	-	-
HCM Control Delay (s)	7.9	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	6	74	523	30	10	10	847	58	36	68	13	47
Future Volume (veh/h)	6	74	523	30	10	10	847	58	36	68	13	47
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		76	539	0		10	873	0	37	70	13	48
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		163	1455			40	1290		561	1069	193	130
Arrive On Green		0.05	0.30	0.00		0.01	0.26	0.00	0.03	0.36	0.36	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	3006	544	3209
Grp Volume(v), veh/h		76	539	0		10	873	0	37	41	42	48
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1772	1605
Q Serve(g_s), s		1.9	7.1	0.0		0.2	12.8	0.0	1.1	1.2	1.3	1.2
Cycle Q Clear(g_c), s		1.9	7.1	0.0		0.2	12.8	0.0	1.1	1.2	1.3	1.2
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.31	1.00
Lane Grp Cap(c), veh/h		163	1455			40	1290		561	632	631	130
V/C Ratio(X)		0.47	0.37			0.25	0.68		0.07	0.06	0.07	0.37
Avail Cap(c_a), veh/h		477	2948			357	2813		696	632	631	354
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		37.6	22.6	0.0		39.9	27.1	0.0	15.5	17.3	17.3	38.1
Incr Delay (d2), s/veh		2.1	0.2	0.0		3.2	0.6	0.0	0.0	0.2	0.2	1.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.7	2.5	0.0		0.1	4.7	0.0	0.4	0.5	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		39.7	22.8	0.0		43.0	27.8	0.0	15.5	17.5	17.5	39.8
LnGrp LOS		D	C			D	C		B	B	B	D
Approach Vol, veh/h			615	A			883	A		120		
Approach Delay, s/veh			24.9				27.9			16.9		
Approach LOS			C				C			B		

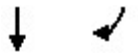
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	27.1	8.8	35.5	7.0	30.2	9.3	35.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	46.0	9.0	29.0	9.0	49.0	9.0	29.0
Max Q Clear Time (g_c+I1), s	3.9	14.8	3.1	9.2	2.2	9.1	3.2	3.3
Green Ext Time (p_c), s	0.1	6.3	0.0	0.7	0.0	3.7	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	36	180
Future Volume (veh/h)	36	180
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	37	186
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1285	551
Arrive On Green	0.36	0.36
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	37	186
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	0.5	7.2
Cycle Q Clear(g_c), s	0.5	7.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1285	551
V/C Ratio(X)	0.03	0.34
Avail Cap(c_a), veh/h	1285	551
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	16.8	18.9
Incr Delay (d2), s/veh	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	16.8	20.6
LnGrp LOS	B	C
Approach Vol, veh/h	271	
Approach Delay, s/veh	23.5	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	127	0	0	64	8	0	1	1	11	1	11
Future Vol, veh/h	12	127	0	0	64	8	0	1	1	11	1	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	13	140	0	0	70	9	0	1	1	12	1	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	140	0	0	247	245	140	242	241	75
Stage 1	-	-	-	-	-	-	166	166	-	75	75	-
Stage 2	-	-	-	-	-	-	81	79	-	167	166	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1482	-	-	1443	-	-	707	657	908	712	660	986
Stage 1	-	-	-	-	-	-	836	761	-	934	833	-
Stage 2	-	-	-	-	-	-	927	829	-	835	761	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1482	-	-	1443	-	-	692	650	908	705	653	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	692	650	-	705	653	-
Stage 1	-	-	-	-	-	-	828	753	-	925	833	-
Stage 2	-	-	-	-	-	-	914	829	-	824	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	9.8	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	758	1482	-	-	1443	-	-	813
HCM Lane V/C Ratio	0.003	0.009	-	-	-	-	-	0.031
HCM Control Delay (s)	9.8	7.5	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	143	0	0	80	0	0
Future Vol, veh/h	143	0	0	80	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	0	0	87	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	155	0	242	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1425	-	746	891
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1425	-	746	891
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1425	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	107	57	293	481	21
Future Vol, veh/h	31	107	57	293	481	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	34	116	62	318	523	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	977	535	546	0	-	0
Stage 1	535	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	278	545	1023	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	257	545	1023	-	-	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1023	-	435	-	-
HCM Lane V/C Ratio	0.061	-	0.345	-	-
HCM Control Delay (s)	8.7	0	17.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

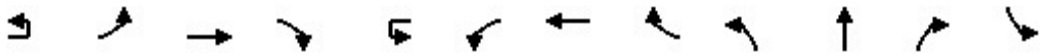
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	9	10	342	582	2
Future Vol, veh/h	3	9	10	342	582	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	11	384	654	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1061	655	656	0	-	0
Stage 1	655	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	248	466	931	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	244	466	931	-	-	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	509	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	931	-	380	-	-
HCM Lane V/C Ratio	0.012	-	0.035	-	-
HCM Control Delay (s)	8.9	0	14.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	177	1254	67	13	36	1058	121	56	76	38	160
Future Volume (veh/h)	9	177	1254	67	13	36	1058	121	56	76	38	160
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		186	1320	0		38	1114	0	59	80	40	168
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		263	1825			115	1605		407	673	316	243
Arrive On Green		0.08	0.36	0.00		0.03	0.31	0.00	0.04	0.29	0.29	0.07
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2348	1101	3456
Grp Volume(v), veh/h		186	1320	0		38	1114	0	59	59	61	168
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1672	1728
Q Serve(g_s), s		5.0	21.3	0.0		1.0	18.2	0.0	2.2	2.3	2.6	4.5
Cycle Q Clear(g_c), s		5.0	21.3	0.0		1.0	18.2	0.0	2.2	2.3	2.6	4.5
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		263	1825			115	1605		407	509	479	243
V/C Ratio(X)		0.71	0.72			0.33	0.69		0.15	0.12	0.13	0.69
Avail Cap(c_a), veh/h		509	2953			182	2470		445	509	479	472
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		42.9	26.5	0.0		44.9	28.6	0.0	22.2	25.0	25.1	43.2
Incr Delay (d2), s/veh		3.5	0.6	0.0		1.7	0.5	0.0	0.2	0.5	0.5	3.5
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.2	8.1	0.0		0.4	7.0	0.0	0.9	1.0	1.1	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		46.3	27.0	0.0		46.6	29.1	0.0	22.4	25.5	25.7	46.7
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1506	A			1152	A		179		
Approach Delay, s/veh			29.4				29.7			24.5		
Approach LOS			C				C			C		

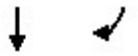
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	35.9	9.9	36.0	9.2	40.0	12.7	33.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	46.0	6.0	30.0	5.0	55.0	13.0	23.0
Max Q Clear Time (g_c+I1), s	7.0	20.2	4.2	17.2	3.0	23.3	6.5	4.6
Green Ext Time (p_c), s	0.3	8.0	0.0	1.7	0.0	10.7	0.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	167	285
Future Volume (veh/h)	167	285
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	176	300
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1121	500
Arrive On Green	0.32	0.32
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	176	300
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	3.4	15.2
Cycle Q Clear(g_c), s	3.4	15.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1121	500
V/C Ratio(X)	0.16	0.60
Avail Cap(c_a), veh/h	1121	500
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	23.4	27.5
Incr Delay (d2), s/veh	0.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	23.7	32.7
LnGrp LOS	C	C
Approach Vol, veh/h	644	
Approach Delay, s/veh	33.9	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	27	49	0	0	71	24	0	0	1	31	0	73
Future Vol, veh/h	27	49	0	0	71	24	0	0	1	31	0	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	34	62	0	0	90	30	0	0	1	39	0	92

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	62	0	0	281	250	62	236	235	105
Stage 1	-	-	-	-	-	-	130	130	-	105	105	-
Stage 2	-	-	-	-	-	-	151	120	-	131	130	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1468	-	-	1541	-	-	671	653	1003	677	666	918
Stage 1	-	-	-	-	-	-	874	789	-	852	808	-
Stage 2	-	-	-	-	-	-	851	796	-	825	789	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1468	-	-	1541	-	-	592	637	1003	663	650	918
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	637	-	663	650	-
Stage 1	-	-	-	-	-	-	853	770	-	832	808	-
Stage 2	-	-	-	-	-	-	765	796	-	804	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0	8.6	10.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1003	1468	-	-	1541	-	-	824
HCM Lane V/C Ratio	0.001	0.023	-	-	-	-	-	0.16
HCM Control Delay (s)	8.6	7.5	0	-	0	-	-	10.2
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	83	0	0	98	0	0
Future Vol, veh/h	83	0	0	98	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	0	0	107	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	90	0	197	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	107	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1505	-	792	968
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1505	-	792	968
Mov Cap-2 Maneuver	-	-	-	-	792	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1505	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	46	67	225	340	28
Future Vol, veh/h	15	46	67	225	340	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	17	52	76	256	386	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	810	402	418	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	349	646	1141	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	322	646	1141	-	-	-
Mov Cap-2 Maneuver	322	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1141	-	518	-	-
HCM Lane V/C Ratio	0.067	-	0.134	-	-
HCM Control Delay (s)	8.4	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	1	273	399	1
Future Vol, veh/h	3	4	1	273	399	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	3	4	1	303	443	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	749	444	444	0	-	0
Stage 1	444	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	379	614	1116	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	379	614	1116	-	-	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	748	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1116	-	485	-	-
HCM Lane V/C Ratio	0.001	-	0.016	-	-
HCM Control Delay (s)	8.2	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	8	104	732	42	14	14	1186	81	50	95	18	66
Future Volume (veh/h)	8	104	732	42	14	14	1186	81	50	95	18	66
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		107	755	0		14	1223	0	52	98	19	68
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		168	1832			53	1685		471	917	173	143
Arrive On Green		0.05	0.37	0.00		0.02	0.34	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2982	564	3209
Grp Volume(v), veh/h		107	755	0		14	1223	0	52	57	60	68
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1769	1605
Q Serve(g_s), s		3.0	10.6	0.0		0.4	20.0	0.0	1.8	2.1	2.2	1.9
Cycle Q Clear(g_c), s		3.0	10.6	0.0		0.4	20.0	0.0	1.8	2.1	2.2	1.9
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.32	1.00
Lane Grp Cap(c), veh/h		168	1832			53	1685		471	546	544	143
V/C Ratio(X)		0.64	0.41			0.27	0.73		0.11	0.11	0.11	0.48
Avail Cap(c_a), veh/h		383	2903			244	2736		496	546	544	276
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		43.2	21.6	0.0		45.1	27.0	0.0	20.4	23.0	23.1	43.3
Incr Delay (d2), s/veh		4.0	0.1	0.0		2.6	0.6	0.0	0.1	0.4	0.4	2.4
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.2	3.8	0.0		0.2	7.4	0.0	0.7	0.9	1.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		47.2	21.7	0.0		47.8	27.6	0.0	20.5	23.4	23.5	45.8
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			862	A			1237	A		169		
Approach Delay, s/veh			24.9				27.8			22.5		
Approach LOS			C				C			C		

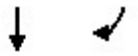
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	37.4	9.7	35.0	7.5	40.7	10.1	34.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	51.0	5.0	29.0	7.0	55.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	5.0	22.0	3.8	15.2	2.4	12.6	3.9	4.2
Green Ext Time (p_c), s	0.1	9.4	0.0	1.0	0.0	5.5	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	50	252
Future Volume (veh/h)	50	252
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	52	260
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1109	475
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	52	260
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	0.9	13.2
Cycle Q Clear(g_c), s	0.9	13.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1109	475
V/C Ratio(X)	0.05	0.55
Avail Cap(c_a), veh/h	1109	475
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	22.3	26.5
Incr Delay (d2), s/veh	0.1	4.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.2
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	22.4	31.0
LnGrp LOS	C	C
Approach Vol, veh/h	380	
Approach Delay, s/veh	32.5	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	133	0	0	67	8	0	1	1	12	1	12
Future Vol, veh/h	13	133	0	0	67	8	0	1	1	12	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	14	146	0	0	74	9	0	1	1	13	1	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	83	0	0	146	0	0	260	257	146	254	253	79
Stage 1	-	-	-	-	-	-	174	174	-	79	79	-
Stage 2	-	-	-	-	-	-	86	83	-	175	174	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1477	-	-	1436	-	-	693	647	901	699	650	981
Stage 1	-	-	-	-	-	-	828	755	-	930	829	-
Stage 2	-	-	-	-	-	-	922	826	-	827	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1477	-	-	1436	-	-	678	641	901	692	644	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	678	641	-	692	644	-
Stage 1	-	-	-	-	-	-	820	747	-	921	829	-
Stage 2	-	-	-	-	-	-	908	826	-	817	747	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	9.8	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	749	1477	-	-	1436	-	-	803
HCM Lane V/C Ratio	0.003	0.01	-	-	-	-	-	0.034
HCM Control Delay (s)	9.8	7.5	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	0	0	84	0	0
Future Vol, veh/h	150	0	0	84	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	0	0	91	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	163	0	254	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1416	-	735	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	735	882
Mov Cap-2 Maneuver	-	-	-	-	735	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1416	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	112	60	308	505	22
Future Vol, veh/h	33	112	60	308	505	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	36	122	65	335	549	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1026	561	573	0	-	0
Stage 1	561	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	260	527	1000	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	239	527	1000	-	-	-
Mov Cap-2 Maneuver	239	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	632	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1000	-	414	-	-
HCM Lane V/C Ratio	0.065	-	0.381	-	-
HCM Control Delay (s)	8.9	0	18.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.7	-	-

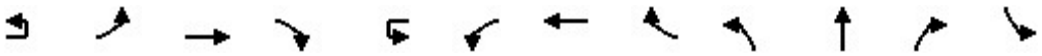
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	9	11	359	611	2
Future Vol, veh/h	3	9	11	359	611	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	12	403	687	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1115	688	689	0	-	0
Stage 1	688	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	230	446	905	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	226	446	905	-	-	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	658	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	905	-	359	-	-
HCM Lane V/C Ratio	0.014	-	0.038	-	-
HCM Control Delay (s)	9	0	15.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	186	1317	70	14	38	1111	127	59	80	40	168
Future Volume (veh/h)	9	186	1317	70	14	38	1111	127	59	80	40	168
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		196	1386	0		40	1169	0	62	84	42	177
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		271	1872			117	1643		396	666	313	250
Arrive On Green		0.08	0.37	0.00		0.03	0.32	0.00	0.04	0.28	0.28	0.07
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2347	1102	3456
Grp Volume(v), veh/h		196	1386	0		40	1169	0	62	62	64	177
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1672	1728
Q Serve(g_s), s		5.5	23.3	0.0		1.1	19.8	0.0	2.4	2.6	2.8	4.9
Cycle Q Clear(g_c), s		5.5	23.3	0.0		1.1	19.8	0.0	2.4	2.6	2.8	4.9
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		271	1872			117	1643		396	504	474	250
V/C Ratio(X)		0.72	0.74			0.34	0.71		0.16	0.12	0.13	0.71
Avail Cap(c_a), veh/h		491	2747			210	2332		431	504	474	456
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		44.3	27.1	0.0		46.5	29.4	0.0	23.2	26.2	26.3	44.7
Incr Delay (d2), s/veh		3.6	0.6	0.0		1.7	0.6	0.0	0.2	0.5	0.6	3.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.4	8.8	0.0		0.5	7.7	0.0	1.0	1.1	1.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		48.0	27.7	0.0		48.3	30.0	0.0	23.4	26.7	26.9	48.3
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1582	A			1209	A		188		
Approach Delay, s/veh			30.2				30.6			25.7		
Approach LOS			C				C			C		

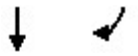
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	37.7	10.1	37.0	9.3	42.1	13.1	33.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	45.0	6.0	31.0	6.0	53.0	13.0	24.0
Max Q Clear Time (g_c+I1), s	7.5	21.8	4.4	18.7	3.1	25.3	6.9	4.8
Green Ext Time (p_c), s	0.3	8.2	0.0	1.8	0.0	10.9	0.3	0.6

Intersection Summary	
HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	175	299
Future Volume (veh/h)	175	299
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	184	315
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1118	499
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	184	315
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	3.7	16.7
Cycle Q Clear(g_c), s	3.7	16.7
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1118	499
V/C Ratio(X)	0.16	0.63
Avail Cap(c_a), veh/h	1118	499
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.4	28.9
Incr Delay (d2), s/veh	0.3	6.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.7	34.8
LnGrp LOS	C	C
Approach Vol, veh/h	676	
Approach Delay, s/veh	35.6	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	30	54	0	0	78	27	0	0	1	34	0	81
Future Vol, veh/h	30	54	0	0	78	27	0	0	1	34	0	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	38	68	0	0	99	34	0	0	1	43	0	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	133	0	0	68	0	0	312	277	68	261	260	116
Stage 1	-	-	-	-	-	-	144	144	-	116	116	-
Stage 2	-	-	-	-	-	-	168	133	-	145	144	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1452	-	-	1533	-	-	641	631	995	651	645	905
Stage 1	-	-	-	-	-	-	859	778	-	840	800	-
Stage 2	-	-	-	-	-	-	834	786	-	810	778	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1452	-	-	1533	-	-	556	614	995	637	628	905
Mov Cap-2 Maneuver	-	-	-	-	-	-	556	614	-	637	628	-
Stage 1	-	-	-	-	-	-	836	757	-	817	800	-
Stage 2	-	-	-	-	-	-	740	786	-	787	757	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0	8.6	10.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	995	1452	-	-	1533	-	-	805
HCM Lane V/C Ratio	0.001	0.026	-	-	-	-	-	0.181
HCM Control Delay (s)	8.6	7.5	0	-	0	-	-	10.5
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	92	0	0	108	0	0
Future Vol, veh/h	92	0	0	108	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	0	0	117	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	217	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	117	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1493	-	771	956
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1493	-	771	956
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	908	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1493	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	51	74	249	376	31
Future Vol, veh/h	17	51	74	249	376	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	19	58	84	283	427	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	896	445	462	0	-	0
Stage 1	445	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	311	611	1099	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	283	611	1099	-	-	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	642	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1099	-	474	-	-
HCM Lane V/C Ratio	0.077	-	0.163	-	-
HCM Control Delay (s)	8.5	0	14.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	1	302	441	1
Future Vol, veh/h	3	4	1	302	441	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	3	4	1	336	490	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	829	491	491	0	-	0
Stage 1	491	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	340	578	1072	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	340	578	1072	-	-	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1072	-	445	-	-
HCM Lane V/C Ratio	0.001	-	0.017	-	-
HCM Control Delay (s)	8.4	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	115	809	46	15	15	1311	90	55	105	20	73
Future Volume (veh/h)	9	115	809	46	15	15	1311	90	55	105	20	73
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		119	834	0		15	1352	0	57	108	21	75
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		179	1936			55	1777		451	909	173	140
Arrive On Green		0.06	0.39	0.00		0.02	0.36	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2980	565	3209
Grp Volume(v), veh/h		119	834	0		15	1352	0	57	63	66	75
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1769	1605
Q Serve(g_s), s		3.6	12.4	0.0		0.5	24.0	0.0	2.2	2.6	2.7	2.3
Cycle Q Clear(g_c), s		3.6	12.4	0.0		0.5	24.0	0.0	2.2	2.6	2.7	2.3
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.32	1.00
Lane Grp Cap(c), veh/h		179	1936			55	1777		451	542	540	140
V/C Ratio(X)		0.67	0.43			0.27	0.76		0.13	0.12	0.12	0.53
Avail Cap(c_a), veh/h		355	2690			161	2436		469	542	540	224
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		46.5	22.1	0.0		48.7	28.5	0.0	22.2	25.1	25.1	46.9
Incr Delay (d2), s/veh		4.2	0.2	0.0		2.6	1.0	0.0	0.1	0.4	0.5	3.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.5	4.5	0.0		0.2	9.0	0.0	0.9	1.1	1.2	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		50.7	22.3	0.0		51.3	29.4	0.0	22.4	25.5	25.6	50.1
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			953	A			1367	A		186		
Approach Delay, s/veh			25.8				29.7			24.6		
Approach LOS			C				C			C		

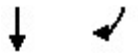
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	41.8	10.0	37.0	7.7	45.6	10.4	36.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	49.0	5.0	31.0	5.0	55.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	5.6	26.0	4.2	18.2	2.5	14.4	4.3	4.7
Green Ext Time (p_c), s	0.1	9.7	0.0	1.1	0.0	6.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	55	279
Future Volume (veh/h)	55	279
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	57	288
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1099	471
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	57	288
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	1.1	16.2
Cycle Q Clear(g_c), s	1.1	16.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1099	471
V/C Ratio(X)	0.05	0.61
Avail Cap(c_a), veh/h	1099	471
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.3	29.5
Incr Delay (d2), s/veh	0.1	5.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.5
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.4	35.3
LnGrp LOS	C	D
Approach Vol, veh/h	420	
Approach Delay, s/veh	36.5	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	147	0	0	74	9	0	1	1	13	1	13
Future Vol, veh/h	14	147	0	0	74	9	0	1	1	13	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	15	162	0	0	81	10	0	1	1	14	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	162	0	0	286	283	162	279	278	86
Stage 1	-	-	-	-	-	-	192	192	-	86	86	-
Stage 2	-	-	-	-	-	-	94	91	-	193	192	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1467	-	-	1417	-	-	666	626	883	673	630	973
Stage 1	-	-	-	-	-	-	810	742	-	922	824	-
Stage 2	-	-	-	-	-	-	913	820	-	809	742	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1467	-	-	1417	-	-	650	619	883	666	623	973
Mov Cap-2 Maneuver	-	-	-	-	-	-	650	619	-	666	623	-
Stage 1	-	-	-	-	-	-	801	734	-	912	824	-
Stage 2	-	-	-	-	-	-	898	820	-	798	734	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	10	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	728	1467	-	-	1417	-	-	783
HCM Lane V/C Ratio	0.003	0.01	-	-	-	-	-	0.038
HCM Control Delay (s)	10	7.5	0	-	0	-	-	9.8
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	0	0	93	0	0
Future Vol, veh/h	166	0	0	93	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	0	0	101	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	180	0	281	180
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1396	-	709	863
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1396	-	709	863
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1396	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	124	66	340	558	24
Future Vol, veh/h	36	124	66	340	558	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	39	135	72	370	607	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1134	620	633	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	224	488	950	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	203	488	950	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	600	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	950	-	371	-	-
HCM Lane V/C Ratio	0.076	-	0.469	-	-
HCM Control Delay (s)	9.1	0	23	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	2.4	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	10	12	397	675	2
Future Vol, veh/h	3	10	12	397	675	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	11	13	446	758	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1231	759	760	0	-	0
Stage 1	759	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	196	406	852	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	192	406	852	-	-	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	852	-	323	-	-
HCM Lane V/C Ratio	0.016	-	0.045	-	-
HCM Control Delay (s)	9.3	0	16.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	10	206	1456	77	15	42	1228	140	65	88	44	186
Future Volume (veh/h)	10	206	1456	77	15	42	1228	140	65	88	44	186
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		217	1533	0		44	1293	0	68	93	46	196
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		289	2015			120	1765		362	619	288	265
Arrive On Green		0.08	0.39	0.00		0.03	0.35	0.00	0.04	0.26	0.26	0.08
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2354	1096	3456
Grp Volume(v), veh/h		217	1533	0		44	1293	0	68	69	70	196
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1673	1728
Q Serve(g_s), s		6.4	27.0	0.0		1.3	23.1	0.0	2.9	3.1	3.4	5.8
Cycle Q Clear(g_c), s		6.4	27.0	0.0		1.3	23.1	0.0	2.9	3.1	3.4	5.8
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		289	2015			120	1765		362	467	440	265
V/C Ratio(X)		0.75	0.76			0.37	0.73		0.19	0.15	0.16	0.74
Avail Cap(c_a), veh/h		466	2703			166	2261		374	467	440	399
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		46.5	27.2	0.0		49.0	29.8	0.0	26.1	29.3	29.4	46.9
Incr Delay (d2), s/veh		3.9	0.9	0.0		1.9	0.9	0.0	0.2	0.7	0.8	4.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.8	10.3	0.0		0.6	9.0	0.0	1.2	1.4	1.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		50.5	28.1	0.0		50.9	30.7	0.0	26.4	30.0	30.2	51.0
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1750	A			1337	A		207		
Approach Delay, s/veh			30.9				31.4			28.9		
Approach LOS			C				C			C		

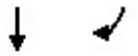
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	41.9	10.3	37.0	9.6	47.0	14.0	33.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	46.0	5.0	31.0	5.0	55.0	12.0	24.0
Max Q Clear Time (g_c+I1), s	8.4	25.1	4.9	22.5	3.3	29.0	7.8	5.4
Green Ext Time (p_c), s	0.3	8.8	0.0	1.7	0.0	12.0	0.2	0.6

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	193	331
Future Volume (veh/h)	193	331
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	203	348
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1060	473
Arrive On Green	0.30	0.30
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	203	348
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	4.4	20.5
Cycle Q Clear(g_c), s	4.4	20.5
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1060	473
V/C Ratio(X)	0.19	0.74
Avail Cap(c_a), veh/h	1060	473
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	27.1	32.8
Incr Delay (d2), s/veh	0.4	9.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	27.5	42.5
LnGrp LOS	C	D
Approach Vol, veh/h	747	
Approach Delay, s/veh	40.7	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	61	2	1	102	27	7	0	5	34	0	81
Future Vol, veh/h	30	61	2	1	102	27	7	0	5	34	0	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	38	77	3	1	129	34	9	0	6	43	0	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	163	0	0	80	0	0	355	320	79	306	304	146
Stage 1	-	-	-	-	-	-	155	155	-	148	148	-
Stage 2	-	-	-	-	-	-	200	165	-	158	156	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1416	-	-	1518	-	-	600	597	981	607	609	870
Stage 1	-	-	-	-	-	-	847	769	-	807	775	-
Stage 2	-	-	-	-	-	-	802	762	-	797	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1416	-	-	1518	-	-	518	580	981	590	591	870
Mov Cap-2 Maneuver	-	-	-	-	-	-	518	580	-	590	591	-
Stage 1	-	-	-	-	-	-	823	747	-	784	774	-
Stage 2	-	-	-	-	-	-	707	761	-	770	747	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.1	10.7	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	645	1416	-	-	1518	-	-	763
HCM Lane V/C Ratio	0.024	0.027	-	-	0.001	-	-	0.191
HCM Control Delay (s)	10.7	7.6	0	-	7.4	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	96	7	5	109	24	17
Future Vol, veh/h	96	7	5	109	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	8	5	118	26	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	112	0	236	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1478	-	752	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1478	-	749	946
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	820	-	-	1478	-
HCM Lane V/C Ratio	0.054	-	-	0.004	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	67	79	261	380	32
Future Vol, veh/h	22	67	79	261	380	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	25	76	90	297	432	36

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	927	450	468	0	-	0
Stage 1	450	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	298	607	1094	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	269	607	1094	-	-	-
Mov Cap-2 Maneuver	269	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1094	-	463	-	-
HCM Lane V/C Ratio	0.082	-	0.218	-	-
HCM Control Delay (s)	8.6	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.8	-	-

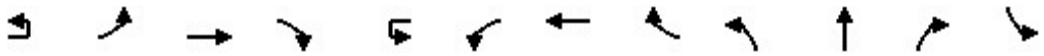
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	33	10	307	457	5
Future Vol, veh/h	15	33	10	307	457	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	17	37	11	341	508	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	874	511	514	0	-	0
Stage 1	511	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	320	563	1052	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	316	563	1052	-	-	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	704	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1052	-	452	-	-
HCM Lane V/C Ratio	0.011	-	0.118	-	-
HCM Control Delay (s)	8.5	0	14	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	121	809	46	15	15	1311	94	55	108	20	87
Future Volume (veh/h)	9	121	809	46	15	15	1311	94	55	108	20	87
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		125	834	0		15	1352	0	57	111	21	90
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		183	1924			55	1759		448	939	173	144
Arrive On Green		0.06	0.39	0.00		0.02	0.35	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2994	553	3209
Grp Volume(v), veh/h		125	834	0		15	1352	0	57	65	67	90
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1771	1605
Q Serve(g_s), s		3.9	12.9	0.0		0.5	24.9	0.0	2.2	2.7	2.8	2.8
Cycle Q Clear(g_c), s		3.9	12.9	0.0		0.5	24.9	0.0	2.2	2.7	2.8	2.8
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.31	1.00
Lane Grp Cap(c), veh/h		183	1924			55	1759		448	557	555	144
V/C Ratio(X)		0.68	0.43			0.27	0.77		0.13	0.12	0.12	0.63
Avail Cap(c_a), veh/h		282	2516			157	2364		465	557	555	217
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		47.8	23.0	0.0		50.2	29.7	0.0	22.4	25.3	25.3	48.5
Incr Delay (d2), s/veh		4.5	0.2	0.0		2.7	1.1	0.0	0.1	0.4	0.4	4.4
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	4.7	0.0		0.2	9.5	0.0	0.9	1.2	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		52.3	23.1	0.0		52.8	30.8	0.0	22.5	25.7	25.7	52.9
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			959	A			1367	A		189		
Approach Delay, s/veh			26.9				31.0			24.7		
Approach LOS			C				C			C		

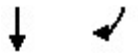
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	42.5	10.0	39.0	7.7	46.5	10.6	38.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	49.0	5.0	33.0	5.0	53.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	5.9	26.9	4.2	19.9	2.5	14.9	4.8	4.8
Green Ext Time (p_c), s	0.1	9.6	0.0	1.2	0.0	6.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	64	300
Future Volume (veh/h)	64	300
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	66	309
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1135	486
Arrive On Green	0.32	0.32
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	66	309
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	1.3	17.9
Cycle Q Clear(g_c), s	1.3	17.9
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1135	486
V/C Ratio(X)	0.06	0.64
Avail Cap(c_a), veh/h	1135	486
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.4	30.0
Incr Delay (d2), s/veh	0.1	6.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.2
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.5	36.2
LnGrp LOS	C	D
Approach Vol, veh/h	465	
Approach Delay, s/veh	37.8	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	171	7	4	88	9	4	1	3	13	1	13
Future Vol, veh/h	14	171	7	4	88	9	4	1	3	13	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	15	188	8	4	97	10	4	1	3	14	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	196	0	0	340	337	192	334	336	102
Stage 1	-	-	-	-	-	-	222	222	-	110	110	-
Stage 2	-	-	-	-	-	-	118	115	-	224	226	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1447	-	-	1377	-	-	614	584	850	620	585	953
Stage 1	-	-	-	-	-	-	780	720	-	895	804	-
Stage 2	-	-	-	-	-	-	887	800	-	779	717	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1447	-	-	1377	-	-	597	575	850	609	576	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	597	575	-	609	576	-
Stage 1	-	-	-	-	-	-	771	711	-	884	802	-
Stage 2	-	-	-	-	-	-	870	798	-	765	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	10.5	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	668	1447	-	-	1377	-	-	735
HCM Lane V/C Ratio	0.013	0.011	-	-	0.003	-	-	0.04
HCM Control Delay (s)	10.5	7.5	0	-	7.6	0	-	10.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	168	24	17	97	14	10
Future Vol, veh/h	168	24	17	97	14	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	183	26	18	105	15	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	209	0	337	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1362	-	658	845
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1362	-	649	845
Mov Cap-2 Maneuver	-	-	-	-	649	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	718	-	-	1362	-
HCM Lane V/C Ratio	0.036	-	-	0.014	-
HCM Control Delay (s)	10.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	133	82	347	570	29
Future Vol, veh/h	39	133	82	347	570	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	42	145	89	377	620	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1191	636	652	0	-	0
Stage 1	636	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	207	478	935	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	182	478	935	-	-	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	575	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.6	1.8	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	935	-	349	-	-
HCM Lane V/C Ratio	0.095	-	0.536	-	-
HCM Control Delay (s)	9.3	0	26.6	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.3	-	3	-	-

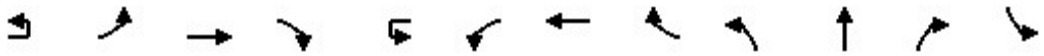
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	27	41	413	684	14
Future Vol, veh/h	10	27	41	413	684	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	30	46	464	769	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1333	777	785	0	-	0
Stage 1	777	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	170	397	834	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	574	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	397	834	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	834	-	281	-	-
HCM Lane V/C Ratio	0.055	-	0.148	-	-
HCM Control Delay (s)	9.6	0	20	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	10	227	1456	77	15	42	1228	154	65	97	44	194
Future Volume (veh/h)	10	227	1456	77	15	42	1228	154	65	97	44	194
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		239	1533	0		44	1293	0	68	102	46	204
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		309	1981			118	1699		366	662	283	272
Arrive On Green		0.09	0.39	0.00		0.03	0.33	0.00	0.04	0.27	0.27	0.08
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2425	1036	3456
Grp Volume(v), veh/h		239	1533	0		44	1293	0	68	73	75	204
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1684	1728
Q Serve(g_s), s		7.2	27.9	0.0		1.3	24.0	0.0	2.9	3.3	3.6	6.1
Cycle Q Clear(g_c), s		7.2	27.9	0.0		1.3	24.0	0.0	2.9	3.3	3.6	6.1
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.62	1.00
Lane Grp Cap(c), veh/h		309	1981			118	1699		366	485	460	272
V/C Ratio(X)		0.77	0.77			0.37	0.76		0.19	0.15	0.16	0.75
Avail Cap(c_a), veh/h		456	2549			163	2116		377	485	460	391
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		47.3	28.4	0.0		50.1	31.6	0.0	26.0	29.3	29.4	47.9
Incr Delay (d2), s/veh		4.8	1.2	0.0		1.9	1.3	0.0	0.2	0.7	0.8	4.8
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.2	10.8	0.0		0.6	9.5	0.0	1.2	1.5	1.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		52.1	29.6	0.0		52.1	32.9	0.0	26.2	29.9	30.1	52.7
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1772	A			1337	A		216		
Approach Delay, s/veh			32.6				33.6			28.8		
Approach LOS			C				C			C		

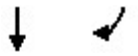
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	41.3	10.3	39.0	9.6	47.2	14.3	35.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	44.0	5.0	33.0	5.0	53.0	12.0	26.0
Max Q Clear Time (g_c+I1), s	9.2	26.0	4.9	23.7	3.3	29.9	8.1	5.6
Green Ext Time (p_c), s	0.3	8.2	0.0	1.8	0.0	11.3	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	199	344
Future Volume (veh/h)	199	344
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	209	362
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1105	493
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	209	362
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	4.6	21.7
Cycle Q Clear(g_c), s	4.6	21.7
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1105	493
V/C Ratio(X)	0.19	0.73
Avail Cap(c_a), veh/h	1105	493
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	26.8	32.7
Incr Delay (d2), s/veh	0.4	9.4
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	27.2	42.0
LnGrp LOS	C	D
Approach Vol, veh/h	775	
Approach Delay, s/veh	40.8	
Approach LOS	D	
Timer - Assigned Phs		

APPENDIX D:

TURN LANE EVALUATIONS

GDOT Access Manual Turn Lane Evaluations

ID	Intersection	Movement/ Turn Lane	GDOT Criteria met?	AADT (Norman Rd): < 6,000	Trip Dist.	Volume	
1	Driveway 1 / Otello Rd & Norman Rd	WBL	NO	LTV	4%	37	> 300
		EBR	NO	RTV	8%	74	> 200
2	Driveway 2 & Norman Rd	WBL	NO	LTV	18%	166	> 300
		EBR	YES	RTV	26%	240	> 200
4	Rays Rd & Spartan Ln	NBL	NO	LTV	31%	286	> 300
		SBR	NO	RTV	13%	120	> 200

		IN	OUT
Daily	1,844	922	922
AM Peak Hour	121	28	93
PM Peak Hour	147	92	55

APPENDIX E:

TECHNICAL MEMORANDUM

1255 Canton Street, Suite G
Roswell, GA 30075
P: 678.795.3600
F: 678.461.3494
NV5.com

TECHINCAL MEMO

To: Davis Moore, Mosaic Communities

From: Naveed Jaffar, PE, PTOE

Date: April 27, 2021

Re: Spivey Lake Residential Development, DeKalb County, Georgia

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NV5 Engineers & Consultants, Inc. completed a traffic impact study in April 2021 for the proposed Spivey Lake Residential Development along Norman Road in DeKalb County, Georgia. This memorandum serves as a supplement to the completed traffic study in order to provide the hourly distribution of expected generated trips to and from the development. This memorandum also serves to explore the potential trip reduction for multi-modal and transit impacts.

Trip Generation – Hourly Trip Generation

The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The development has a projected build out date of 2024 and will generate a total of 1,844 new daily trips. Of these daily volumes, 121 (28 entering and 93 exiting) are expected to occur in the AM peak hour while 147 (92 entering and 55 exiting) are expected to occur in the PM peak hour. Table 1 depicts the total expected Trip Generation for the development.

Table 1. Complete Trip Generation

LAND USE	PERIOD	TOTAL	IN	OUT
Single Family Homes, LUC 210 (40 Dwelling Units)	Daily	448	224	224
	AM Peak Hour	33	8	25
	PM Peak Hour	42	26	16
***Two/Three Family Homes** (190 Dwelling Units - 138 Two-Family Homes, 52 Townhomes)	Daily	1,396	698	698
	AM Peak Hour	88	20	68
	PM Peak Hour	105	66	39
Total Net Trips	**Daily**	**1,844**	**922**	**922**
	AM Peak Hour	**121**	**28**	**93**
	PM Peak Hour	**147**	**92**	**55**

*Study utilizes ITE (Institute of Transportation Engineers) Land Use Code *Multi-Family Housing Low-Rise (LUC 220)*

The hourly trip generation was developed using the ITE (Institute of Transportation Engineers') methodology. From the hourly trip generation, we can expect on average for there to be one (1) vehicle every 0.8 minutes (46 seconds) throughout the day. Table 2 depicts the estimated number of generated trips expected every hour of the day and the frequency.

Table 2. Estimated Hourly Trip Generation – Trip Generation Rate

Beginning Hour	Expected Trips	
	Total	Vehicle Every (X) Minutes
12:00 AM	14	4.2
1:00 AM	8	7.6
2:00 AM	8	7.4
3:00 AM	9	6.5
4:00 AM	15	4.0
5:00 AM	33	1.8
6:00 AM	69	0.9
7:00 AM	118	0.5
8:00 AM	111	0.5
9:00 AM	97	0.6
10:00 AM	82	0.7
11:00 AM	96	0.6
12:00 PM	102	0.6
1:00 PM	94	0.6
2:00 PM	106	0.6
3:00 PM	127	0.5
4:00 PM	139	0.4
5:00 PM	149	0.4
6:00 PM	137	0.4
7:00 PM	110	0.5
8:00 PM	89	0.7
9:00 PM	66	0.9
10:00 PM	37	1.6
11:00 PM	28	2.2
Total	**1,844**	**0.8**

Table 3 depicts the expected number of trips that will utilize Norman Road, Rays Road, and Spartan Lane during each hour of the day. The planned traffic calming measures are likely to discourage travel along Othello Avenue. Therefore, there is not a significant amount of traffic from the development expected to utilize Othello Avenue. Supporting worksheets for computations are attached. The hourly breakdown by movement for each of the access points of the development is also attached.

Table 3. Estimated Hourly Roadway Trips

Beginning Hour	Norman Road b/w Othello Ave and Rays Road		Rays Road b/w Norman Road and Spartan Lane		Spartan Lane b/w subject development and Rays Road	
	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound
12:00 AM	4	4	5	4	2	4
1:00 AM	2	2	3	2	1	2
2:00 AM	2	2	2	3	2	2
3:00 AM	3	3	3	3	2	2
4:00 AM	4	5	4	6	4	2
5:00 AM	8	10	7	13	11	3
6:00 AM	17	22	13	29	25	5
7:00 AM	29	37	25	47	40	12
8:00 AM	28	34	24	43	36	12
9:00 AM	25	29	25	34	27	15
10:00 AM	22	24	24	27	20	16
11:00 AM	27	27	29	30	22	20
12:00 PM	29	28	31	31	22	23
1:00 PM	26	26	29	29	21	21
2:00 PM	30	29	34	31	21	25
3:00 PM	37	34	43	34	22	34
4:00 PM	41	37	48	36	23	38
5:00 PM	44	40	52	39	25	41
6:00 PM	41	36	48	36	22	38
7:00 PM	32	30	37	31	21	28
8:00 PM	26	24	31	23	14	25
9:00 PM	20	17	24	17	10	19
10:00 PM	11	10	14	9	5	11
11:00 PM	8	7	11	6	3	9
TOTAL	**516**	**516**	**563**	**563**	**406**	**406**

Trip Reduction

NV5 Engineers & Consultants has developed a potential trip reduction factor that could possibly be used to reduce the number of trips generated by the development. The factor considers the area use of transit, transit availability, pedestrian connection to transit facilities and nearby land uses, and site-specific characteristics. From the data and methodology used, a reduction factor of 0.90 was developed. The trip reduction worksheet is attached.

ATTACHMENTS

2024 Build Traffic Counts - All Vehicles																				
Time (Hr Beg.)	Norman Road					Norman Road					North Access Point 1					Othello Avenue				
	Eastbound					Westbound					Northbound					Southbound				
	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM				1			0					0		0						
1:00 AM				0			0					0		0						
2:00 AM				0			0					0		0						
3:00 AM				0			0					0		0						
4:00 AM				0			0					1		0						
5:00 AM				1			0					2		1						
6:00 AM				1			0					5		2						
7:00 AM				2			1					7		4						
8:00 AM				2			1					7		3						
9:00 AM				3			1					5		2						
10:00 AM				3			1					4		2						
11:00 AM				4			2					4		2						
12:00 PM				4			2					4		2						
1:00 PM				4			2					4		2						
2:00 PM				5			2					4		2						
3:00 PM				6			3					4		2						
4:00 PM				7			3					4		2						
5:00 PM				7			4					5		2						
6:00 PM				7			3					4		2						
7:00 PM				5			3					4		2						
8:00 PM				5			2					3		1						
9:00 PM				3			2					2		1						
10:00 PM				2			1					1		0						
11:00 PM				2			1					1		0						
TOTAL				74			37					74		37						

2024 Build Traffic Counts - All Vehicles																				
Time (Hr Beg.)	Norman Road Eastbound					Norman Road Westbound					North Access Point 2 Northbound					Southbound				
	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM			0	2			2	0				1		1						
1:00 AM			0	1			1	0				1		1						
2:00 AM			0	1			1	0				1		1						
3:00 AM			0	1			1	0				1		1						
4:00 AM			0	1			1	0				3		2						
5:00 AM			1	2			1	0				7		5						
6:00 AM			2	3			2	0				15		10						
7:00 AM			4	7			5	1				24		16						
8:00 AM			3	7			5	1				22		15						
9:00 AM			2	9			6	1				16		11						
10:00 AM			2	10			7	1				12		8						
11:00 AM			2	12			8	2				13		9						
12:00 PM			2	13			9	2				13		9						
1:00 PM			2	12			8	2				12		9						
2:00 PM			2	15			10	2				13		9						
3:00 PM			2	20			14	3				13		9						
4:00 PM			2	22			16	3				14		9						
5:00 PM			2	24			17	4				15		10						
6:00 PM			2	22			16	3				13		9						
7:00 PM			2	16			11	3				12		8						
8:00 PM			1	15			10	2				9		6						
9:00 PM			1	11			8	2				6		4						
10:00 PM			0	7			5	1				3		2						
11:00 PM			0	5			4	1				2		1						
TOTAL			37	240			166	37				240		166						

2024 Build Traffic Counts - All Vehicles																				
Time (Hr	Spartan Lane										Rays Road					Rays Road				
	Eastbound					Westbound					Northbound					Southbound				
Beg.)	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM		1		2								3	1					1	1	
1:00 AM		0		1								1	1					1	1	
2:00 AM		1		1								1	1					1	1	
3:00 AM		1		2								1	1					1	1	
4:00 AM		1		3								2	1					2	1	
5:00 AM		3		8								2	1					4	1	
6:00 AM		8		18								3	2					10	1	
7:00 AM		12		28								8	5					15	4	
8:00 AM		11		26								9	5					14	4	
9:00 AM		8		19								11	6					11	4	
10:00 AM		6		14								11	6					8	5	
11:00 AM		6		15								14	8					8	6	
12:00 PM		7		16								16	9					9	7	
1:00 PM		6		15								15	8					8	6	
2:00 PM		6		15								18	10					8	7	
3:00 PM		6		15								24	13					8	10	
4:00 PM		7		16								27	15					9	11	
5:00 PM		7		18								29	16					10	12	
6:00 PM		7		16								27	15					9	11	
7:00 PM		6		14								20	11					8	8	
8:00 PM		4		10								18	10					6	7	
9:00 PM		3		7								13	7					4	6	
10:00 PM		2		4								8	4					2	3	
11:00 PM		1		2								6	3					1	3	
TOTAL		120		286								286	157					157	120	

Transit and Carpool Evaluation Tool

4069 Norman Road, Stone Mountain, Georgia 30083

Spivey Lake Residential

Date: 4/21/2021

Prepared by: M. Early

Trip Reduction Factor: **0.90**

Parking Reduction Factor: **N/A**

Transit Summary

Local Fixed-Route Bus; GOOD arrival times; SOMEWHAT CLOSE; ADEQUATE ped access; ALL can use

Transit is Available to **100%** of Residents

Influence of Available Transit	90.0%
Area Transit Usage	16.4%
Area Carpool Usage	9.5%
Area Bike/Ped Activity	1.5%

Source: American Community Survey, 2018

Comments:

MARTA bus route 121 - Memorial Drive/N. Hairston Road (nearest transit to development); walk to closest transit stop, 0.63 - 1.05 miles; Transect Development character rating, T4; Pedestrian Connection, ADEQUATE- lack of sidewalk along Spartan Lane, consistent sidewalk to transit stops; TDM Strategy, IN PLACE - walking trails facilitating access to local roadway network

Possible TDM Measures

- ☐ Pre-Tax Incentives
- ☐ Guaranteed Ride Home
- ☐ Ride-Share / Carpool
- ☐ Carpool Parking
- ☐ Bike Facilities
- ☐ Lockers
- ☐ Informational Kiosks
- ☐ Transportation Coordinators
- ☐ Shuttle to Transit
- ☑ Other (Specify)

Site Image:



Pedestrian connections are categorized as follows.

Pedestrian Connection

Site to Transit Stop/Stn	Rating
Complete	Excellent
Partial-Mitigatable	Adequate
Partial-Non-Mitigatable	Poor
Not an Influencing Factor	Non-Relevant
None	No

Explanation of Rating

Excellent. An unbroken/unobstructed sidewalk or formal walking path from the site to the transit stop/station, providing a safe travel route.

Adequate. A broken/obstructed sidewalk or formal walking path from the site to the transit stop/station, which can be mitigated, and traveler movement and safety are minimally impacted

Poor. An unsafe and/or uncomfortable pedestrian travel environment between the site and the transit stop/station that cannot be mitigated.

Non-relevant. Access to transit stop/station from the site is not impacted by the presence, or lack thereof, of a formal pedestrian connection.

Proprietary to NV5, Inc.

Spivey Lake Rezone Application Z-21-1244893

Gina Sgro <ginasgro@gmail.com>

Wed 10/13/2021 2:54 PM

To: White, Brandon L. <BLWhite@dekalbcountyga.gov>; Reid, John <jreid@dekalbcountyga.gov>
Cc: Gigi <ginasgro@gmail.com>; normanrdneighbors@gmail.com <normanrdneighbors@gmail.com>

Hello John and Brandon,
My name is Gina Sgro, and I am reaching out after meeting with Steve Bradshaw this weekend to let you know about the Norman Road Neighborhoods group and our opposition to Mosaic Communities LLC's application (Z-21-1244893) to rezone the Spivey Lake property to RSM to build high-density housing. As you know, the 35-acre property includes a 7-acre lake and several acres in the floodplain, leaving only 19 buildable acres. Mosaic's amended plan calls for 174 cluster homes and duplexes on those 19 acres, which will result in at least 10-12 homes per acre once the streets and parking lots are removed from the total buildable acreage. This plan for high-density housing is in ***stark contrast to all surrounding, established suburban neighborhoods*** in our area (which have approximately 3-4 single-family, detached homes per acre).

Norman Road Neighborhoods is a grassroots, community effort that has organized a multicomponent community outreach effort, including regular community meetings, email communications, and a ***door-to-door petition*** launched in September in multiple languages to ensure the inclusion of our non-English speaking neighbors. Since 9/12/21, our representatives have been going door-to-door, speaking with neighbors about the rezoning request, answering questions, and gathering signatures. The response has been overwhelmingly positive. To date, not a single neighbor we've spoken to is in favor of Mosaic's plan. Rather, our neighbors have expressed an array of concerns about infrastructure, traffic, the environment, drainage, long-term home valuations, and so forth. We currently have ***450 signatures from neighbors of all racial and ethnic backgrounds*** who are unified in their opposition to rezoning to RSM and high-density housing. And we are not finished.

But as you can imagine, engaging multicultural neighbors through door-to-door outreach takes time, particularly in a pandemic. We want to maximize our ability to gather as many signatures as possible before submitting the petition for the 11/18 BOC meeting. At the same time, we would like to engage planning and administrative staff to ensure that you are aware of our efforts and take the voice of the community into consideration when conducting your analysis and making recommendations for or against Mosaic's plan. We are trying to determine the best way to accomplish both of these goals.

We would greatly appreciate any feedback or guidance you might have around this. I am happy to schedule a time to speak with you or to communicate by email and also to answer any questions you might have. Please just let me know what works best.

Thank you in advance,

Gina Sgro
Norman Road Neighborhoods
Cell: 404.272.6125
Email: ginasgro@gmail.com

Z-21-1244893 Mosaic Communities Hugh Spivey Lake Proposed Development

Phyllis Rooney <pirooney62@gmail.com>

Mon 10/18/2021 3:23 PM

To: Reid, John <jreid@dekalbcountyga.gov>

1 attachments (1 MB)

Mosaic Communities Spivey Lake Development Support 10-18-21.pdf;

Mr. Reid –

Attached for your use and information is a statement of support from community members regarding Mosaic Communties' proposed development of the Spivey property on Norman Road in Stone Mountain. As the Planning liaison for the District 4 Community Council, could you please see that this information is distributed to them prior to the October 19 meeting?

This information is ongoing and I'll see that you are kept up to date as signatures are added. We have hesitated to refer to this as a "petition." For the most part, this represents people who proactively reached out to Mosaic or whose support was made known in casual conversations and I have followed up with them to substantiate their support.

Thank you so much for your help and cooperation. If you have any questions or need additional information, please let me know.

Phyllis I. Rooney
3983 Garfield Drive
Stone Mountain, GA 30083

Mosaic Communities' proposed development of the Spivey Lake property on Norman Road offers a sensitive and responsible plan that:

- Enhances and protects the fragile nature of the property by maximizing greenspace with the cottage home concept—smaller homes on a single site, arranged so that each unit faces a common open space.
- Remediates the neglected Spivey Lake and initiates an ongoing maintenance program to ensure its continued viability and its role in flood plain management.
- Respects the character of the surrounding neighborhoods by establishing an oversized buffer and constructing only single-family detached homes on the perimeter of the development adjacent to these neighborhoods.
- Maximizes the pervious surfaces of the property.
- Addresses the need for more affordable home prices, attainable by those making less than $100,000 per year—something few other new-home developments in the area offer.

Mosaic has continued to reach out to the community, has heard its concerns, and has revised their original plan to:

- Eliminate the "build-to-rent" concept—**NO rentals**.
- Twice reduce the total number of homes—in July they reduced the original 228 homes to 185 and again in September reduced the total to 174—a total reduction of almost 24%.
- **Eliminate triplexes** and increase the original number of **single-family detached homes** from 19 to 90, representing 52% of all homes.
- Add slip driveways and detached garages.

Mosaic has engaged a top-rated engineering firm and one of the finest architects in the Atlanta area to design and engineer this property. They have agreed to let people from the neighborhood participate in the tree and landscaping plan. They have acted as intermediary to connect their engineer and those of us who currently experience stormwater runoff problems to investigate potential mitigation of the existing problems with the improvements planned for the site. They have held, and continue to hold, numerous meetings with the people in the neighborhoods—both via Zoom and in person—to include the community in the planning and decision-making for this property. Nate Williams and Davis Moore, Mosaic's principals, have personally walked our neighborhood going door-to-door to present their plan directly to our community to ask their support. Opposition to the revised plan has simply become opposition for opposition's sake.

In consideration of the positive impact that we feel that this development will have on our community, we the undersigned, support the plan of Mosaic Communities and ask that their request for rezoning of this property be granted.

Thank you for your consideration.

Name	Address	Date	Email
Michael E Benvenuti	3942 Garfield Dr.	9-25-21	michael E Benvenuti@gmail.com
Heather Smith	3987 Garfield Dr	9/25/21	heatherwhen@gmail
Shirley Thomas	3980 Garfield Dr.	9-25	satagape@gmail.com

Name	Address	Date	Email
Ben N Rooney	3983 Garfield Dr	9-26-21	
TULLERITT	3897 CASTLETREE CT	9.26.21	
Ellen Gadberry	3897 CastleTree Ct.	9.26.21	
Reginald Brown	3984 Garfield Drive	9-26-21	reginaldbrown2001@yahoo.com
Kevin Barber	3984 Garfield Dr.	9.28.21	KBARBER01@GMAIL
Brian Bollinger	1104 Nielsen Dr.	9/29/21	threebollingers@gmail
Anna Bollinger	1104 Nielsen Dr.	9/29/21	anniebollinger@gmail
Eric A. Ketchum	3952 Norman Rd.	10/1/21	ericandmalia@gmail.com
Malia Ketchum	3952 Norman Rd	10/1/21	ericandmalia@gmail.com
Suzanne K Bagley	1217 Denison Dr.	10/3/21	readyhiker@yahoo.com
Nathael Mammo	3898 Garfield Dr.	10/12/21	nathaelmam222@yahoo.com
Melissa Hackman	3987 Garfield Drive	10/12/21	melissajhackman@gmail.com
Patricia D Rooney	3583 Garfield Drive	10/3/21	pirooney62@gmail.com
Joan Gornstein	4078 Norman Rd	10/14/21	jgornstein@yahoo.com
Rick Hall	3817 Norman Rd	10/14/21	dhall181870yahoo.com
Tony Hall	" " "	"	tonyhall3290@gmail.com

Name	Address	Date	Email
Andrea Cerjone	3517 casa woods lane, clarkston	10/16	AndreaRcerjone@gmail.com

TRAFFIC IMPACT STUDY FOR

SPIVEY LAKE RESIDENTIAL DEVELOPMENT

DATE:
April 28, 2021

LOCATION:
DeKalb County, Georgia

PREPARED FOR:
Mosaic Communities

PREPARED BY:
NV5 Engineers and Consultants, Inc.
1255 Canton Street, Suite G
Roswell, GA 30075

NV5
nv5.com

EXECUTIVE SUMMARY

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The development has a projected build out date of 2024 and will generate a total of 1,844 new daily trips. Of these daily volumes, 121 (28 entering and 93 exiting) are expected to occur in the AM peak hour while 147 (92 entering and 55 exiting) are expected to occur in the PM peak hour.

The development will contain two (2) full access points along Norman Road and one (1) access point as an extension of Spartan Lane.

Existing intersections adjacent to the planned development were evaluated to determine if new roadway geometries or traffic controls will be needed once the development is built.

The following intersections were evaluated in this study:

1. Otello Avenue/Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

The analysis uses adjustment factors applied to existing traffic counts as a baseline condition to account for the decrease in traffic due to the COVID-19 pandemic. Under baseline conditions, all intersections operate at a level of service (LOS) “D” or better at each approach.

No-Build conditions for this study show that the assumed 3.4% growth rate does not have a significant effect on the study network. With the increased growth, the intersections do increase in delay (as expected) and only two approaches increase in overall LOS compared to baseline conditions. All intersections continue to operate satisfactorily at an overall LOS D or better.

The additional project trips from the Spivey Lake Residential Development do not significantly affect the study network. With the added trips, the intersections do increase in delay (as expected), but do not change the overall levels of service experienced in the No-Build conditions.

Based on GDOT criteria, the eastern site driveway (Driveway 2) for the development warrants a right-turn deceleration lane. However, the installation of the turn lane is at the discretion of DeKalb County.

Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.

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A. Introduction

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes.

This traffic study analyzes the impact of new traffic added to the local roadways upon the occupancy of the residential development.

This study includes analysis of the Existing and Baseline Conditions, No-Build Conditions (including background growth and expected traffic from adjacent/nearby developments), and Build Conditions at the following intersections:

1. Otello Avenue/ Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

The report summarizes background and projected traffic at the study locations, analysis of traffic impacts including level of service (LOS) and conclusions and recommendations from the analysis.

Figure 1 depicts the site location in DeKalb County. The study intersections listed above are depicted in Figure 2. A copy of the development concept plan is included in the Appendix.

Figure 1. Vicinity Map

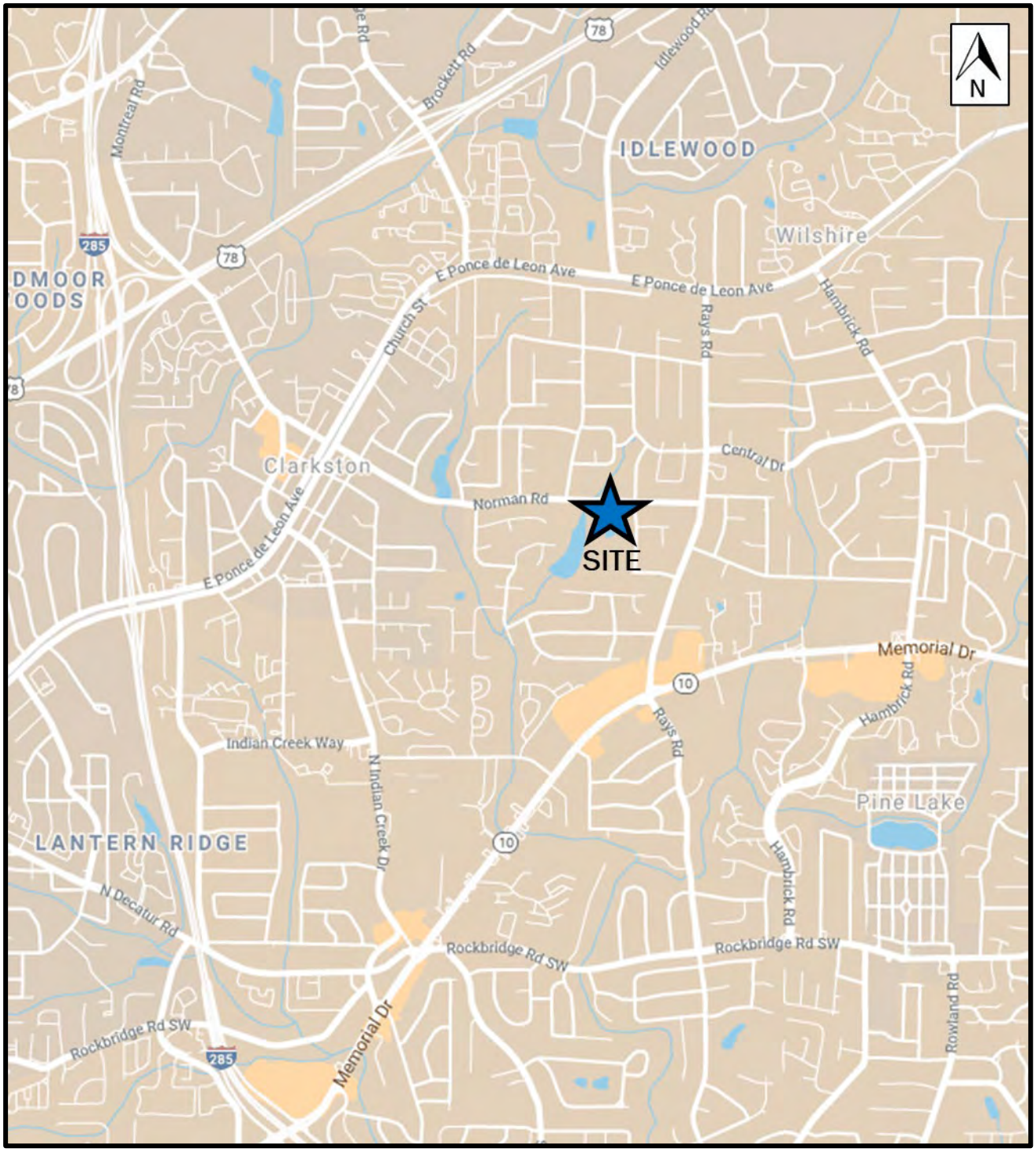
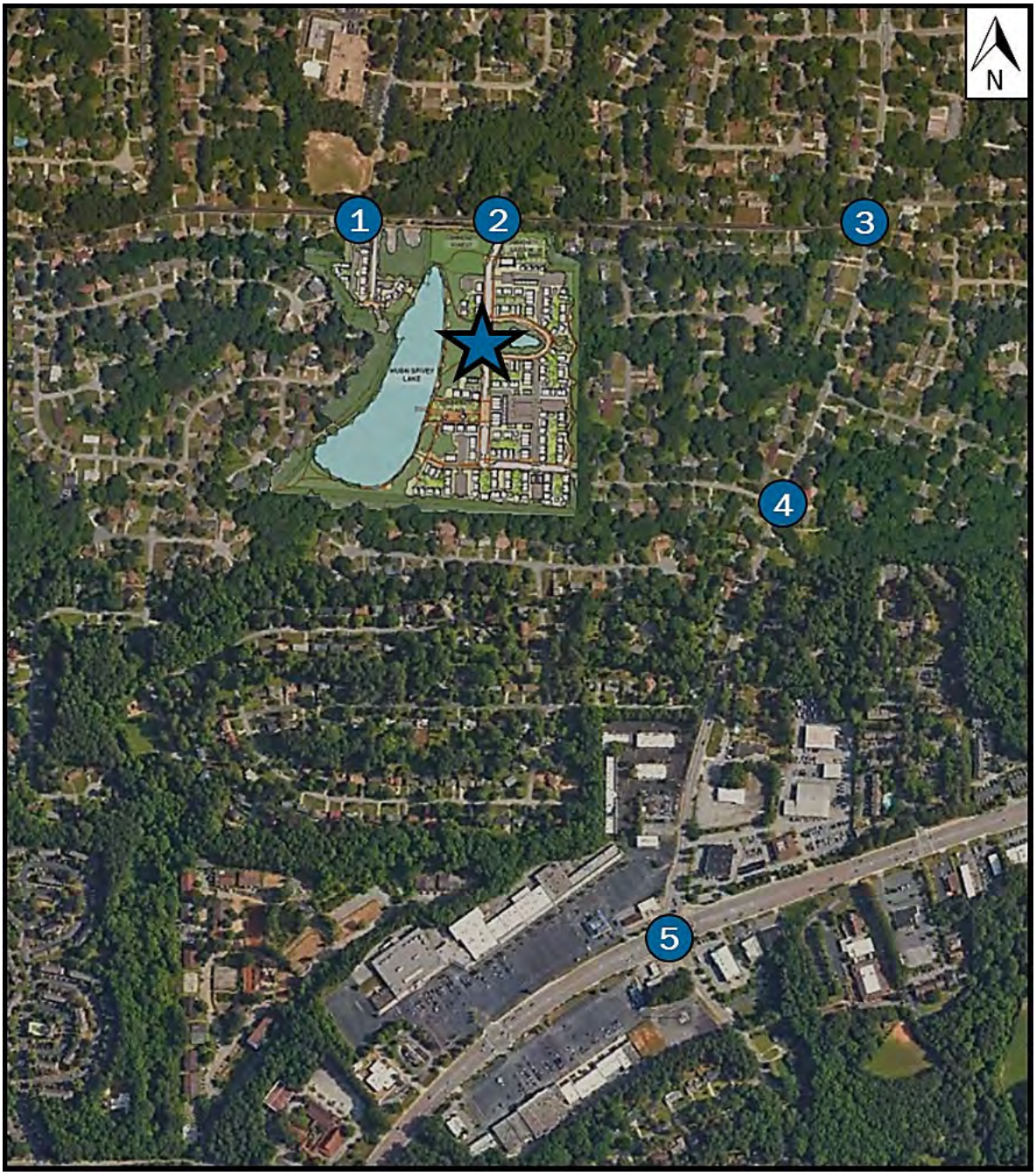


Figure 2. Site Location Aerial



1. Otello Avenue/ Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

B. Existing Conditions

B.1. Transportation Facilities

Norman Road is an east-west, two-lane undivided, collector roadway with a posted speed of 35 MPH. The road is in a school zone beginning 0.2 mile west of its intersection with Otello Avenue and ending 0.1 mile east of said intersection. The roadway facilitates access to primarily residential land. The roadway will service two access points for the subject development.

Otello Road is a north-south, two-lane undivided, local roadway with a posted speed of 25 MPH. Jolly Elementary School is located along the roadway 400 feet north of its intersection with Norman Road. Northbound traffic is prohibited from 7:15 AM to 8:15 AM and 1:45 PM to 2:45 PM. Land uses along the roadway are residential and institutional.

Spartan Lane is an east-west, two-lane undivided, local residential roadway with a posted speed of 25 MPH. The roadway will service one access point for the subject development.

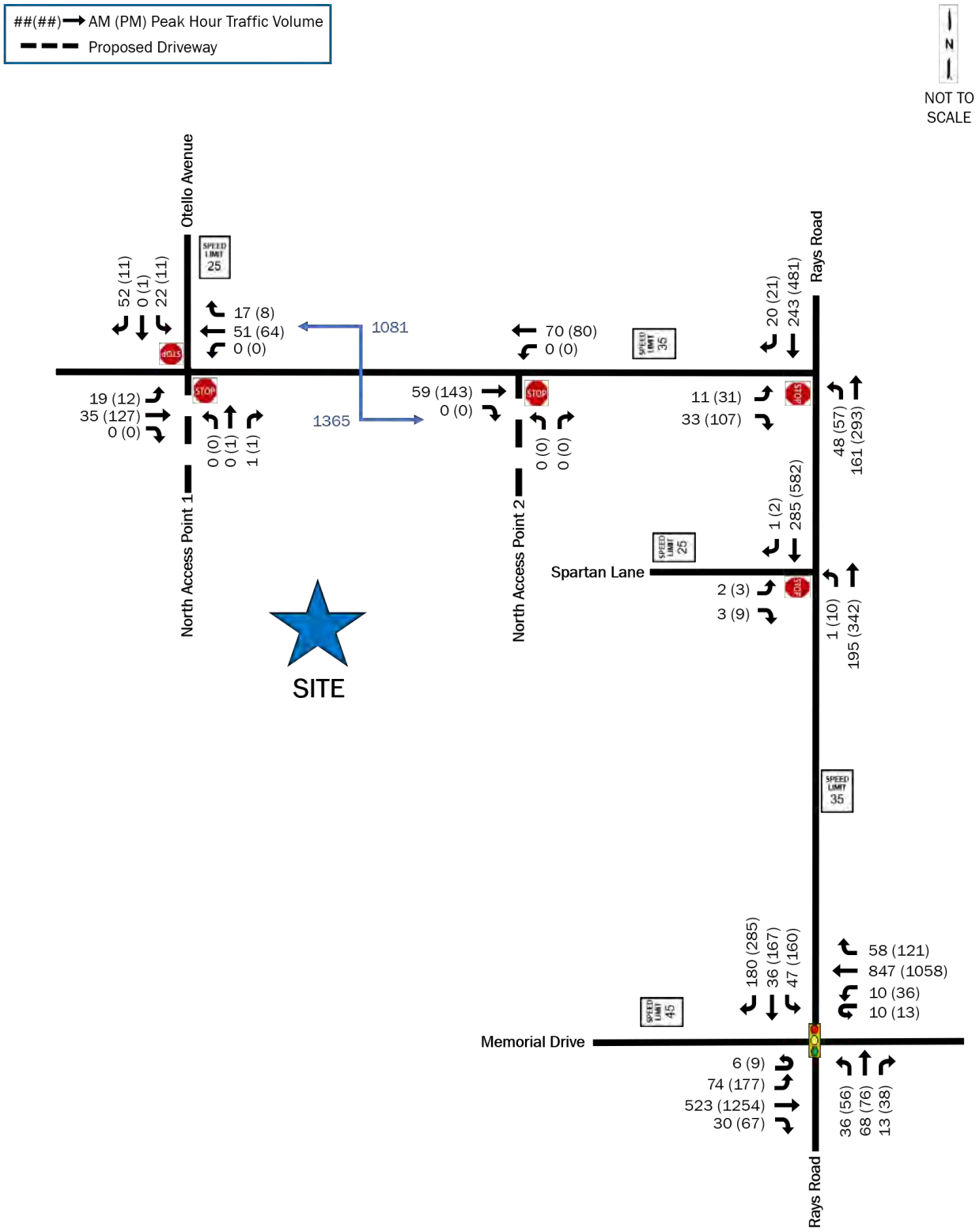
Rays Road is a north-south, two-lane undivided, collector roadway with a posted speed of 35 MPH. The roadway provides access to Memorial Drive approximately one mile south of its intersection with Norman Road. The roadway facilitates access to primarily residential land uses with commercial/retail land uses surrounding Memorial Drive. Rays Road has an AADT of about 10,700 vehicles per day near the study intersection.

Memorial Drive (SR-10) is a six-lane, major arterial roadway with a posted speed of 45 MPH. The roadway provides access to I-285 approximately two miles southwest of its intersection with Rays Road. There are a plethora of land uses along the roadway within the vicinity of the project including commercial/retail, institutional, medical, and residential. Memorial Drive has an AADT of about 40,800 vehicles per day near the study intersection.

B.2. Traffic Counts

Weekday peak period turning movement counts were collected at the existing intersections depicted in Figure 2 on Thursday, March 25, 2021 while schools were in session. Bi-directional traffic counts were also collected on Norman Road near the site on Thursday, March 25, 2021. The daily traffic recorded along Norman Road was 2,446 vehicles. The turning peak hour counts at the study intersections are shown in Figure 3 (Existing Traffic Volumes). The count worksheets are included in Appendix B.

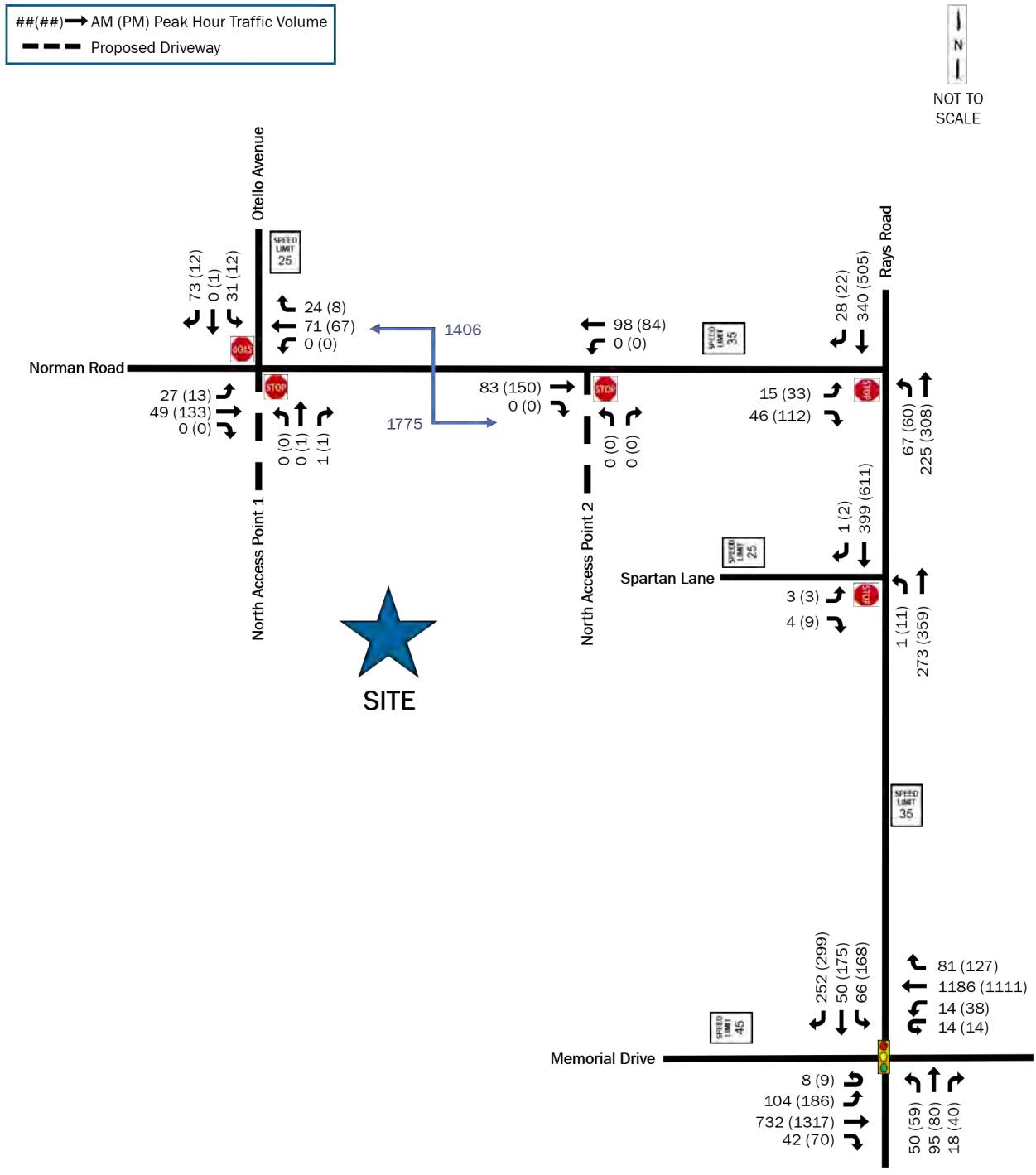
Figure 3: Existing Volumes (2021)



B.3. Baseline Adjustment

The analysis utilizes an adjustment factor to account for the decrease in traffic due to the COVID-19 pandemic. The factors were developed using counts from the Georgia Department of Transportation's (GDOT) Automated Traffic Signal Performance Measures (ATSPM). Turning movement counts recorded at the intersection of Memorial Drive (SR 10) and Rays Road in March 2019 were compared to counts recorded in March 2021 at the same intersection. From the data, the analysis uses a factor of 1.4 applied to the AM peak hour counts and a factor of 1.05 applied to the PM peak hour counts at each of the study intersections depicted in Figure 2. The adjusted volumes (Baseline Volumes) are depicted in Figure 4. The No-Build and Build scenarios in the study utilize these volumes as baseline conditions. The adjustment factor worksheet and supporting data are included in Appendix B.

Figure 4: Baseline Volumes (2021)



C. Future Conditions

C.1. Background Data Collection

The growth rate in the study area is based upon an analysis of historical traffic counts collected by the Georgia Department of Transportation (GDOT). The project is expected to be built-out in 2024. To account for ambient growth in the area, the baseline traffic counts were grown by 3.4% per year for three years. The growth rate considers historical GDOT traffic data collected along Rays Road, Memorial Drive, and Ponce de Leon Avenue. The expected volumes are depicted in Figure 5, 2024 No-Build Volumes. The historical counts and growth rate development worksheet are included in Appendix B.

C.2. Project Trip Generation

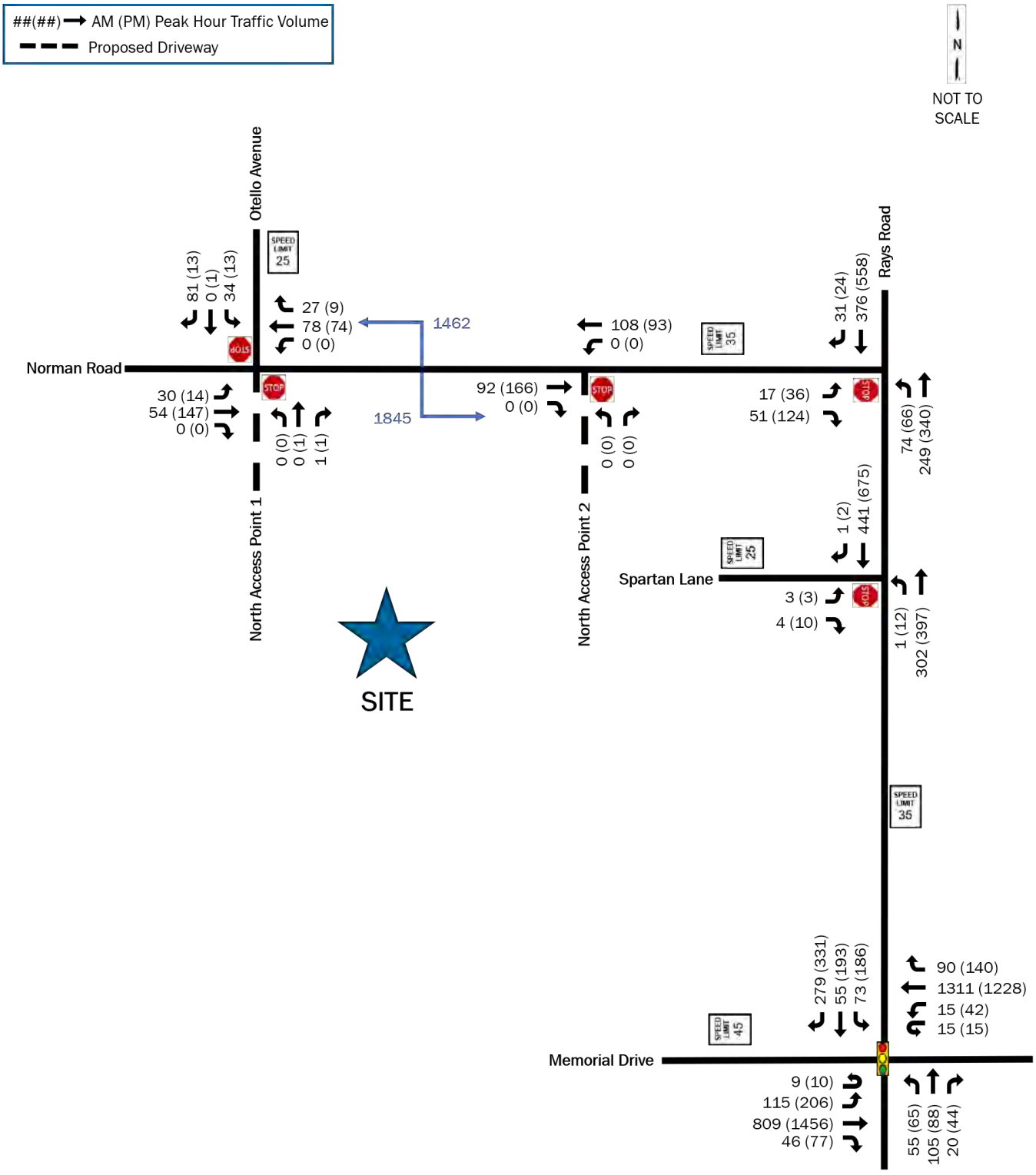
Table 1 summarizes the project trip generation calculated using the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017. The community consists of three types of dwelling units including 138 Two-Family Homes, 52 Townhomes, and 40 Single Family Detached Homes. The homes encompass two types of ITE Land Use Codes (LUC) including one for the single-family detached homes (LUC 210) and one for both the two-family home unit type and the townhome unit type (LUC 220). Table 1 below summarizes the daily and hourly trip generation of the proposed residential development. The scale of the project does not warrant trip reductions for pass-by and/or internal capture. Conservatively, the analysis does not consider reduced, generated trips to account for transit/multimodal use.

Table 1: Project Trip Generation

LAND USE	PERIOD	TOTAL	IN	OUT
Single Family Homes, LUC 210 (40 Dwelling Units)	Daily	448	224	224
	AM Peak Hour	33	8	25
	PM Peak Hour	42	26	16
***Two/Three Family Homes** (190 Dwelling Units - 138 Two-Family Homes, 52 Townhomes)	Daily	1,396	698	698
	AM Peak Hour	88	20	68
	PM Peak Hour	105	66	39
Total Net Trips	Daily	**1,844**	**922**	**922**
	AM Peak Hour	**121**	**28**	**93**
	PM Peak Hour	**147**	**92**	**55**

*Study utilizes ITE (Institute of Transportation Engineers) Land Use Code *Multi-Family Housing Low-Rise (LUC 220)*

Figure 5: 2024 No-Build Traffic Volumes



C.3. Trip Distribution and Assignment

The distribution and assignment of project trips for the development is based on an evaluation of traffic patterns typical of a residential development in addition to traffic patterns within the area, alongside an analysis of the collected traffic counts. Approximately 12% of the newly generated trips are expected to utilize Driveway 1 at Norman Road and Otello Avenue, 44% of the newly generated trips are expected to utilize Driveway 2 at Norman Road and the remaining 44% of the newly generated trips are expected to use Spartan Lane at Rays Road. An expected 34% of the generated trips will be distributed to/from the west via Norman Road, an estimated 18% of the newly generated trips will be distributed to/from the north via Rays Road. Approximately 48% of the newly generated trips will be distributed to/from the south via Memorial Drive. The trip generation is depicted in Figure 6. The project trips generated from the development utilize the trip distribution and are depicted in Figure 7. The No-Build plus project trips (Build Volumes) are depicted in Figure 8.

Figure 6: Trip Distribution

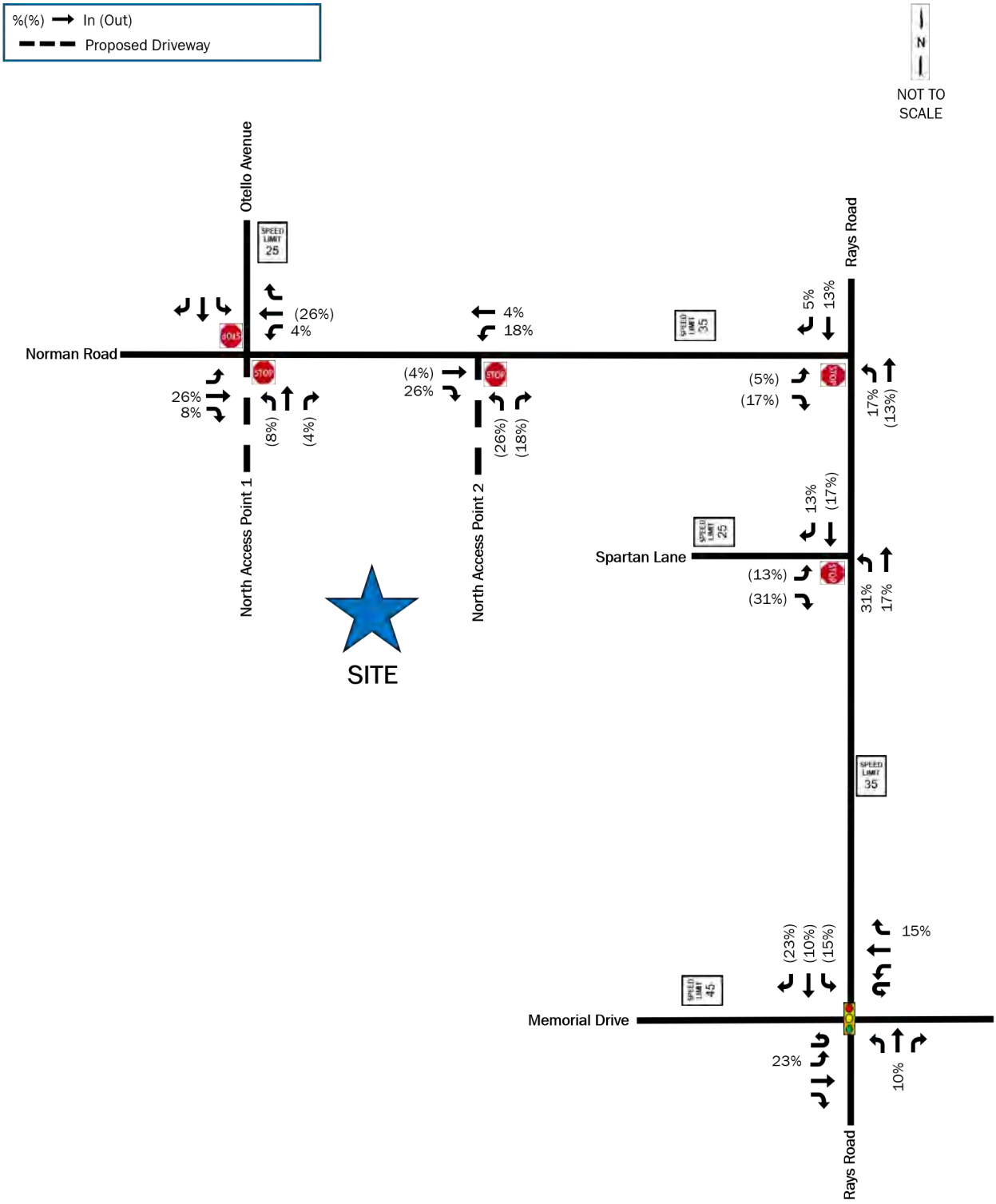


Figure 7: Project Development Trips

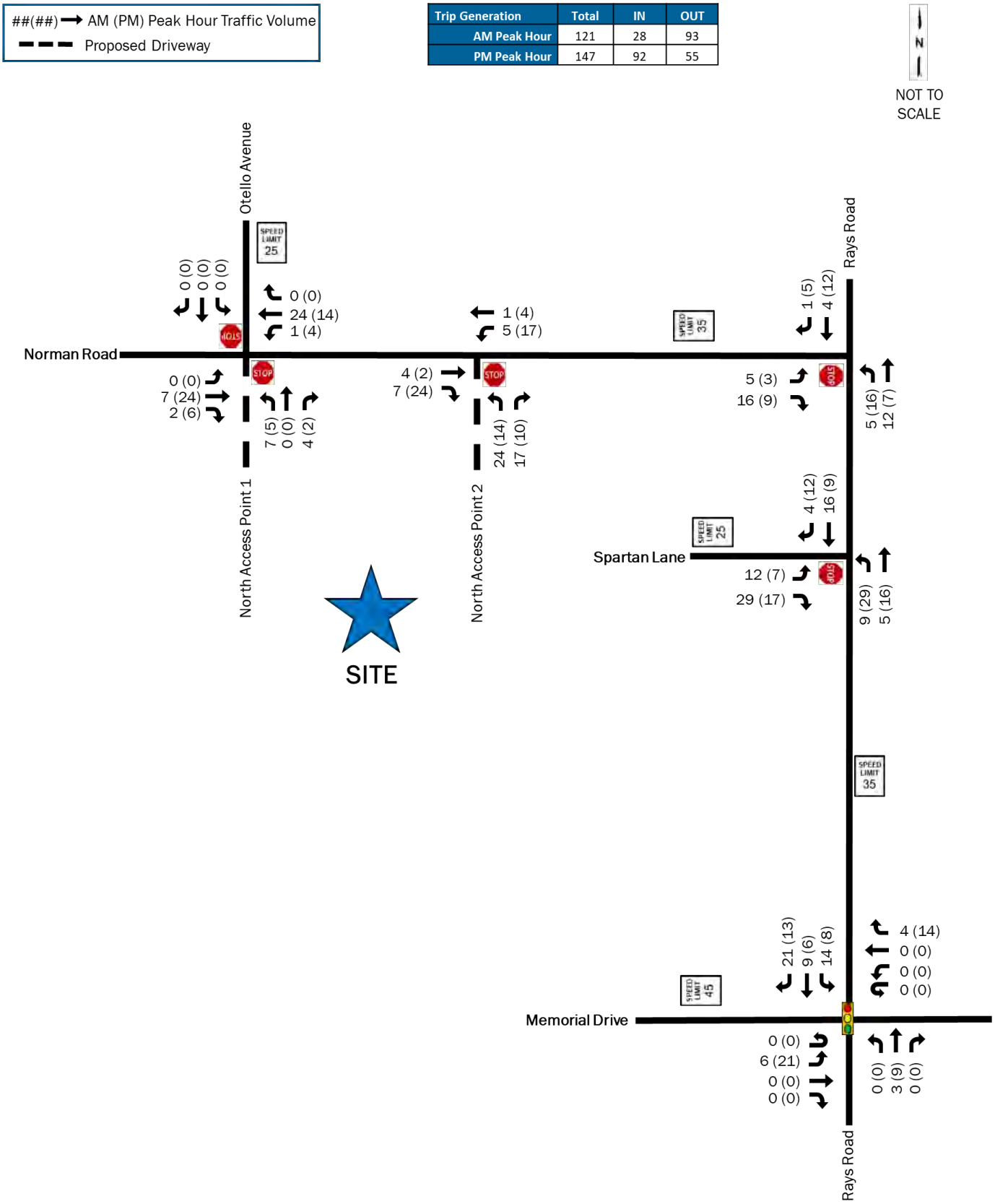
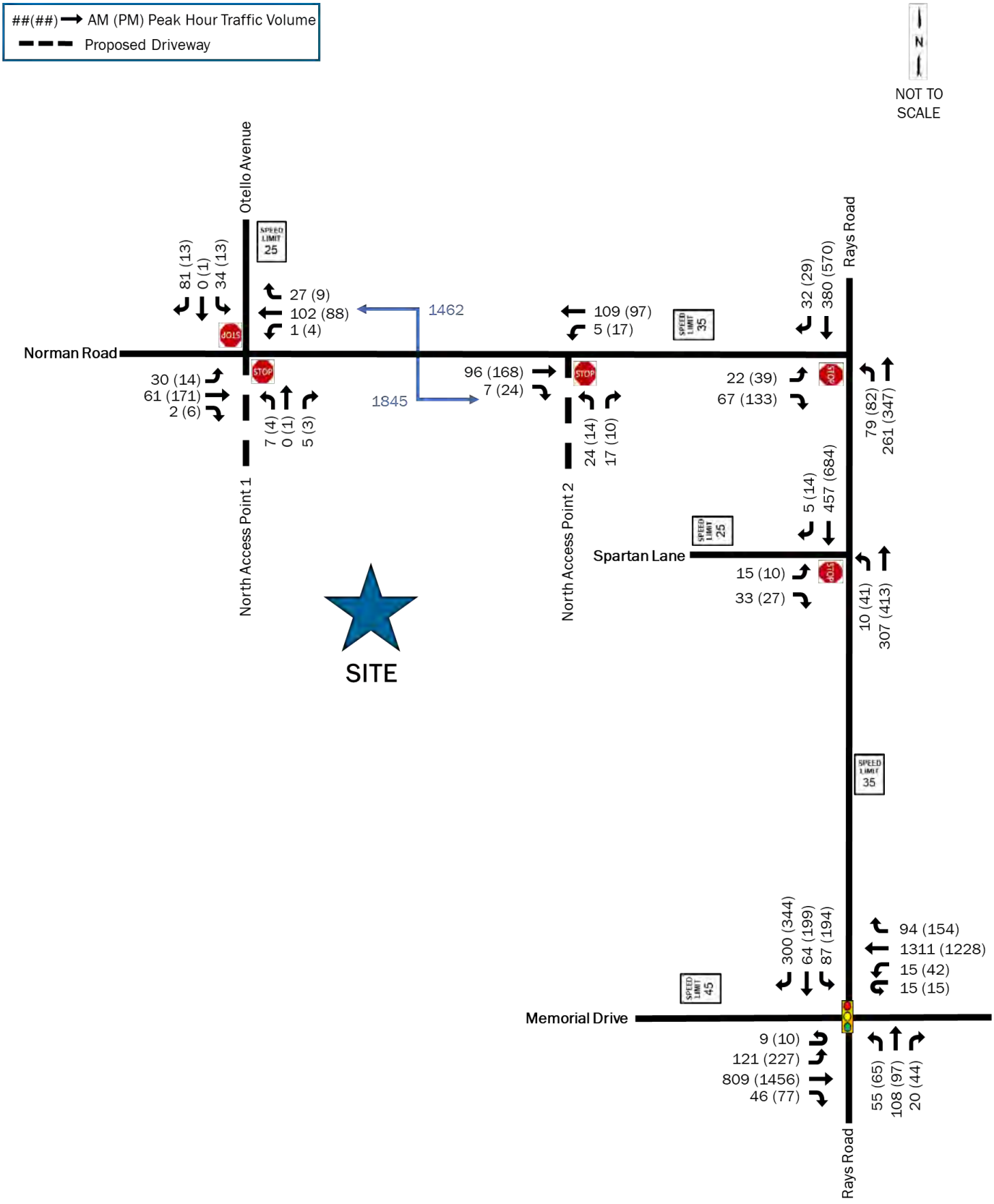


Figure 8: 2024 Build Traffic Volumes



D. Traffic Impact Analyses

The analysis in each of the scenarios for the study was performed using the traffic analysis software Synchro® 11. The analysis utilizes optimized signal timing with assumed cycle lengths of 120 seconds in the AM and PM peak hours. Average vehicular delays are calculated and reported as Levels of Service (LOS) as defined by the Highway Capacity Manual (HCM 6th Edition). HCM uses a grading system from A through F, where A is best (little to no delay) and F is worst (very heavy delay). HCM level of service (LOS) standards and Synchro® output reports are included in Appendix C.

D.1. 2021 Existing Capacity Analysis

The results of the 2021 existing conditions capacity analysis are shown in Table 2 and include analysis of the volumes presented in Figure 3.

Table 2: 2021 Existing Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	Dwy 1/Otello Rd & Norman Rd	Stop-Control	NB	8.5	A	9.8	A
			SB	9.6	A	9.6	A
			EBL	7.4	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	11.1	B	17.6	C
			NBL	8	A	8.7	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	10.9	B	14.8	B
			NBL	7.9	A	8.9	A
5	Rays Rd & Memorial Dr	Signal	EB	24.9	C	29.4	C
			WB	27.9	C	29.7	C
			NB	16.9	B	24.5	C
			SB	23.5	C	33.9	C
			Overall	**25.6**	**C**	**30.1**	**C**

The study assumes adequate operations as LOS D or better. As shown in Table 2, the overall traffic operations at the study intersection are satisfactory in existing conditions.

D.2. 2021 Baseline Capacity Analysis

The results of the 2021 baseline conditions capacity analysis are shown in Table 3 and include analysis of the volumes presented in Figure 4.

Table 3: 2021 Baseline Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	Dwy 1/Otello Rd & Norman Rd	Stop-Control	NB	8.6	A	9.8	A
			SB	10.2	B	9.6	A
			EBL	7.5	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	13.0	B	18.9	C
			NBL	8.4	A	8.9	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	12.5	B	15.4	C
			NBL	8.2	A	9.0	A
5	Rays Rd & Memorial Dr	Signal	EB	24.9	C	30.2	C
			WB	27.8	C	30.6	C
			NB	22.5	C	25.7	C
			SB	32.5	C	35.6	D
			Overall	**27.2**	**C**	**31.1**	**C**

The study assumes adequate operations as LOS D or better. As shown in Table 3, the overall traffic operations at the study intersection are satisfactory in baseline conditions.

D.3. 2024 No-Build Capacity Analysis

The results of the No-Build capacity analysis are shown in Table 4 and include analysis of the volumes presented in Figure 5.

Table 4: 2024 No-Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	DWY 1/Otello Rd & Norman Rd	Stop-Control	NB	8.6	A	10.0	B
			SB	10.5	B	9.8	A
			EBL	7.5	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	14.1	B	23.0	C
			NBL	8.5	A	9.1	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	13.2	B	16.7	C
			NBL	8.4	A	9.3	A
5	Rays Rd & Memorial Dr	Signal	EB	25.8	C	30.9	C
			WB	29.7	C	31.4	C
			NB	24.6	C	28.9	C
			SB	36.5	D	40.7	D
			Overall	**29.1**	**C**	**32.7**	**C**

As shown in Table 4, under No-Build conditions with the calculated growth rate of 3.4% in the area, the intersections operate adequately at overall acceptable levels of services. The intersections do increase in delay (as expected with the growth rate) with all intersections operating at a level of service (LOS) D or better overall and at each approach.

D.4. 2024 Build Conditions Capacity Analysis

The results of the 2024 Build conditions intersection capacity analysis are shown in Table 5 for No-Build plus project volumes (Figure 8).

Table 5: 2024 Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	DWY 1/Otello Rd & Norman Rd	Stop-Control	NB	10.7	B	10.5	B
			SB	10.8	B	10.1	B
			EBL	7.6	A	7.5	A
			WBL	7.4	A	7.6	A
2	DWY 2 & Norman Rd	Stop-Control	NB	9.6	A	10.2	B
			WBL	7.4	A	7.7	A
3	Rays Rd & Norman Rd	Stop-Control	EB	14.9	B	26.6	D
			NBL	8.6	A	9.3	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	14.0	B	20.0	C
			NBL	8.5	A	9.6	A
5	Rays Rd & Memorial Dr	Signal	EB	26.9	C	32.6	C
			WB	31.0	C	33.6	C
			NB	24.7	C	28.8	C
			SB	37.8	D	40.8	D
			Overall	**30.4**	**C**	**34.3**	**C**

As shown in Table 5, the overall traffic from the additional project trips from the Spivey Lake Residential Development do not significantly affect the study network. With the added trips, the intersections do increase in delay (as expected), but do not change the overall levels of service experienced in No-Build conditions.

E. GDOT Turn Lane Evaluations

The need for turn lanes was evaluated for both driveways along Norman Road and the existing intersection of Rays Road and Spartan Lane using methodologies from the Georgia Department of Transportation (GDOT) Access Manual. The results of the evaluation are summarized in Table 6. From the evaluation, given the amount of expected traffic at Driveway 2, a right-turn deceleration lane is recommended.

Table 6: GDOT Turn Lane Evaluations

ID	Intersection	Movement/ Turn Lane	GDOT Criteria met?
1	Driveway 1 / Otello Rd & Norman Rd	WBL	NO
		EBR	NO
2	Driveway 2 & Norman Rd	WBL	NO
		EBR	YES
4	Rays Rd & Spartan Ln	NBL	NO
		SBR	NO

F. Conclusions

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The proposed development will generate a daily total of 1,844 trips with 121 trips (28 entering and 93 exiting) during the AM peak hour, and 147 trips (92 entering and 55 exiting) during the PM peak hour. The following are conclusions from the study:

- Traffic operations at the study intersections are satisfactory (LOS D or better) in existing and baseline conditions.
- The conditions are expected to increase in delay as evidenced in the No-Build scenario due to the anticipated growth in the study area. Even with anticipated growth, the intersections are expected to operate at a level of service (LOS) D or better overall and at each approach.
- The addition of project traffic is expected to have little impact on the traffic operations at the study intersections. No improvements are recommended because the impact is minimal.
- Based on GDOT criteria, the eastern site driveway (Driveway 2) for the development warrants a right-turn deceleration lane. However, the installation of the turn lane is at the discretion of DeKalb County.

Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.

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APPENDIX A:

CONCEPT PLAN



UNIT TYPE	TOTAL
SINGLE-FAMILY HOME	40
TWO-FAMILY HOME	138
TOWNHOUSE	52
TOTAL	**230**

230 UNITS / 34.88 AC = 6.59 UNITS / AC

PARKING	TOTAL
90° SPACE	213
PARALLEL SPACE	108
GARAGE SPACE	54
TOTAL	**375**

375 TOTAL PARKING SPACES
- 3 CLUBHOUSE SPACES
-10 COMMUNITY GARDEN SPACES
= **362 RESIDENTIAL PARKING SPACES**

362 SPACES / 230 UNITS = **1.57 PARKING RATIO**

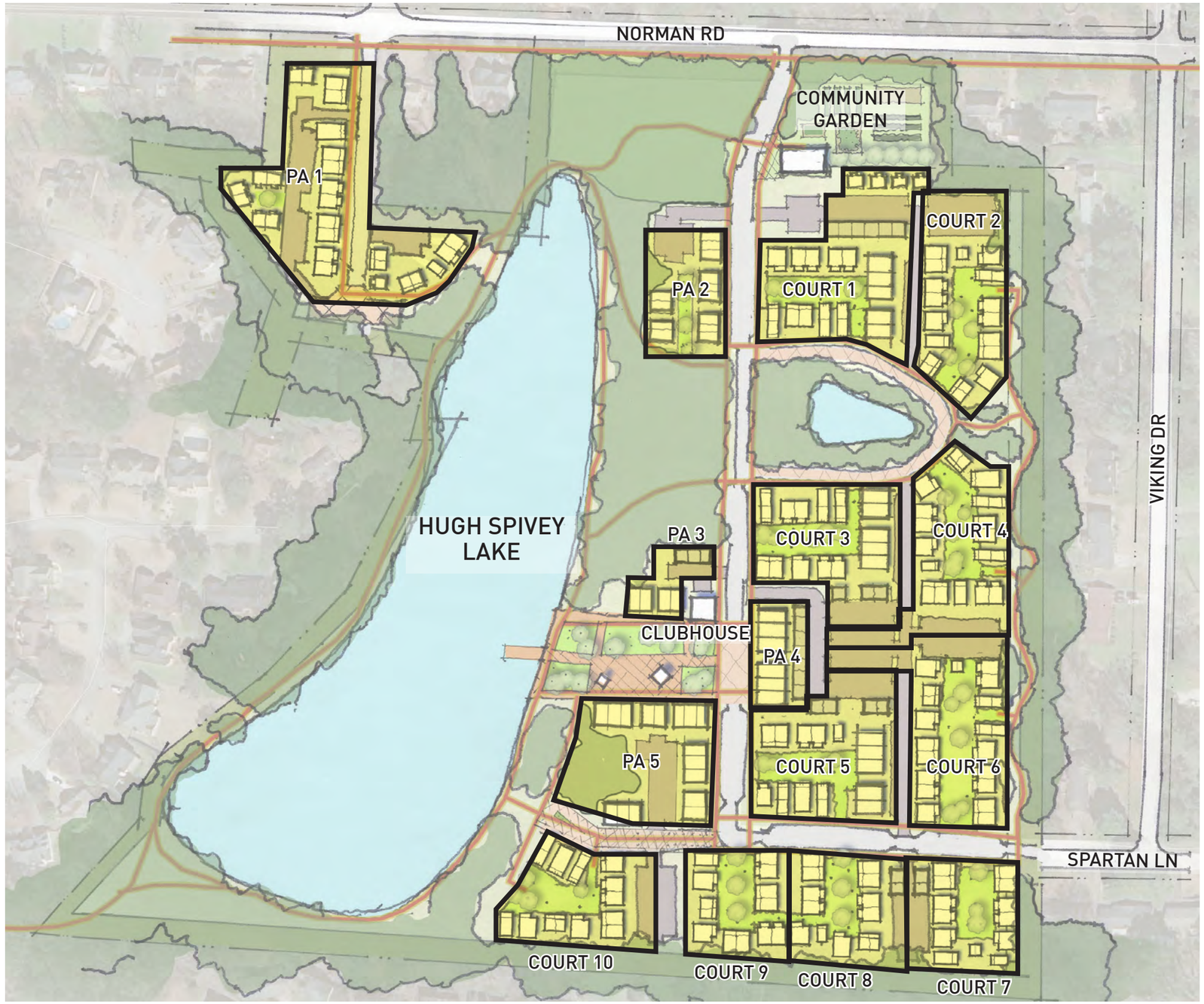
COTTAGE COURT COURTYARD
TRAIL
BUILDING

100 0 100 200 400 Feet

KRONBERG URBANISTS ARCHITECTS

SITE STUDY ILLUSTRATIVE PLAN

HUGH SPIVEY LAKE



RESIDENTIAL PROGRAM

BLOCK	SINGLE-FAMILY / TWO-FAMILY	ADU	TOWN-HOUSE	TOTAL	OFF-STREET PARKING
PA-1	11	16	-	27	26
PA-2	-	-	11	11	12
PA-3	-	-	4	4	6
PA-4	-	-	6	6	14
PA-5	-	-	16	16	17
COURT 1	7	10	5	22	31
COURT 2	12	6	-	18	22
COURT 3	7	6	5	18	23
COURT 4	12	7	-	19	24
COURT 5	6	5	5	16	26
COURT 6	14	6	-	20	24
COURT 7	11	1	-	12	11
COURT 8	10	3	-	13	11
COURT 9	11	2	-	13	13
COURT 10	9	6	-	15	13
TOTAL	**110**	**68**	**52**	**230**	**273**

230 UNITS / 34.88 AC = 6.59 UNITS / AC

1-STORY UNITS: APP. 10% (24 UNITS)
2-STORY UNITS: APP 90% (206 UNITS)

COMMUNITY GARDEN	TOTAL
AREA	0.64 AC
PARKING	10 SPACES

CLUBHOUSE	TOTAL
SF	1,400 SF
PARKING	3 SPACES

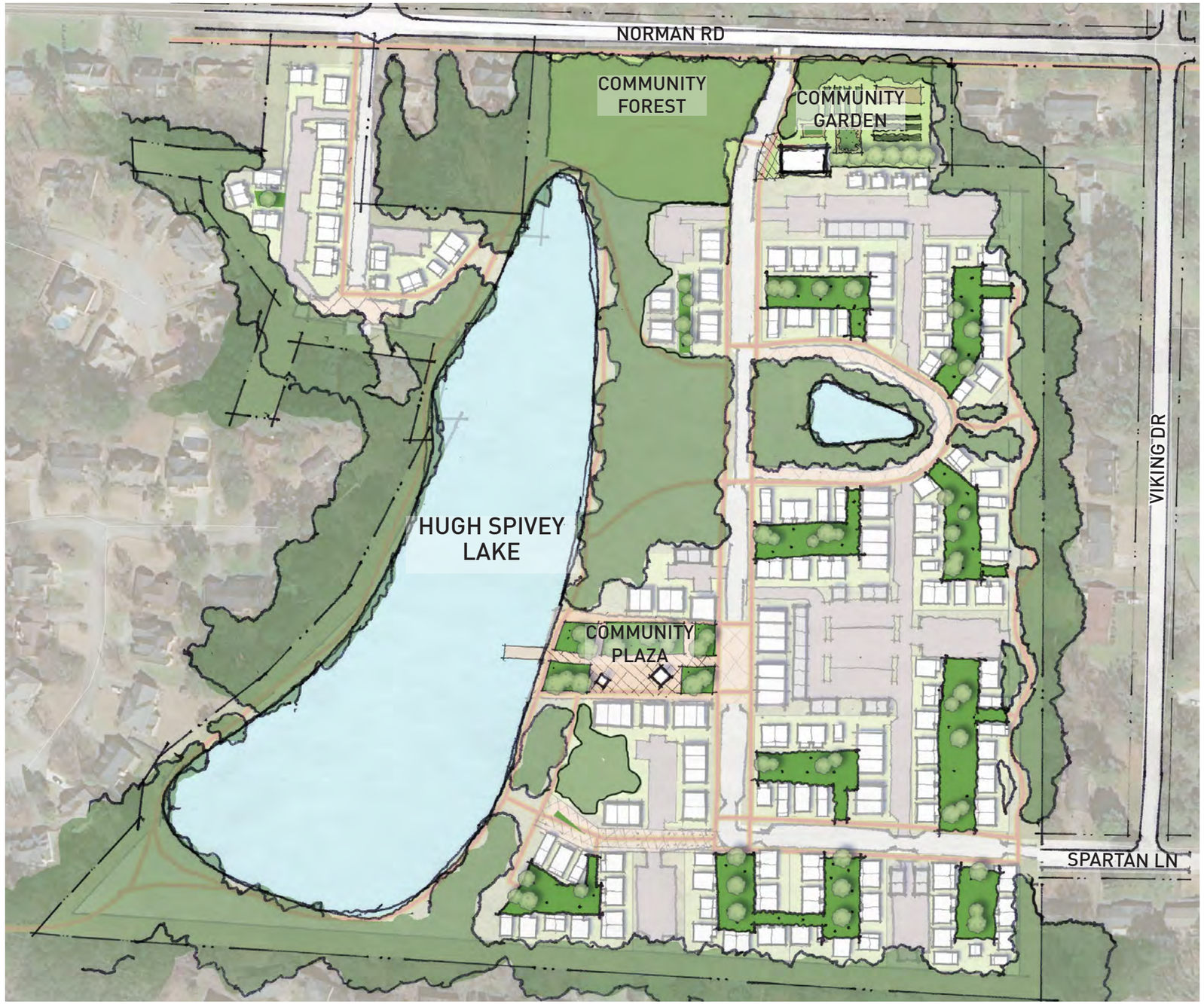
ON-STREET PARKING	TOTAL
PARALLEL SPACE	89

100 0 100 200 400 Feet

SITE STUDY CAPACITY DIAGRAM

HUGH SPIVEY LAKE

KRONBERG URBANISTS ARCHITECTS



UNDEVELOPED LAND	TOTAL (AC)
TOTAL SITE AREA	34.88
TOTAL UNDEVELOPED AREA	18.00

18.00 AC UNDEVELOPED / 34.88 AC TOTAL = 51.6% OF LAND UNTOUCHED

AREA OF COMMUNITY AMENITIES	TOTAL (AC)
COMMUNITY GARDEN	0.64
COMMUNITY FOREST	1.21
COMMUNITY PLAZA	0.65
COTTAGE COURT COURTYARDS	2.03
HUGH SPIVEY LAKE	7.00 AC
TOTAL	**11.53 AC**

TRAILS	TOTAL MILES
LINEAR DISTANCE OF TRAILS	2.1

COTTAGE COURT COURTYARD
TRAIL
BUILDING

100 0 100 200 400 Feet

SITE STUDY GREEN SPACE DIAGRAM

HUGH SPIVEY LAKE

KRONBERG URBANISTS ARCHITECTS

APPENDIX B:

TRAFFIC COUNTS,

GROWTH RATE &

ADJUSTMENT FACTOR

WORKSHEETS

Project ID: 21-180077-001
Location: Otello Ave & Norman Rd
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Otello Ave Northbound						Otello Ave Southbound						Norman Rd Eastbound						Norman Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	8	0	10	0	0	18	7	6	1	0	0	14	0	7	10	0	0	17	49
7:15 AM	0	0	0	0	0	0	8	0	23	0	0	31	3	7	0	0	0	10	0	17	5	0	0	22	63
7:30 AM	0	0	1	0	2	1	6	0	11	0	0	17	6	12	0	0	2	18	0	15	1	0	0	16	52
7:45 AM	0	0	0	0	3	0	0	0	8	0	0	8	3	10	0	0	2	13	0	12	1	0	0	13	34
Total	0	0	1	0	5	1	22	0	52	0	0	74	19	35	1	0	4	55	0	51	17	0	0	68	198
8:00 AM	0	0	0	0	1	0	4	0	4	0	0	8	6	8	0	0	0	14	0	18	2	0	0	20	42
8:15 AM	0	1	0	0	1	1	4	0	5	0	0	9	2	4	1	0	1	7	0	18	0	0	0	18	35
8:30 AM	0	0	0	0	1	0	3	0	2	0	1	5	0	12	0	0	1	12	0	14	3	0	1	17	34
8:45 AM	0	0	0	0	1	0	1	0	2	0	0	3	5	10	0	0	0	15	1	15	3	0	0	19	37
Total	0	1	0	0	4	1	12	0	13	0	1	25	13	34	1	0	2	48	1	65	8	0	1	74	148
BREAK																									
4:00 PM	0	0	0	0	1	0	3	0	2	0	0	5	1	25	0	0	2	26	0	18	1	0	0	19	50
4:15 PM	0	0	0	0	0	0	6	0	2	0	0	8	5	22	0	0	2	27	1	15	1	0	0	17	52
4:30 PM	0	0	0	0	0	0	6	0	1	0	0	7	3	25	0	0	0	28	0	13	2	0	0	15	50
4:45 PM	0	0	0	0	0	0	7	0	0	0	0	7	3	22	0	0	1	25	1	15	0	0	0	16	48
Total	0	0	0	0	1	0	22	0	5	0	0	27	12	94	0	0	5	106	2	61	4	0	0	67	200
5:00 PM	0	0	0	0	1	0	3	0	2	0	0	5	5	28	0	0	0	33	0	12	1	0	0	13	51
5:15 PM	0	0	0	0	4	0	2	1	4	0	0	7	3	30	0	0	2	33	0	20	5	0	2	25	65
5:30 PM	0	0	1	0	0	1	1	0	3	0	0	4	3	37	0	0	2	40	0	19	0	0	0	19	64
5:45 PM	0	1	0	0	0	1	5	0	2	0	0	7	1	32	0	0	0	33	0	13	2	0	0	15	56
Total	0	1	1	0	5	2	11	1	11	0	0	23	12	127	0	0	4	139	0	64	8	0	2	72	236
Grand Total	0	2	2	0	15	4	67	1	81	0	1	149	56	290	2	0	15	348	3	241	37	0	3	281	782
Apprch %	0.0	50.0	50.0	0.0	375.0		45.0	0.7	54.4	0.0	0.7		16.1	83.3	0.6	0.0	4.3		1.1	85.8	13.2	0.0	1.1		
Total %	0.0	0.3	0.3	0.0	1.9	0.5	8.6	0.1	10.4	0.0	0.1	19.1	7.2	37.1	0.3	0.0	1.9	44.5	0.4	30.8	4.7	0.0	0.4	35.9	
Cars, PU, Vans	0	2	2	0		4	58	1	73	0		132	55	286	2	0		343	3	229	36	0		268	747
% Cars, PU, Vans	0.0	100.0	100.0	0.0		100.0	86.6	100.0	90.1	0.0		88.6	98.2	98.6	100.0	0.0		98.6	100.0	95.0	97.3	0.0		95.4	95.5
Heavy trucks	0	0	0	0		0	9	0	8	0		17	1	4	0	0		5	0	12	1	0		13	35
%Heavy trucks	0.0	0.0	0.0	0.0		0.0	13.4	0.0	9.9	0.0		11.4	1.8	1.4	0.0	0.0		1.4	0.0	5.0	2.7	0.0		4.6	4.5

Project ID: 21-180077-001
Location: Otello Ave & Norman Rd
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Otello Ave Northbound					Otello Ave Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	0	0	0	0	0	8	0	10	0	18	7	6	1	0	14	0	7	10	0	17	49
7:15 AM	0	0	0	0	0	8	0	23	0	31	3	7	0	0	10	0	17	5	0	22	63
7:30 AM	0	0	1	0	1	6	0	11	0	17	6	12	0	0	18	0	15	1	0	16	52
7:45 AM	0	0	0	0	0	0	0	8	0	8	3	10	0	0	13	0	12	1	0	13	34
Total Volume	0	0	1	0	1	22	0	52	0	74	19	35	1	0	55	0	51	17	0	68	198
% App. Total	0.0	0.0	100.0	0.0	100	29.7	0.0	70.3	0.0	100	34.5	63.6	1.8	0.0	100	0.0	75.0	25.0	0.0	100	
PHF					0.250					0.597					0.764					0.773	0.786
Cars, PU, Vans	0	0	1	0	1	17	0	45	0	62	19	32	1	0	52	0	45	16	0	61	176
% Cars, PU, Vans	0.0	0.0	100.0	0.0	100.0	77.3	0.0	86.5	0.0	83.8	100.0	91.4	100.0	0.0	94.5	0.0	88.2	94.1	0.0	89.7	88.9
Heavy trucks	0	0	0	0	0	5	0	7	0	12	0	3	0	0	3	0	6	1	0	7	22
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	22.7	0.0	13.5	0.0	16.2	0.0	8.6	0.0	0.0	5.5	0.0	11.8	5.9	0.0	10.3	11.1

PM

	Otello Ave Northbound					Otello Ave Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	0	0	0	0	0	3	0	2	0	5	5	28	0	0	33	0	12	1	0	13	51
5:15 PM	0	0	0	0	0	2	1	4	0	7	3	30	0	0	33	0	20	5	0	25	65
5:30 PM	0	0	1	0	1	1	0	3	0	4	3	37	0	0	40	0	19	0	0	19	64
5:45 PM	0	1	0	0	1	5	0	2	0	7	1	32	0	0	33	0	13	2	0	15	56
Total Volume	0	1	1	0	2	11	1	11	0	23	12	127	0	0	139	0	64	8	0	72	236
% App. Total	0.0	50.0	50.0	0.0	100	47.8	4.3	47.8	0.0	100	8.6	91.4	0.0	0.0	100	0.0	88.9	11.1	0.0	100	
PHF					0.500					0.821					0.869					0.720	0.908
Cars, PU, Vans	0	1	1	0	2	11	1	11	0	23	11	126	0	0	137	0	62	8	0	70	232
% Cars, PU, Vans	0.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	91.7	99.2	0.0	0.0	98.6	0.0	96.9	100.0	0.0	97.2	98.3
Heavy trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	0	0	2	4
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.8	0.0	0.0	1.4	0.0	3.1	0.0	0.0	2.8	1.7

Project ID: 21-180077-002
Location: Rays Rd & Norman Rd
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Norman Rd Eastbound						Norman Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	18	23	0	0	0	41	0	34	3	0	0	37	0	0	7	0	0	7	0	0	0	0	0	0	85
7:15 AM	13	44	0	0	0	57	0	42	5	0	0	47	5	0	9	0	0	14	0	0	0	0	0	0	118
7:30 AM	14	40	0	0	0	54	0	40	1	0	0	41	9	0	10	0	0	19	0	0	0	0	0	0	114
7:45 AM	12	37	0	0	0	49	0	45	4	0	0	49	5	0	9	0	0	14	0	0	0	0	0	0	112
Total	57	144	0	0	0	201	0	161	13	0	0	174	19	0	35	0	0	54	0	0	0	0	0	0	429
8:00 AM	11	39	0	0	0	50	0	61	6	0	0	67	3	0	8	0	0	11	0	0	0	0	0	0	128
8:15 AM	12	31	0	0	0	43	0	49	5	0	0	54	2	0	8	0	0	10	0	0	0	0	0	0	107
8:30 AM	10	48	0	0	0	58	0	63	6	0	0	69	1	0	7	0	0	8	0	0	0	0	0	0	135
8:45 AM	15	43	0	0	0	58	0	70	3	0	0	73	5	0	10	0	0	15	0	0	0	0	0	0	146
Total	48	161	0	0	0	209	0	243	20	0	0	263	11	0	33	0	0	44	0	0	0	0	0	0	516
BREAK																									
4:00 PM	10	69	0	0	0	79	0	110	2	0	0	112	5	0	22	0	0	27	0	0	0	0	0	0	218
4:15 PM	13	78	0	0	1	91	0	114	9	0	0	123	5	0	16	0	0	21	0	0	0	0	0	0	235
4:30 PM	10	73	0	0	0	83	0	143	6	0	0	149	11	0	21	0	0	32	0	0	0	0	0	0	264
4:45 PM	11	57	0	0	0	68	0	115	1	0	0	116	7	0	18	0	0	25	0	0	0	0	0	0	209
Total	44	277	0	0	1	321	0	482	18	0	0	500	28	0	77	0	0	105	0	0	0	0	0	0	926
5:00 PM	13	75	0	0	0	88	0	101	3	0	0	104	6	0	27	0	0	33	0	0	0	0	0	0	225
5:15 PM	15	63	0	0	0	78	0	143	12	0	0	155	6	0	20	0	0	26	0	0	0	0	0	0	259
5:30 PM	15	78	0	0	0	93	0	135	4	0	0	139	12	0	26	0	0	38	0	0	0	0	0	0	270
5:45 PM	14	77	0	0	0	91	0	102	2	0	0	104	7	0	34	0	0	41	0	0	0	0	0	0	236
Total	57	293	0	0	0	350	0	481	21	0	0	502	31	0	107	0	0	138	0	0	0	0	0	0	990
Grand Total	206	875	0	0	1	1081	0	1367	72	0	0	1439	89	0	252	0	0	341	0	0	0	0	0	0	2861
Apprch %	19.1	80.9	0.0	0.0	0.1		0.0	95.0	5.0	0.0	0.0		26.1	0.0	73.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	7.2	30.6	0.0	0.0	0.0	37.8	0.0	47.8	2.5	0.0	0.0	50.3	3.1	0.0	8.8	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	202	849	0	0		1051	0	1334	68	0		1402	85	0	242	0		327	0	0	0	0		0	2780
% Cars, PU, Vans	98.1	97.0	0.0	0.0		97.2	0.0	97.6	94.4	0.0		97.4	95.5	0.0	96.0	0.0		95.9	0.0	0.0	0.0	0.0		0.0	97.2
Heavy trucks	4	26	0	0		30	0	33	4	0		37	4	0	10	0		14	0	0	0	0		0	81
%Heavy trucks	1.9	3.0	0.0	0.0		2.8	0.0	2.4	5.6	0.0		2.6	4.5	0.0	4.0	0.0		4.1	0.0	0.0	0.0	0.0		0.0	2.8

Project ID: 21-180077-002
Location: Rays Rd & Norman Rd
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
8:00 AM	11	39	0	0	50	0	61	6	0	67	3	0	8	0	11	0	0	0	0	0	128
8:15 AM	12	31	0	0	43	0	49	5	0	54	2	0	8	0	10	0	0	0	0	0	107
8:30 AM	10	48	0	0	58	0	63	6	0	69	1	0	7	0	8	0	0	0	0	0	135
8:45 AM	15	43	0	0	58	0	70	3	0	73	5	0	10	0	15	0	0	0	0	0	146
Total Volume	48	161	0	0	209	0	243	20	0	263	11	0	33	0	44	0	0	0	0	0	516
% App. Total	23.0	77.0	0.0	0.0	100	0.0	92.4	7.6	0.0	100	25.0	0.0	75.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.901					0.901					0.733						0.884
Cars, PU, Vans	48	152	0	0	200	0	223	20	0	243	11	0	32	0	43	0	0	0	0	0	486
% Cars, PU, Vans	100.0	94.4	0.0	0.0	95.7	0.0	91.8	100.0	0.0	92.4	100.0	0.0	97.0	0.0	97.7	0.0	0.0	0.0	0.0	0.0	94.2
Heavy trucks	0	9	0	0	9	0	20	0	0	20	0	0	1	0	1	0	0	0	0	0	30
%Heavy trucks	0.0	5.6	0.0	0.0	4.3	0.0	8.2	0.0	0.0	7.6	0.0	0.0	3.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	5.8

PM

	Rays Rd Northbound					Rays Rd Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	13	75	0	0	88	0	101	3	0	104	6	0	27	0	33	0	0	0	0	0	225
5:15 PM	15	63	0	0	78	0	143	12	0	155	6	0	20	0	26	0	0	0	0	0	259
5:30 PM	15	78	0	0	93	0	135	4	0	139	12	0	26	0	38	0	0	0	0	0	270
5:45 PM	14	77	0	0	91	0	102	2	0	104	7	0	34	0	41	0	0	0	0	0	236
Total Volume	57	293	0	0	350	0	481	21	0	502	31	0	107	0	138	0	0	0	0	0	990
% App. Total	16.3	83.7	0.0	0.0	100	0.0	95.8	4.2	0.0	100	22.5	0.0	77.5	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.941					0.810					0.841						0.917
Cars, PU, Vans	56	291	0	0	347	0	477	20	0	497	31	0	105	0	136	0	0	0	0	0	980
% Cars, PU, Vans	98.2	99.3	0.0	0.0	99.1	0.0	99.2	95.2	0.0	99.0	100.0	0.0	98.1	0.0	98.6	0.0	0.0	0.0	0.0	0.0	99.0
Heavy trucks	1	2	0	0	3	0	4	1	0	5	0	0	2	0	2	0	0	0	0	0	10
%Heavy trucks	1.8	0.7	0.0	0.0	0.9	0.0	0.8	4.8	0.0	1.0	0.0	0.0	1.9	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.0

Project ID: 21-180077-003
Location: Rays Rd & Spartan Ln
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Spartan Ln Eastbound						Spartan Ln Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	1	36	0	0	0	37	0	46	0	0	0	46	0	0	0	0	0	0	0	0	0	0	1	0	83
7:15 AM	2	59	0	0	0	61	0	48	0	0	0	48	0	0	1	0	0	1	0	0	0	0	0	0	110
7:30 AM	0	46	0	1	0	47	0	58	0	0	0	58	0	0	1	0	0	1	0	0	0	0	0	0	106
7:45 AM	0	48	0	0	0	48	0	51	0	0	0	51	0	0	2	0	0	2	0	0	0	0	2	0	101
Total	3	189	0	1	0	193	0	203	0	0	0	203	0	0	4	0	0	4	0	0	0	0	3	0	400
8:00 AM	0	45	0	0	0	45	0	71	0	0	0	71	0	0	1	0	0	1	0	0	0	0	0	0	117
8:15 AM	0	41	1	0	0	42	0	60	1	0	0	61	0	0	1	0	0	1	0	0	0	0	0	0	104
8:30 AM	0	58	0	0	0	58	0	76	0	0	0	76	0	0	1	0	0	1	0	0	0	0	0	0	135
8:45 AM	1	51	0	0	0	52	0	78	0	0	0	78	2	0	0	0	1	2	0	0	0	0	0	0	132
Total	1	195	1	0	0	197	0	285	1	0	0	286	2	0	3	0	1	5	0	0	0	0	0	0	488
BREAK																									
4:00 PM	1	88	0	0	0	89	0	132	1	0	0	133	0	0	0	0	0	0	0	0	0	0	1	0	222
4:15 PM	1	89	0	0	0	90	0	129	1	0	0	130	1	0	2	0	1	3	0	0	0	0	0	0	223
4:30 PM	1	86	0	0	0	87	0	166	0	0	0	166	0	0	1	0	1	1	0	0	0	0	1	0	254
4:45 PM	2	74	0	0	0	76	0	133	0	0	0	133	0	0	4	0	0	4	0	0	0	0	2	0	213
Total	5	337	0	0	0	342	0	560	2	0	0	562	1	0	7	0	2	8	0	0	0	0	4	0	912
5:00 PM	2	84	0	0	0	86	0	123	0	0	0	123	1	0	2	0	0	3	0	0	0	0	0	0	212
5:15 PM	4	86	0	0	0	90	0	169	2	0	0	171	2	0	2	0	0	4	0	0	0	0	0	0	265
5:30 PM	2	98	0	0	0	100	0	157	0	0	0	157	0	0	1	0	0	1	0	0	0	0	0	0	258
5:45 PM	0	78	0	0	0	78	0	125	0	0	0	125	0	0	1	0	0	1	0	0	0	0	0	0	204
Total	8	346	0	0	0	354	0	574	2	0	0	576	3	0	6	0	0	9	0	0	0	0	0	0	939
Grand Total	17	1067	1	1	0	1086	0	1622	5	0	0	1627	6	0	20	0	3	26	0	0	0	0	7	0	2739
Apprch %	1.6	98.3	0.1	0.1	0.0		0.0	99.7	0.3	0.0	0.0		23.1	0.0	76.9	0.0	11.5		0.0	0.0	0.0	0.0	0.0		
Total %	0.6	39.0	0.0	0.0	0.0	39.6	0.0	59.2	0.2	0.0	0.0	59.4	0.2	0.0	0.7	0.0	0.1	0.9	0.0	0.0	0.0	0.0	0.3	0.0	
Cars, PU, Vans	16	1034	1	0		1051	0	1579	5	0		1584	6	0	19	0		25	0	0	0	0		0	2660
% Cars, PU, Vans	94.1	96.9	100.0	0.0		96.8	0.0	97.3	100.0	0.0		97.4	100.0	0.0	95.0	0.0		96.2	0.0	0.0	0.0	0.0		0.0	97.1
Heavy trucks	1	33	0	1		35	0	43	0	0		43	0	0	1	0		1	0	0	0	0		0	79
%Heavy trucks	5.9	3.1	0.0	100.0		3.2	0.0	2.7	0.0	0.0		2.6	0.0	0.0	5.0	0.0		3.8	0.0	0.0	0.0	0.0		0.0	2.9

Project ID: 21-180077-003
Location: Rays Rd & Spartan Ln
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Spartan Ln Eastbound					Spartan Ln Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
8:00 AM	0	45	0	0	45	0	71	0	0	71	0	0	1	0	1	0	0	0	0	0	117
8:15 AM	0	41	1	0	42	0	60	1	0	61	0	0	1	0	1	0	0	0	0	0	104
8:30 AM	0	58	0	0	58	0	76	0	0	76	0	0	1	0	1	0	0	0	0	0	135
8:45 AM	1	51	0	0	52	0	78	0	0	78	2	0	0	0	2	0	0	0	0	0	132
Total Volume	1	195	1	0	197	0	285	1	0	286	2	0	3	0	5	0	0	0	0	0	488
% App. Total	0.5	99.0	0.5	0.0	100	0.0	99.7	0.3	0.0	100	40.0	0.0	60.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.849					0.917					0.625						0.904
Cars, PU, Vans	1	184	1	0	186	0	265	1	0	266	2	0	3	0	5	0	0	0	0	0	457
% Cars, PU, Vans	100.0	94.4	100.0	0.0	94.4	0.0	93.0	100.0	0.0	93.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	93.6
Heavy trucks	0	11	0	0	11	0	20	0	0	20	0	0	0	0	0	0	0	0	0	0	31
%Heavy trucks	0.0	5.6	0.0	0.0	5.6	0.0	7.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4

PM

	Rays Rd Northbound					Rays Rd Southbound					Spartan Ln Eastbound					Spartan Ln Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	2	74	0	0	76	0	133	0	0	133	0	0	4	0	4	0	0	0	0	0	213
5:00 PM	2	84	0	0	86	0	123	0	0	123	1	0	2	0	3	0	0	0	0	0	212
5:15 PM	4	86	0	0	90	0	169	2	0	171	2	0	2	0	4	0	0	0	0	0	265
5:30 PM	2	98	0	0	100	0	157	0	0	157	0	0	1	0	1	0	0	0	0	0	258
Total Volume	10	342	0	0	352	0	582	2	0	584	3	0	9	0	12	0	0	0	0	0	948
% App. Total	2.8	97.2	0.0	0.0	100	0.0	99.7	0.3	0.0	100	25.0	0.0	75.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.880					0.854					0.750						0.894
Cars, PU, Vans	10	338	0	0	348	0	577	2	0	579	3	0	9	0	12	0	0	0	0	0	939
% Cars, PU, Vans	100.0	98.8	0.0	0.0	98.9	0.0	99.1	100.0	0.0	99.1	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	99.1
Heavy trucks	0	4	0	0	4	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	9
%Heavy trucks	0.0	1.2	0.0	0.0	1.1	0.0	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9

Project ID: 21-180077-004
Location: Rays Rd & Memorial Dr/SR 10
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Memorial Dr/SR 10 Eastbound						Memorial Dr/SR 10 Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	2	8	2	0	0	12	3	3	39	1	0	46	14	96	3	0	0	113	2	199	13	0	0	214	385
7:15 AM	3	12	2	0	0	17	6	6	41	0	0	53	21	96	3	0	0	120	0	204	20	0	0	224	414
7:30 AM	4	14	4	0	0	22	16	14	38	0	1	68	18	116	2	2	0	138	1	191	12	1	0	205	433
7:45 AM	9	15	2	0	1	26	10	6	35	0	0	51	21	148	9	0	0	178	0	229	11	0	0	240	495
Total	18	49	10	0	1	77	35	29	153	1	1	218	74	456	17	2	0	549	3	823	56	1	0	883	1727
8:00 AM	12	13	3	0	0	28	14	11	53	0	1	78	19	131	8	2	0	160	5	215	13	1	0	234	500
8:15 AM	8	17	4	0	0	29	15	7	41	0	1	63	17	132	8	3	0	160	1	200	15	3	0	219	471
8:30 AM	7	23	4	0	1	34	8	12	51	0	0	71	17	112	5	1	0	135	4	203	19	6	0	232	472
8:45 AM	17	19	3	0	0	39	13	12	56	0	0	81	27	122	4	0	1	153	2	183	15	3	0	203	476
Total	44	72	14	0	1	130	50	42	201	0	2	293	80	497	25	6	1	608	12	801	62	13	0	888	1919
BREAK																									
4:00 PM	18	17	13	0	1	48	50	43	76	0	0	169	59	269	21	1	0	350	5	254	28	8	0	295	862
4:15 PM	20	14	6	0	0	40	40	28	71	0	0	139	55	275	14	4	0	348	10	248	36	6	0	300	827
4:30 PM	13	18	6	0	2	37	39	48	68	0	0	155	46	297	16	4	0	363	12	276	21	10	1	319	874
4:45 PM	7	17	10	0	0	34	48	41	66	0	1	155	33	253	17	4	0	307	8	243	26	5	1	282	778
Total	58	66	35	0	3	159	177	160	281	0	1	618	193	1094	68	13	0	1368	35	1021	111	29	2	1196	3341
5:00 PM	15	20	6	0	0	41	30	31	65	0	1	126	42	304	14	2	0	362	6	280	29	3	0	318	847
5:15 PM	14	17	12	0	1	43	41	48	74	0	0	163	43	327	18	3	0	391	9	266	32	3	0	310	907
5:30 PM	16	26	11	0	1	53	51	45	88	0	0	184	48	327	10	3	0	388	12	259	30	3	0	304	929
5:45 PM	11	13	9	0	2	33	38	43	58	0	0	139	44	296	25	1	0	366	9	253	30	4	1	296	834
Total	56	76	38	0	4	170	160	167	285	0	1	612	177	1254	67	9	0	1507	36	1058	121	13	1	1228	3517
Grand Total	176	263	97	0	9	536	422	398	920	1	5	1741	524	3301	177	30	1	4032	86	3703	350	56	3	4195	10504
Apprch %	32.8	49.1	18.1	0.0	1.7		24.2	22.9	52.8	0.1	0.3		13.0	81.9	4.4	0.7	0.0		2.1	88.3	8.3	1.3	0.1		
Total %	1.7	2.5	0.9	0.0	0.1	5.1	4.0	3.8	8.8	0.0	0.0	16.6	5.0	31.4	1.7	0.3	0.0	38.4	0.8	35.3	3.3	0.5	0.0	39.9	
Cars, PU, Vans	172	261	97	0		530	404	395	897	1		1697	499	3186	170	30		3885	85	3567	336	55		4043	10155
% Cars, PU, Vans	97.7	99.2	100.0	0.0		98.9	95.7	99.2	97.5	100.0		97.5	95.2	96.5	96.0	100.0		96.4	98.8	96.3	96.0	98.2		96.4	96.7
Heavy trucks	4	2	0	0		6	18	3	23	0		44	25	115	7	0		147	1	136	14	1		152	349
%Heavy trucks	2.3	0.8	0.0	0.0		1.1	4.3	0.8	2.5	0.0		2.5	4.8	3.5	4.0	0.0		3.6	1.2	3.7	4.0	1.8		3.6	3.3

Project ID: 21-180077-004
Location: Rays Rd & Memorial Dr/SR 10
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Memorial Dr/SR 10 Eastbound					Memorial Dr/SR 10 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
7:45 AM	9	15	2	0	26	10	6	35	0	51	21	148	9	0	178	0	229	11	0	240	495
8:00 AM	12	13	3	0	28	14	11	53	0	78	19	131	8	2	160	5	215	13	1	234	500
8:15 AM	8	17	4	0	29	15	7	41	0	63	17	132	8	3	160	1	200	15	3	219	471
8:30 AM	7	23	4	0	34	8	12	51	0	71	17	112	5	1	135	4	203	19	6	232	472
Total Volume	36	68	13	0	117	47	36	180	0	263	74	523	30	6	633	10	847	58	10	925	1938
% App. Total	30.8	58.1	11.1	0.0	100	17.9	13.7	68.4	0.0	100	11.7	82.6	4.7	0.9	100	1.1	91.6	6.3	1.1	100	
PHF					0.860					0.843					0.889					0.964	0.969
Cars, PU, Vans	36	67	13	0	116	42	36	167	0	245	67	488	29	6	590	9	805	54	10	878	1829
% Cars, PU, Vans	100.0	98.5	100.0	0.0	99.1	89.4	100.0	92.8	0.0	93.2	90.5	93.3	96.7	100.0	93.2	90.0	95.0	93.1	100.0	94.9	94.4
Heavy trucks	0	1	0	0	1	5	0	13	0	18	7	35	1	0	43	1	42	4	0	47	109
%Heavy trucks	0.0	1.5	0.0	0.0	0.9	10.6	0.0	7.2	0.0	6.8	9.5	6.7	3.3	0.0	6.8	10.0	5.0	6.9	0.0	5.1	5.6

PM

	Rays Rd Northbound					Rays Rd Southbound					Memorial Dr/SR 10 Eastbound					Memorial Dr/SR 10 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	15	20	6	0	41	30	31	65	0	126	42	304	14	2	362	6	280	29	3	318	847
5:15 PM	14	17	12	0	43	41	48	74	0	163	43	327	18	3	391	9	266	32	3	310	907
5:30 PM	16	26	11	0	53	51	45	88	0	184	48	327	10	3	388	12	259	30	3	304	929
5:45 PM	11	13	9	0	33	38	43	58	0	139	44	296	25	1	366	9	253	30	4	296	834
Total Volume	56	76	38	0	170	160	167	285	0	612	177	1254	67	9	1507	36	1058	121	13	1228	3517
% App. Total	32.9	44.7	22.4	0.0	100	26.1	27.3	46.6	0.0	100	11.7	83.2	4.4	0.6	100	2.9	86.2	9.9	1.1	100	
PHF					0.802					0.832					0.964					0.965	0.946
Cars, PU, Vans	55	76	38	0	169	157	166	282	0	605	173	1227	66	9	1475	36	1040	120	13	1209	3458
% Cars, PU, Vans	98.2	100.0	100.0	0.0	99.4	98.1	99.4	98.9	0.0	98.9	97.7	97.8	98.5	100.0	97.9	100.0	98.3	99.2	100.0	98.5	98.3
Heavy trucks	1	0	0	0	1	3	1	3	0	7	4	27	1	0	32	0	18	1	0	19	59
%Heavy trucks	1.8	0.0	0.0	0.0	0.6	1.9	0.6	1.1	0.0	1.1	2.3	2.2	1.5	0.0	2.1	0.0	1.7	0.8	0.0	1.5	1.7

Prepared by National Data & Surveying Services

VOLUME

Norman Rd Bet. Otello Ave & Viking Dr

Day: Thursday
Date: 3/25/2021

City: Stone Mountain
Project #: GA21_180078_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,365	1,081	2,446

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			4		3		7		12:00			16		14		30	
00:15			4		2		6		12:15			17		19		36	
00:30			4		4		8		12:30			18		12		30	
00:45			5	17	0	9	5	26	12:45			22	73	9	54	31	127
01:00			6		2		8		13:00			22		16		38	
01:15			2		5		7		13:15			23		15		38	
01:30			3		3		6		13:30			22		22		44	
01:45			4	15	2	12	6	27	13:45			21	88	17	70	38	158
02:00			4		2		6		14:00			23		29		52	
02:15			1		2		3		14:15			22		22		44	
02:30			1		4		5		14:30			26		14		40	
02:45			4	10	2	10	6	20	14:45			32	103	15	80	47	183
03:00			1		0		1		15:00			40		14		54	
03:15			2		0		2		15:15			47		20		67	
03:30			1		0		1		15:30			42		20		62	
03:45			1	5	1	1	2	6	15:45			27	156	27	81	54	237
04:00			0		1		1		16:00			26		15		41	
04:15			0		1		1		16:15			29		20		49	
04:30			3		1		4		16:30			33		15		48	
04:45			1	4	1	4	2	8	16:45			29	117	12	62	41	179
05:00			2		1		3		17:00			32		17		49	
05:15			1		3		4		17:15			31		26		57	
05:30			6		2		8		17:30			41		16		57	
05:45			4	13	9	15	13	28	17:45			39	143	21	80	60	223
06:00			4		4		8		18:00			29		17		46	
06:15			9		11		20		18:15			31		17		48	
06:30			4		21		25		18:30			38		15		53	
06:45			5	22	29	65	34	87	18:45			21	119	19	68	40	187
07:00			7		21		28		19:00			22		11		33	
07:15			20		18		38		19:15			24		14		38	
07:30			18		21		39		19:30			20		7		27	
07:45			14	59	10	70	24	129	19:45			19	85	13	45	32	130
08:00			11		20		31		20:00			12		18		30	
08:15			12		16		28		20:15			10		12		22	
08:30			10		19		29		20:30			15		11		26	
08:45			13	46	18	73	31	119	20:45			10	47	11	52	21	99
09:00			14		15		29		21:00			8		4		12	
09:15			9		15		24		21:15			9		8		17	
09:30			13		10		23		21:30			15		14		29	
09:45			8	44	17	57	25	101	21:45			6	38	6	32	12	70
10:00			9		8		17		22:00			11		6		17	
10:15			10		11		21		22:15			9		5		14	
10:30			14		13		27		22:30			9		10		19	
10:45			19	52	10	42	29	94	22:45			4	33	5	26	9	59
11:00			17		25		42		23:00			2		1		3	
11:15			12		7		19		23:15			3		1		4	
11:30			16		15		31		23:30			8		3		11	
11:45			13	58	15	62	28	120	23:45			5	18	6	11	11	29
TOTALS				345		420		765	TOTALS				1020		661		1681
SPLIT %				45.1%		54.9%		31.3%	SPLIT %				60.7%		39.3%		68.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,365	1,081	2,446

AM Peak Hour				10:45		06:30		06:45	PM Peak Hour				14:45		13:30		15:00
AM Pk Volume				64		89		139	PM Pk Volume				161		90		237
Pk Hr Factor				0.842		0.767		0.891	Pk Hr Factor				0.856		0.776		0.884
7 - 9 Volume	0	0		105		143		248	4 - 6 Volume	0	0		260		142		402
7 - 9 Peak Hour				07:15		08:00		07:15	4 - 6 Peak Hour				17:00		17:00		17:00
7 - 9 Pk Volume	0	0		63		73		132	4 - 6 Pk Volume	0	0		143		80		223
Pk Hr Factor	0.000	0.000		0.788		0.913		0.846	Pk Hr Factor	0.000	0.000		0.872		0.769		0.929

Growth Rate Calculations

Percentage Growth											
Roadway	**County**	**Traffic Count Station**	**2016 Traffic Volumes**	**2017 Traffic Volumes**	**2018 Traffic Volumes**	**2019 Traffic Volumes**	**2020 Traffic Volumes by Linear Regress.**	**2021 Traffic Volumes by Linear Regress.**	**2024 Traffic Volumes by Linear Regress.**	**Annual Growth 2020 to 2022**	**Annual Growth 2020 to 2025**
Rays Rd	DeKalb	089-3995	9,860	10,100	10,500	10,700	11,020	11,312	12,188	2.6%	2.6%
Memorial Dr	DeKalb	089-3049	33,200	35,100	35,000	40,800	41,700	43,970	50,780	5.4%	5.2%
E Ponce de Leon Ave	DeKalb	089-3743	18,700	19,800	18,800	19,000	19,050	19,040	19,010	-0.1%	-0.1%
Weighted Average			**61,760**	**65,000**	**64,300**	**70,500**	**71,770**	**74,322**	**81,978**	**3.6%**	**3.4%**

Adjustment Factor Calculations

2019

	Eastbound	Westbound	Northbound	Southbound	Total
8:00 AM	971	1014	117	196	2298
6:00 PM	1560	721	143	350	2774

2021

	Eastbound	Westbound	Northbound	Southbound	Total
8:00 AM	576	807	87	171	1641
6:00 PM	1050	1311	122	303	2786

	Eastbound	Westbound	Northbound	Southbound	Total
	2019/2021	2019/2021	2019/2021	2019/2021	AVG
8:00 AM	1.69	1.26	1.40	1.15	1.37
6:00 PM	1.49	0.55	1.00	1.16	1.05

AM	1.40
PM	1.05

ATSPM
Automated Traffic Signal Performance Measures

GDOT
Georgia Department of Transportation
(http://www.dot.ga.gov)

Signal

Signal Selection

Signal ID

7740 Select **SR 10 @ Rays Road**

Signal List

Signal Map

Region

--Select Region--

Metric Type

--Select a Metric--

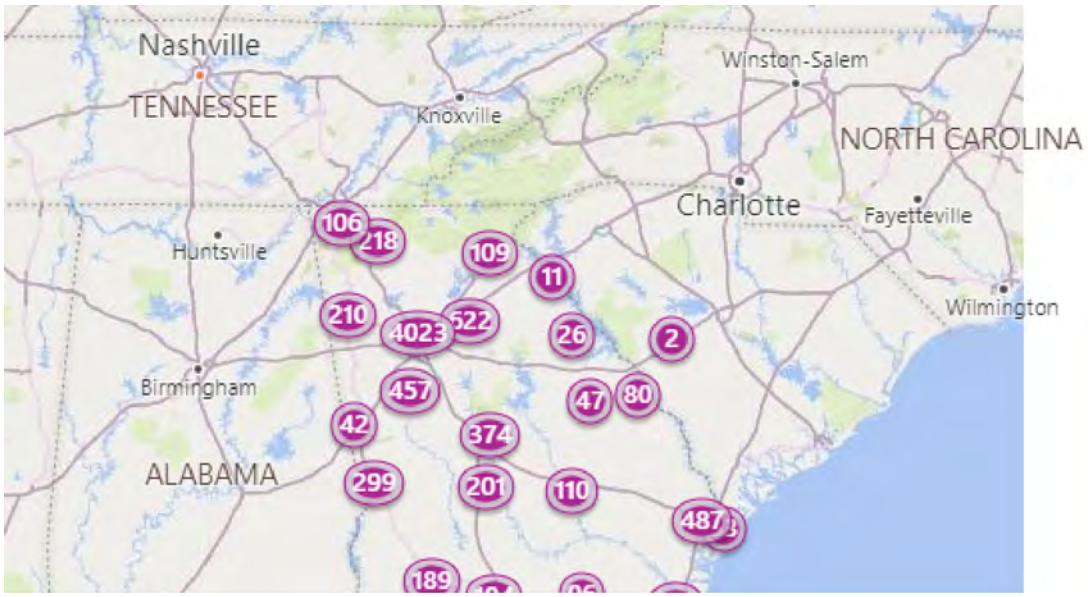


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Chart Selection

Metrics List

- Purdue Phase Termination
- Split Monitor
- Pedestrian Delay
- Preemption Details
- Turning Movement Counts
- Purdue Coordination Diagram
- Approach Volume
- Approach Delay
- Arrivals On Red
- Purdue Split Failure
- Left Turn Gap Analysis

Turning Movement Counts Options

Thru Movement Y-axis Max

1000

Turn Movement Y- axis Max

300

Volume Bin Size

60

- [x] **Show MovementType Volume**
- [x] **Show Total Volume**
- [x] **Show Data Table**

Date Selection

Start Date

03/20/2019 | 12:00 | AM

March 2019

Su	Mo	Tu	We	Th	Fr	Sa

Privacy - Terms

End Date

03/20/2019 | 11:59 | PM

Reset Date

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Create Chart

-	Vehicle														
	Eastbound			Westbound			Northbound				Southbound				
	L	T	Total	L	T	Total	L	T	TR	Total	L	T	R	Total	Vehicle Total
12:00 AM	35	292	327	3	116	119	4	7	4	15	23	20	34	77	538
1:00 AM	29	132	161	0	53	53	5	6	2	13	14	15	20	49	276
2:00 AM	23	111	134	3	53	56	6	7	3	16	9	8	17	34	240
3:00 AM	12	94	106	1	49	50	3	2	0	5	5	6	29	40	201
4:00 AM	8	92	100	3	78	81	5	12	5	22	10	10	37	57	260
5:00 AM	22	186	208	4	227	231	12	20	5	37	9	9	65	83	559
6:00 AM	52	434	486	6	710	716	27	32	16	75	17	27	91	135	1412
7:00 AM	53	839	892	10	1336	1346	55	80	32	167	25	45	160	230	2635
8:00 AM	37	934	971	23	991	1014	50	43	24	117	29	47	120	196	2298
9:00 AM	27	793	820	16	622	638	36	28	27	91	29	36	130	195	1744
10:00 AM	60	792	852	23	506	529	37	34	24	95	32	34	119	185	1661
11:00 AM	44	877	921	29	534	563	38	29	20	87	35	44	126	205	1776
12:00 PM	54	1061	1115	25	547	572	43	44	30	117	41	62	128	231	2035
1:00 PM	69	1164	1233	20	613	633	53	38	42	133	46	67	122	235	2234
2:00 PM	55	1304	1359	31	697	728	60	49	37	146	38	73	144	255	2488
3:00 PM	46	1341	1387	27	639	666	56	34	29	119	39	98	156	293	
4:00 PM	46	1601	1647	26	738	764	57	54	39	150	35	133	157	325	

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5:00 PM	46	1595	1641	25	721	746	51	48	36	135	45	144	176	365	2887
6:00 PM	43	1517	1560	29	692	721	67	43	33	143	36	124	190	350	2774
7:00 PM	34	979	1013	22	481	503	40	34	30	104	34	83	127	244	1864
8:00 PM	42	868	910	32	421	453	36	35	20	91	33	63	104	200	1654
9:00 PM	44	699	743	23	291	314	32	24	15	71	34	37	78	149	1277
10:00 PM	46	511	557	12	256	268	11	12	19	42	23	28	68	119	986
11:00 PM	37	410	447	16	171	187	11	17	13	41	25	26	67	118	793
Total	964	18626	19590	409	11542	11951	795	732	505	2032	666	1239	2465	4370	37943

Privacy - Terms

ATSPM
Automated Traffic Signal Performance Measures

GDOT
Georgia Department of Transportation
(http://www.dot.ga.gov)

Signal

Signal Selection

Signal ID

7740 Select **SR 10 @ Rays Road**

Signal List

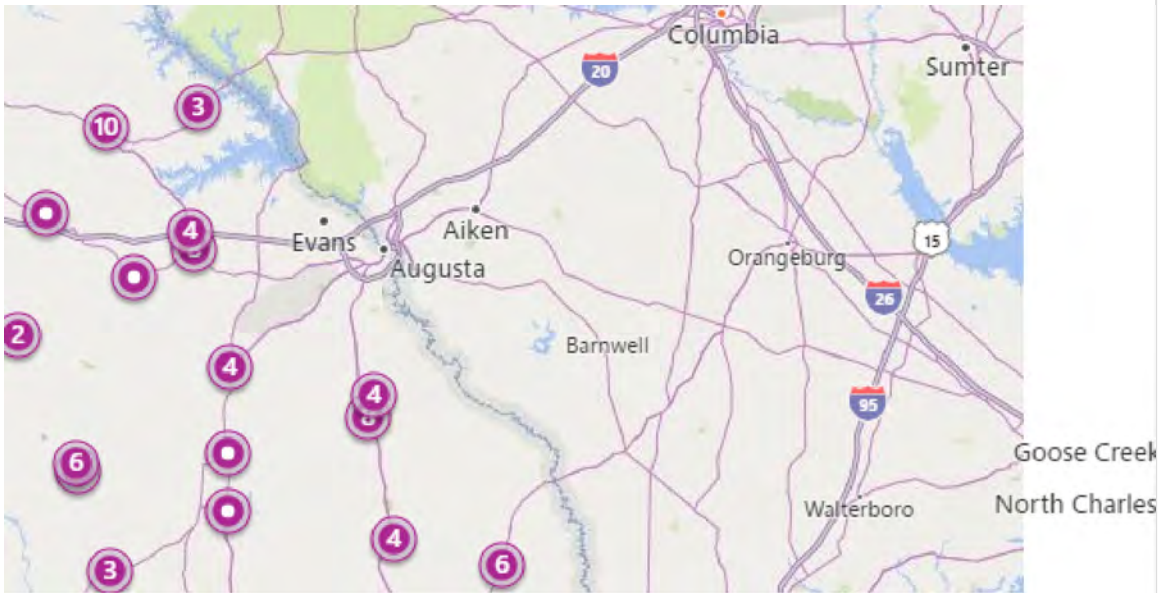
Signal Map

Region

--Select Region--

Metric Type

Turning Movement Counts



Privacy - Terms

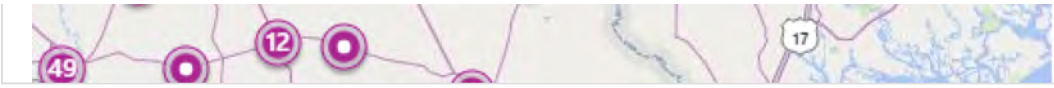


Chart Selection

Metrics List

- Purdue Phase Termination
- Split Monitor
- Pedestrian Delay
- Preemption Details
- Turning Movement Counts
- Purdue Coordination Diagram
- Approach Volume
- Approach Delay
- Arrivals On Red
- Purdue Split Failure
- Left Turn Gap Analysis

Turning Movement Counts Options

Thru Movement Y-axis Max

1000

Turn Movement Y- axis Max

300

Volume Bin Size

60

- [x] **Show MovementType Volume**
- [x] **Show Total Volume**
- [x] **Show Data Table**

Date Selection

Start Date

03/24/2021 12:00 AM

April 2021

Su	Mo	Tu	We	Th	Fr	Sa

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End Date

03/24/2021 | 11:59 | PM

Reset Date

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Create Chart

-	Vehicle														
	Eastbound			Westbound			Northbound				Southbound				
	L	T	Total	L	T	Total	L	T	TR	Total	L	T	R	Total	Vehicle Total
12:00 AM	36	272	308	5	236	241	10	6	8	24	22	18	25	65	638
1:00 AM	31	234	265	4	127	131	7	9	2	18	15	16	22	53	467
2:00 AM	18	182	200	1	102	103	7	4	2	13	11	8	14	33	349
3:00 AM	22	124	146	2	125	127	4	3	5	12	6	10	19	35	320
4:00 AM	18	126	144	4	104	108	9	8	4	21	11	6	32	49	322
5:00 AM	17	281	298	4	269	273	7	18	5	30	9	7	58	74	675
6:00 AM	22	201	223	3	425	428	11	19	10	40	20	16	63	99	790
7:00 AM	13	220	233	5	521	526	15	18	9	42	10	14	60	84	885
8:00 AM	30	546	576	15	807	822	32	33	22	87	30	31	111	172	1657
9:00 AM	37	571	608	18	824	842	34	40	26	100	27	58	86	171	1721
10:00 AM	31	581	612	10	821	831	26	31	21	78	30	41	103	174	1695
11:00 AM	38	738	776	16	1009	1025	33	38	28	99	41	52	125	218	2118
12:00 PM	48	784	832	26	1396	1422	50	45	35	130	42	59	136	237	2621
1:00 PM	48	838	886	25	1436	1461	48	53	32	133	48	70	136	254	2734
2:00 PM	52	889	941	28	1533	1561	59	52	39	150	51	80	142	273	2925
3:00 PM	46	977	1023	26	1635	1661	51	43	43	137	46	103	139	288	3109
4:00 PM	53	973	1026	29	1833	1862	50	41	30	121	44	97	121	262	
5:00 PM	52	1136	1188	26	1599	1625	52	47	44	143	45	112	155	312	

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6:00 PM	54	996	1050	17	1294	1311	47	44	31	122	44	121	138	303	2786
7:00 PM	48	837	885	29	940	969	53	31	30	114	46	49	107	202	2170
8:00 PM	54	697	751	16	816	832	44	43	30	117	43	64	56	163	1863
9:00 PM	46	563	609	17	643	660	20	22	22	64	35	44	87	166	1499
10:00 PM	44	419	463	13	428	441	15	17	19	51	29	32	61	122	1077
11:00 PM	42	330	372	16	280	296	12	20	8	40	28	31	42	101	809
Total	900	13515	14415	355	19203	19558	696	685	505	1886	733	1139	2038	3910	39769

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APPENDIX C:

SYNCHRO REPORTS

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	35	0	0	51	17	0	0	1	22	0	52
Future Vol, veh/h	19	35	0	0	51	17	0	0	1	22	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	24	44	0	0	65	22	0	0	1	28	0	66

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	87	0	0	44	0	0	201	179	44	169	168	76
Stage 1	-	-	-	-	-	-	92	92	-	76	76	-
Stage 2	-	-	-	-	-	-	109	87	-	93	92	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1509	-	-	1564	-	-	757	715	1026	750	725	953
Stage 1	-	-	-	-	-	-	915	819	-	883	832	-
Stage 2	-	-	-	-	-	-	896	823	-	865	819	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1564	-	-	696	704	1026	740	713	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	696	704	-	740	713	-
Stage 1	-	-	-	-	-	-	900	806	-	869	832	-
Stage 2	-	-	-	-	-	-	834	823	-	850	806	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.6	0	8.5	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1026	1509	-	-	1564	-	-	878
HCM Lane V/C Ratio	0.001	0.016	-	-	-	-	-	0.107
HCM Control Delay (s)	8.5	7.4	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	0	0	70	0	0
Future Vol, veh/h	59	0	0	70	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	0	0	76	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	64	0	140	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1538	-	853	1000
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1538	-	853	1000
Mov Cap-2 Maneuver	-	-	-	-	853	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1538	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	33	48	161	243	20
Future Vol, veh/h	11	33	48	161	243	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	13	38	55	183	276	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	581	288	299	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	476	749	1262	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	453	749	1262	-	-	-
Mov Cap-2 Maneuver	453	-	-	-	-	-
Stage 1	724	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1262	-	644	-	-
HCM Lane V/C Ratio	0.043	-	0.078	-	-
HCM Control Delay (s)	8	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	3	1	195	285	1
Future Vol, veh/h	2	3	1	195	285	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	2	3	1	217	317	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	537	318	318	0	-	0
Stage 1	318	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	505	723	1242	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	504	723	1242	-	-	-
Mov Cap-2 Maneuver	504	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	616	-	-
HCM Lane V/C Ratio	0.001	-	0.009	-	-
HCM Control Delay (s)	7.9	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	6	74	523	30	10	10	847	58	36	68	13	47
Future Volume (veh/h)	6	74	523	30	10	10	847	58	36	68	13	47
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		76	539	0		10	873	0	37	70	13	48
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		163	1455			40	1290		561	1069	193	130
Arrive On Green		0.05	0.30	0.00		0.01	0.26	0.00	0.03	0.36	0.36	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	3006	544	3209
Grp Volume(v), veh/h		76	539	0		10	873	0	37	41	42	48
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1772	1605
Q Serve(g_s), s		1.9	7.1	0.0		0.2	12.8	0.0	1.1	1.2	1.3	1.2
Cycle Q Clear(g_c), s		1.9	7.1	0.0		0.2	12.8	0.0	1.1	1.2	1.3	1.2
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.31	1.00
Lane Grp Cap(c), veh/h		163	1455			40	1290		561	632	631	130
V/C Ratio(X)		0.47	0.37			0.25	0.68		0.07	0.06	0.07	0.37
Avail Cap(c_a), veh/h		477	2948			357	2813		696	632	631	354
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		37.6	22.6	0.0		39.9	27.1	0.0	15.5	17.3	17.3	38.1
Incr Delay (d2), s/veh		2.1	0.2	0.0		3.2	0.6	0.0	0.0	0.2	0.2	1.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.7	2.5	0.0		0.1	4.7	0.0	0.4	0.5	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		39.7	22.8	0.0		43.0	27.8	0.0	15.5	17.5	17.5	39.8
LnGrp LOS		D	C			D	C		B	B	B	D
Approach Vol, veh/h			615	A			883	A		120		
Approach Delay, s/veh			24.9				27.9			16.9		
Approach LOS			C				C			B		

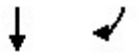
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	27.1	8.8	35.5	7.0	30.2	9.3	35.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	46.0	9.0	29.0	9.0	49.0	9.0	29.0
Max Q Clear Time (g_c+I1), s	3.9	14.8	3.1	9.2	2.2	9.1	3.2	3.3
Green Ext Time (p_c), s	0.1	6.3	0.0	0.7	0.0	3.7	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	36	180
Future Volume (veh/h)	36	180
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	37	186
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1285	551
Arrive On Green	0.36	0.36
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	37	186
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	0.5	7.2
Cycle Q Clear(g_c), s	0.5	7.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1285	551
V/C Ratio(X)	0.03	0.34
Avail Cap(c_a), veh/h	1285	551
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	16.8	18.9
Incr Delay (d2), s/veh	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	16.8	20.6
LnGrp LOS	B	C
Approach Vol, veh/h	271	
Approach Delay, s/veh	23.5	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	127	0	0	64	8	0	1	1	11	1	11
Future Vol, veh/h	12	127	0	0	64	8	0	1	1	11	1	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	13	140	0	0	70	9	0	1	1	12	1	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	140	0	0	247	245	140	242	241	75
Stage 1	-	-	-	-	-	-	166	166	-	75	75	-
Stage 2	-	-	-	-	-	-	81	79	-	167	166	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1482	-	-	1443	-	-	707	657	908	712	660	986
Stage 1	-	-	-	-	-	-	836	761	-	934	833	-
Stage 2	-	-	-	-	-	-	927	829	-	835	761	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1482	-	-	1443	-	-	692	650	908	705	653	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	692	650	-	705	653	-
Stage 1	-	-	-	-	-	-	828	753	-	925	833	-
Stage 2	-	-	-	-	-	-	914	829	-	824	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	9.8	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	758	1482	-	-	1443	-	-	813
HCM Lane V/C Ratio	0.003	0.009	-	-	-	-	-	0.031
HCM Control Delay (s)	9.8	7.5	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	143	0	0	80	0	0
Future Vol, veh/h	143	0	0	80	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	0	0	87	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	155	0	242	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1425	-	746	891
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1425	-	746	891
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1425	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	107	57	293	481	21
Future Vol, veh/h	31	107	57	293	481	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	34	116	62	318	523	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	977	535	546	0	-	0
Stage 1	535	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	278	545	1023	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	257	545	1023	-	-	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1023	-	435	-	-
HCM Lane V/C Ratio	0.061	-	0.345	-	-
HCM Control Delay (s)	8.7	0	17.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

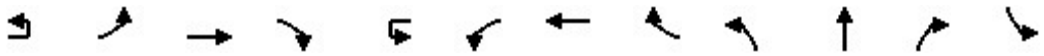
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	9	10	342	582	2
Future Vol, veh/h	3	9	10	342	582	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	11	384	654	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1061	655	656	0	-	0
Stage 1	655	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	248	466	931	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	244	466	931	-	-	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	509	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	931	-	380	-	-
HCM Lane V/C Ratio	0.012	-	0.035	-	-
HCM Control Delay (s)	8.9	0	14.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	177	1254	67	13	36	1058	121	56	76	38	160
Future Volume (veh/h)	9	177	1254	67	13	36	1058	121	56	76	38	160
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		186	1320	0		38	1114	0	59	80	40	168
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		263	1825			115	1605		407	673	316	243
Arrive On Green		0.08	0.36	0.00		0.03	0.31	0.00	0.04	0.29	0.29	0.07
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2348	1101	3456
Grp Volume(v), veh/h		186	1320	0		38	1114	0	59	59	61	168
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1672	1728
Q Serve(g_s), s		5.0	21.3	0.0		1.0	18.2	0.0	2.2	2.3	2.6	4.5
Cycle Q Clear(g_c), s		5.0	21.3	0.0		1.0	18.2	0.0	2.2	2.3	2.6	4.5
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		263	1825			115	1605		407	509	479	243
V/C Ratio(X)		0.71	0.72			0.33	0.69		0.15	0.12	0.13	0.69
Avail Cap(c_a), veh/h		509	2953			182	2470		445	509	479	472
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		42.9	26.5	0.0		44.9	28.6	0.0	22.2	25.0	25.1	43.2
Incr Delay (d2), s/veh		3.5	0.6	0.0		1.7	0.5	0.0	0.2	0.5	0.5	3.5
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.2	8.1	0.0		0.4	7.0	0.0	0.9	1.0	1.1	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		46.3	27.0	0.0		46.6	29.1	0.0	22.4	25.5	25.7	46.7
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1506	A			1152	A		179		
Approach Delay, s/veh			29.4				29.7			24.5		
Approach LOS			C				C			C		

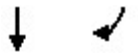
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	35.9	9.9	36.0	9.2	40.0	12.7	33.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	46.0	6.0	30.0	5.0	55.0	13.0	23.0
Max Q Clear Time (g_c+I1), s	7.0	20.2	4.2	17.2	3.0	23.3	6.5	4.6
Green Ext Time (p_c), s	0.3	8.0	0.0	1.7	0.0	10.7	0.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	167	285
Future Volume (veh/h)	167	285
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	176	300
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1121	500
Arrive On Green	0.32	0.32
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	176	300
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	3.4	15.2
Cycle Q Clear(g_c), s	3.4	15.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1121	500
V/C Ratio(X)	0.16	0.60
Avail Cap(c_a), veh/h	1121	500
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	23.4	27.5
Incr Delay (d2), s/veh	0.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	23.7	32.7
LnGrp LOS	C	C
Approach Vol, veh/h	644	
Approach Delay, s/veh	33.9	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	27	49	0	0	71	24	0	0	1	31	0	73
Future Vol, veh/h	27	49	0	0	71	24	0	0	1	31	0	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	34	62	0	0	90	30	0	0	1	39	0	92

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	62	0	0	281	250	62	236	235	105
Stage 1	-	-	-	-	-	-	130	130	-	105	105	-
Stage 2	-	-	-	-	-	-	151	120	-	131	130	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1468	-	-	1541	-	-	671	653	1003	677	666	918
Stage 1	-	-	-	-	-	-	874	789	-	852	808	-
Stage 2	-	-	-	-	-	-	851	796	-	825	789	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1468	-	-	1541	-	-	592	637	1003	663	650	918
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	637	-	663	650	-
Stage 1	-	-	-	-	-	-	853	770	-	832	808	-
Stage 2	-	-	-	-	-	-	765	796	-	804	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0	8.6	10.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1003	1468	-	-	1541	-	-	824
HCM Lane V/C Ratio	0.001	0.023	-	-	-	-	-	0.16
HCM Control Delay (s)	8.6	7.5	0	-	0	-	-	10.2
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	83	0	0	98	0	0
Future Vol, veh/h	83	0	0	98	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	0	0	107	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	90	0	197	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	107	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1505	-	792	968
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1505	-	792	968
Mov Cap-2 Maneuver	-	-	-	-	792	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1505	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	46	67	225	340	28
Future Vol, veh/h	15	46	67	225	340	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	17	52	76	256	386	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	810	402	418	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	349	646	1141	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	322	646	1141	-	-	-
Mov Cap-2 Maneuver	322	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1141	-	518	-	-
HCM Lane V/C Ratio	0.067	-	0.134	-	-
HCM Control Delay (s)	8.4	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	1	273	399	1
Future Vol, veh/h	3	4	1	273	399	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	3	4	1	303	443	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	749	444	444	0	-	0
Stage 1	444	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	379	614	1116	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	379	614	1116	-	-	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	748	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1116	-	485	-	-
HCM Lane V/C Ratio	0.001	-	0.016	-	-
HCM Control Delay (s)	8.2	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	8	104	732	42	14	14	1186	81	50	95	18	66
Future Volume (veh/h)	8	104	732	42	14	14	1186	81	50	95	18	66
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		107	755	0		14	1223	0	52	98	19	68
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		168	1832			53	1685		471	917	173	143
Arrive On Green		0.05	0.37	0.00		0.02	0.34	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2982	564	3209
Grp Volume(v), veh/h		107	755	0		14	1223	0	52	57	60	68
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1769	1605
Q Serve(g_s), s		3.0	10.6	0.0		0.4	20.0	0.0	1.8	2.1	2.2	1.9
Cycle Q Clear(g_c), s		3.0	10.6	0.0		0.4	20.0	0.0	1.8	2.1	2.2	1.9
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.32	1.00
Lane Grp Cap(c), veh/h		168	1832			53	1685		471	546	544	143
V/C Ratio(X)		0.64	0.41			0.27	0.73		0.11	0.11	0.11	0.48
Avail Cap(c_a), veh/h		383	2903			244	2736		496	546	544	276
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		43.2	21.6	0.0		45.1	27.0	0.0	20.4	23.0	23.1	43.3
Incr Delay (d2), s/veh		4.0	0.1	0.0		2.6	0.6	0.0	0.1	0.4	0.4	2.4
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.2	3.8	0.0		0.2	7.4	0.0	0.7	0.9	1.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		47.2	21.7	0.0		47.8	27.6	0.0	20.5	23.4	23.5	45.8
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			862	A			1237	A		169		
Approach Delay, s/veh			24.9				27.8			22.5		
Approach LOS			C				C			C		

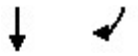
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	37.4	9.7	35.0	7.5	40.7	10.1	34.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	51.0	5.0	29.0	7.0	55.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	5.0	22.0	3.8	15.2	2.4	12.6	3.9	4.2
Green Ext Time (p_c), s	0.1	9.4	0.0	1.0	0.0	5.5	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	50	252
Future Volume (veh/h)	50	252
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	52	260
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1109	475
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	52	260
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	0.9	13.2
Cycle Q Clear(g_c), s	0.9	13.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1109	475
V/C Ratio(X)	0.05	0.55
Avail Cap(c_a), veh/h	1109	475
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	22.3	26.5
Incr Delay (d2), s/veh	0.1	4.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.2
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	22.4	31.0
LnGrp LOS	C	C
Approach Vol, veh/h	380	
Approach Delay, s/veh	32.5	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	133	0	0	67	8	0	1	1	12	1	12
Future Vol, veh/h	13	133	0	0	67	8	0	1	1	12	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	14	146	0	0	74	9	0	1	1	13	1	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	83	0	0	146	0	0	260	257	146	254	253	79
Stage 1	-	-	-	-	-	-	174	174	-	79	79	-
Stage 2	-	-	-	-	-	-	86	83	-	175	174	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1477	-	-	1436	-	-	693	647	901	699	650	981
Stage 1	-	-	-	-	-	-	828	755	-	930	829	-
Stage 2	-	-	-	-	-	-	922	826	-	827	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1477	-	-	1436	-	-	678	641	901	692	644	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	678	641	-	692	644	-
Stage 1	-	-	-	-	-	-	820	747	-	921	829	-
Stage 2	-	-	-	-	-	-	908	826	-	817	747	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	9.8	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	749	1477	-	-	1436	-	-	803
HCM Lane V/C Ratio	0.003	0.01	-	-	-	-	-	0.034
HCM Control Delay (s)	9.8	7.5	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	0	0	84	0	0
Future Vol, veh/h	150	0	0	84	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	0	0	91	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	163	0	254	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1416	-	735	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	735	882
Mov Cap-2 Maneuver	-	-	-	-	735	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1416	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	112	60	308	505	22
Future Vol, veh/h	33	112	60	308	505	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	36	122	65	335	549	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1026	561	573	0	-	0
Stage 1	561	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	260	527	1000	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	239	527	1000	-	-	-
Mov Cap-2 Maneuver	239	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	632	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1000	-	414	-	-
HCM Lane V/C Ratio	0.065	-	0.381	-	-
HCM Control Delay (s)	8.9	0	18.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.7	-	-

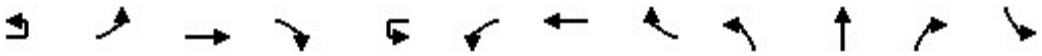
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	9	11	359	611	2
Future Vol, veh/h	3	9	11	359	611	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	12	403	687	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1115	688	689	0	-	0
Stage 1	688	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	230	446	905	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	226	446	905	-	-	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	658	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	905	-	359	-	-
HCM Lane V/C Ratio	0.014	-	0.038	-	-
HCM Control Delay (s)	9	0	15.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	186	1317	70	14	38	1111	127	59	80	40	168
Future Volume (veh/h)	9	186	1317	70	14	38	1111	127	59	80	40	168
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		196	1386	0		40	1169	0	62	84	42	177
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		271	1872			117	1643		396	666	313	250
Arrive On Green		0.08	0.37	0.00		0.03	0.32	0.00	0.04	0.28	0.28	0.07
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2347	1102	3456
Grp Volume(v), veh/h		196	1386	0		40	1169	0	62	62	64	177
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1672	1728
Q Serve(g_s), s		5.5	23.3	0.0		1.1	19.8	0.0	2.4	2.6	2.8	4.9
Cycle Q Clear(g_c), s		5.5	23.3	0.0		1.1	19.8	0.0	2.4	2.6	2.8	4.9
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		271	1872			117	1643		396	504	474	250
V/C Ratio(X)		0.72	0.74			0.34	0.71		0.16	0.12	0.13	0.71
Avail Cap(c_a), veh/h		491	2747			210	2332		431	504	474	456
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		44.3	27.1	0.0		46.5	29.4	0.0	23.2	26.2	26.3	44.7
Incr Delay (d2), s/veh		3.6	0.6	0.0		1.7	0.6	0.0	0.2	0.5	0.6	3.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.4	8.8	0.0		0.5	7.7	0.0	1.0	1.1	1.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		48.0	27.7	0.0		48.3	30.0	0.0	23.4	26.7	26.9	48.3
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1582	A			1209	A		188		
Approach Delay, s/veh			30.2				30.6			25.7		
Approach LOS			C				C			C		

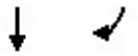
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	37.7	10.1	37.0	9.3	42.1	13.1	33.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	45.0	6.0	31.0	6.0	53.0	13.0	24.0
Max Q Clear Time (g_c+I1), s	7.5	21.8	4.4	18.7	3.1	25.3	6.9	4.8
Green Ext Time (p_c), s	0.3	8.2	0.0	1.8	0.0	10.9	0.3	0.6

Intersection Summary	
HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	175	299
Future Volume (veh/h)	175	299
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	184	315
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1118	499
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	184	315
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	3.7	16.7
Cycle Q Clear(g_c), s	3.7	16.7
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1118	499
V/C Ratio(X)	0.16	0.63
Avail Cap(c_a), veh/h	1118	499
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.4	28.9
Incr Delay (d2), s/veh	0.3	6.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.7	34.8
LnGrp LOS	C	C
Approach Vol, veh/h	676	
Approach Delay, s/veh	35.6	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	30	54	0	0	78	27	0	0	1	34	0	81
Future Vol, veh/h	30	54	0	0	78	27	0	0	1	34	0	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	38	68	0	0	99	34	0	0	1	43	0	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	133	0	0	68	0	0	312	277	68	261	260	116
Stage 1	-	-	-	-	-	-	144	144	-	116	116	-
Stage 2	-	-	-	-	-	-	168	133	-	145	144	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1452	-	-	1533	-	-	641	631	995	651	645	905
Stage 1	-	-	-	-	-	-	859	778	-	840	800	-
Stage 2	-	-	-	-	-	-	834	786	-	810	778	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1452	-	-	1533	-	-	556	614	995	637	628	905
Mov Cap-2 Maneuver	-	-	-	-	-	-	556	614	-	637	628	-
Stage 1	-	-	-	-	-	-	836	757	-	817	800	-
Stage 2	-	-	-	-	-	-	740	786	-	787	757	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0	8.6	10.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	995	1452	-	-	1533	-	-	805
HCM Lane V/C Ratio	0.001	0.026	-	-	-	-	-	0.181
HCM Control Delay (s)	8.6	7.5	0	-	0	-	-	10.5
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	92	0	0	108	0	0
Future Vol, veh/h	92	0	0	108	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	0	0	117	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	217	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	117	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1493	-	771	956
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1493	-	771	956
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	908	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1493	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	51	74	249	376	31
Future Vol, veh/h	17	51	74	249	376	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	19	58	84	283	427	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	896	445	462	0	-	0
Stage 1	445	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	311	611	1099	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	283	611	1099	-	-	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	642	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1099	-	474	-	-
HCM Lane V/C Ratio	0.077	-	0.163	-	-
HCM Control Delay (s)	8.5	0	14.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	1	302	441	1
Future Vol, veh/h	3	4	1	302	441	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	3	4	1	336	490	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	829	491	491	0	-	0
Stage 1	491	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	340	578	1072	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	340	578	1072	-	-	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1072	-	445	-	-
HCM Lane V/C Ratio	0.001	-	0.017	-	-
HCM Control Delay (s)	8.4	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	115	809	46	15	15	1311	90	55	105	20	73
Future Volume (veh/h)	9	115	809	46	15	15	1311	90	55	105	20	73
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		119	834	0		15	1352	0	57	108	21	75
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		179	1936			55	1777		451	909	173	140
Arrive On Green		0.06	0.39	0.00		0.02	0.36	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2980	565	3209
Grp Volume(v), veh/h		119	834	0		15	1352	0	57	63	66	75
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1769	1605
Q Serve(g_s), s		3.6	12.4	0.0		0.5	24.0	0.0	2.2	2.6	2.7	2.3
Cycle Q Clear(g_c), s		3.6	12.4	0.0		0.5	24.0	0.0	2.2	2.6	2.7	2.3
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.32	1.00
Lane Grp Cap(c), veh/h		179	1936			55	1777		451	542	540	140
V/C Ratio(X)		0.67	0.43			0.27	0.76		0.13	0.12	0.12	0.53
Avail Cap(c_a), veh/h		355	2690			161	2436		469	542	540	224
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		46.5	22.1	0.0		48.7	28.5	0.0	22.2	25.1	25.1	46.9
Incr Delay (d2), s/veh		4.2	0.2	0.0		2.6	1.0	0.0	0.1	0.4	0.5	3.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.5	4.5	0.0		0.2	9.0	0.0	0.9	1.1	1.2	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		50.7	22.3	0.0		51.3	29.4	0.0	22.4	25.5	25.6	50.1
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			953	A			1367	A		186		
Approach Delay, s/veh			25.8				29.7			24.6		
Approach LOS			C				C			C		

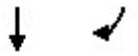
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	41.8	10.0	37.0	7.7	45.6	10.4	36.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	49.0	5.0	31.0	5.0	55.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	5.6	26.0	4.2	18.2	2.5	14.4	4.3	4.7
Green Ext Time (p_c), s	0.1	9.7	0.0	1.1	0.0	6.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	55	279
Future Volume (veh/h)	55	279
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	57	288
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1099	471
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	57	288
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	1.1	16.2
Cycle Q Clear(g_c), s	1.1	16.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1099	471
V/C Ratio(X)	0.05	0.61
Avail Cap(c_a), veh/h	1099	471
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.3	29.5
Incr Delay (d2), s/veh	0.1	5.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.5
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.4	35.3
LnGrp LOS	C	D
Approach Vol, veh/h	420	
Approach Delay, s/veh	36.5	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	147	0	0	74	9	0	1	1	13	1	13
Future Vol, veh/h	14	147	0	0	74	9	0	1	1	13	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	15	162	0	0	81	10	0	1	1	14	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	162	0	0	286	283	162	279	278	86
Stage 1	-	-	-	-	-	-	192	192	-	86	86	-
Stage 2	-	-	-	-	-	-	94	91	-	193	192	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1467	-	-	1417	-	-	666	626	883	673	630	973
Stage 1	-	-	-	-	-	-	810	742	-	922	824	-
Stage 2	-	-	-	-	-	-	913	820	-	809	742	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1467	-	-	1417	-	-	650	619	883	666	623	973
Mov Cap-2 Maneuver	-	-	-	-	-	-	650	619	-	666	623	-
Stage 1	-	-	-	-	-	-	801	734	-	912	824	-
Stage 2	-	-	-	-	-	-	898	820	-	798	734	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	10	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	728	1467	-	-	1417	-	-	783
HCM Lane V/C Ratio	0.003	0.01	-	-	-	-	-	0.038
HCM Control Delay (s)	10	7.5	0	-	0	-	-	9.8
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	0	0	93	0	0
Future Vol, veh/h	166	0	0	93	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	0	0	101	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	180	0	281	180
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1396	-	709	863
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1396	-	709	863
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1396	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	124	66	340	558	24
Future Vol, veh/h	36	124	66	340	558	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	39	135	72	370	607	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1134	620	633	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	224	488	950	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	203	488	950	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	600	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	950	-	371	-	-
HCM Lane V/C Ratio	0.076	-	0.469	-	-
HCM Control Delay (s)	9.1	0	23	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	2.4	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	10	12	397	675	2
Future Vol, veh/h	3	10	12	397	675	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	11	13	446	758	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1231	759	760	0	-	0
Stage 1	759	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	196	406	852	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	192	406	852	-	-	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	852	-	323	-	-
HCM Lane V/C Ratio	0.016	-	0.045	-	-
HCM Control Delay (s)	9.3	0	16.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	10	206	1456	77	15	42	1228	140	65	88	44	186
Future Volume (veh/h)	10	206	1456	77	15	42	1228	140	65	88	44	186
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		217	1533	0		44	1293	0	68	93	46	196
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		289	2015			120	1765		362	619	288	265
Arrive On Green		0.08	0.39	0.00		0.03	0.35	0.00	0.04	0.26	0.26	0.08
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2354	1096	3456
Grp Volume(v), veh/h		217	1533	0		44	1293	0	68	69	70	196
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1673	1728
Q Serve(g_s), s		6.4	27.0	0.0		1.3	23.1	0.0	2.9	3.1	3.4	5.8
Cycle Q Clear(g_c), s		6.4	27.0	0.0		1.3	23.1	0.0	2.9	3.1	3.4	5.8
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		289	2015			120	1765		362	467	440	265
V/C Ratio(X)		0.75	0.76			0.37	0.73		0.19	0.15	0.16	0.74
Avail Cap(c_a), veh/h		466	2703			166	2261		374	467	440	399
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		46.5	27.2	0.0		49.0	29.8	0.0	26.1	29.3	29.4	46.9
Incr Delay (d2), s/veh		3.9	0.9	0.0		1.9	0.9	0.0	0.2	0.7	0.8	4.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.8	10.3	0.0		0.6	9.0	0.0	1.2	1.4	1.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		50.5	28.1	0.0		50.9	30.7	0.0	26.4	30.0	30.2	51.0
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1750	A			1337	A		207		
Approach Delay, s/veh			30.9				31.4			28.9		
Approach LOS			C				C			C		

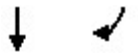
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	41.9	10.3	37.0	9.6	47.0	14.0	33.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	46.0	5.0	31.0	5.0	55.0	12.0	24.0
Max Q Clear Time (g_c+I1), s	8.4	25.1	4.9	22.5	3.3	29.0	7.8	5.4
Green Ext Time (p_c), s	0.3	8.8	0.0	1.7	0.0	12.0	0.2	0.6

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	193	331
Future Volume (veh/h)	193	331
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	203	348
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1060	473
Arrive On Green	0.30	0.30
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	203	348
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	4.4	20.5
Cycle Q Clear(g_c), s	4.4	20.5
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1060	473
V/C Ratio(X)	0.19	0.74
Avail Cap(c_a), veh/h	1060	473
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	27.1	32.8
Incr Delay (d2), s/veh	0.4	9.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	27.5	42.5
LnGrp LOS	C	D
Approach Vol, veh/h	747	
Approach Delay, s/veh	40.7	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	61	2	1	102	27	7	0	5	34	0	81
Future Vol, veh/h	30	61	2	1	102	27	7	0	5	34	0	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	38	77	3	1	129	34	9	0	6	43	0	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	163	0	0	80	0	0	355	320	79	306	304	146
Stage 1	-	-	-	-	-	-	155	155	-	148	148	-
Stage 2	-	-	-	-	-	-	200	165	-	158	156	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1416	-	-	1518	-	-	600	597	981	607	609	870
Stage 1	-	-	-	-	-	-	847	769	-	807	775	-
Stage 2	-	-	-	-	-	-	802	762	-	797	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1416	-	-	1518	-	-	518	580	981	590	591	870
Mov Cap-2 Maneuver	-	-	-	-	-	-	518	580	-	590	591	-
Stage 1	-	-	-	-	-	-	823	747	-	784	774	-
Stage 2	-	-	-	-	-	-	707	761	-	770	747	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.1	10.7	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	645	1416	-	-	1518	-	-	763
HCM Lane V/C Ratio	0.024	0.027	-	-	0.001	-	-	0.191
HCM Control Delay (s)	10.7	7.6	0	-	7.4	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	96	7	5	109	24	17
Future Vol, veh/h	96	7	5	109	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	8	5	118	26	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	112	0	236	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1478	-	752	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1478	-	749	946
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	820	-	-	1478	-
HCM Lane V/C Ratio	0.054	-	-	0.004	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	67	79	261	380	32
Future Vol, veh/h	22	67	79	261	380	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	25	76	90	297	432	36

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	927	450	468	0	-	0
Stage 1	450	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	298	607	1094	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	269	607	1094	-	-	-
Mov Cap-2 Maneuver	269	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1094	-	463	-	-
HCM Lane V/C Ratio	0.082	-	0.218	-	-
HCM Control Delay (s)	8.6	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.8	-	-

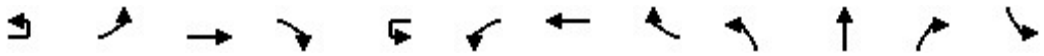
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	33	10	307	457	5
Future Vol, veh/h	15	33	10	307	457	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	17	37	11	341	508	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	874	511	514	0	-	0
Stage 1	511	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	320	563	1052	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	316	563	1052	-	-	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	704	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1052	-	452	-	-
HCM Lane V/C Ratio	0.011	-	0.118	-	-
HCM Control Delay (s)	8.5	0	14	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	121	809	46	15	15	1311	94	55	108	20	87
Future Volume (veh/h)	9	121	809	46	15	15	1311	94	55	108	20	87
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		125	834	0		15	1352	0	57	111	21	90
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		183	1924			55	1759		448	939	173	144
Arrive On Green		0.06	0.39	0.00		0.02	0.35	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2994	553	3209
Grp Volume(v), veh/h		125	834	0		15	1352	0	57	65	67	90
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1771	1605
Q Serve(g_s), s		3.9	12.9	0.0		0.5	24.9	0.0	2.2	2.7	2.8	2.8
Cycle Q Clear(g_c), s		3.9	12.9	0.0		0.5	24.9	0.0	2.2	2.7	2.8	2.8
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.31	1.00
Lane Grp Cap(c), veh/h		183	1924			55	1759		448	557	555	144
V/C Ratio(X)		0.68	0.43			0.27	0.77		0.13	0.12	0.12	0.63
Avail Cap(c_a), veh/h		282	2516			157	2364		465	557	555	217
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		47.8	23.0	0.0		50.2	29.7	0.0	22.4	25.3	25.3	48.5
Incr Delay (d2), s/veh		4.5	0.2	0.0		2.7	1.1	0.0	0.1	0.4	0.4	4.4
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	4.7	0.0		0.2	9.5	0.0	0.9	1.2	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		52.3	23.1	0.0		52.8	30.8	0.0	22.5	25.7	25.7	52.9
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			959	A			1367	A		189		
Approach Delay, s/veh			26.9				31.0			24.7		
Approach LOS			C				C			C		

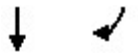
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	42.5	10.0	39.0	7.7	46.5	10.6	38.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	49.0	5.0	33.0	5.0	53.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	5.9	26.9	4.2	19.9	2.5	14.9	4.8	4.8
Green Ext Time (p_c), s	0.1	9.6	0.0	1.2	0.0	6.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	64	300
Future Volume (veh/h)	64	300
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	66	309
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1135	486
Arrive On Green	0.32	0.32
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	66	309
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	1.3	17.9
Cycle Q Clear(g_c), s	1.3	17.9
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1135	486
V/C Ratio(X)	0.06	0.64
Avail Cap(c_a), veh/h	1135	486
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.4	30.0
Incr Delay (d2), s/veh	0.1	6.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.2
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.5	36.2
LnGrp LOS	C	D
Approach Vol, veh/h	465	
Approach Delay, s/veh	37.8	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	171	7	4	88	9	4	1	3	13	1	13
Future Vol, veh/h	14	171	7	4	88	9	4	1	3	13	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	15	188	8	4	97	10	4	1	3	14	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	196	0	0	340	337	192	334	336	102
Stage 1	-	-	-	-	-	-	222	222	-	110	110	-
Stage 2	-	-	-	-	-	-	118	115	-	224	226	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1447	-	-	1377	-	-	614	584	850	620	585	953
Stage 1	-	-	-	-	-	-	780	720	-	895	804	-
Stage 2	-	-	-	-	-	-	887	800	-	779	717	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1447	-	-	1377	-	-	597	575	850	609	576	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	597	575	-	609	576	-
Stage 1	-	-	-	-	-	-	771	711	-	884	802	-
Stage 2	-	-	-	-	-	-	870	798	-	765	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	10.5	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	668	1447	-	-	1377	-	-	735
HCM Lane V/C Ratio	0.013	0.011	-	-	0.003	-	-	0.04
HCM Control Delay (s)	10.5	7.5	0	-	7.6	0	-	10.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	168	24	17	97	14	10
Future Vol, veh/h	168	24	17	97	14	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	183	26	18	105	15	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	209	0	337	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1362	-	658	845
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1362	-	649	845
Mov Cap-2 Maneuver	-	-	-	-	649	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	718	-	-	1362	-
HCM Lane V/C Ratio	0.036	-	-	0.014	-
HCM Control Delay (s)	10.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	133	82	347	570	29
Future Vol, veh/h	39	133	82	347	570	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	42	145	89	377	620	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1191	636	652	0	-	0
Stage 1	636	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	207	478	935	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	182	478	935	-	-	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	575	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.6	1.8	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	935	-	349	-	-
HCM Lane V/C Ratio	0.095	-	0.536	-	-
HCM Control Delay (s)	9.3	0	26.6	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.3	-	3	-	-

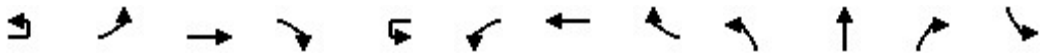
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	27	41	413	684	14
Future Vol, veh/h	10	27	41	413	684	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	30	46	464	769	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1333	777	785	0	-	0
Stage 1	777	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	170	397	834	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	574	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	397	834	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	834	-	281	-	-
HCM Lane V/C Ratio	0.055	-	0.148	-	-
HCM Control Delay (s)	9.6	0	20	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	10	227	1456	77	15	42	1228	154	65	97	44	194
Future Volume (veh/h)	10	227	1456	77	15	42	1228	154	65	97	44	194
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		239	1533	0		44	1293	0	68	102	46	204
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		309	1981			118	1699		366	662	283	272
Arrive On Green		0.09	0.39	0.00		0.03	0.33	0.00	0.04	0.27	0.27	0.08
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2425	1036	3456
Grp Volume(v), veh/h		239	1533	0		44	1293	0	68	73	75	204
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1684	1728
Q Serve(g_s), s		7.2	27.9	0.0		1.3	24.0	0.0	2.9	3.3	3.6	6.1
Cycle Q Clear(g_c), s		7.2	27.9	0.0		1.3	24.0	0.0	2.9	3.3	3.6	6.1
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.62	1.00
Lane Grp Cap(c), veh/h		309	1981			118	1699		366	485	460	272
V/C Ratio(X)		0.77	0.77			0.37	0.76		0.19	0.15	0.16	0.75
Avail Cap(c_a), veh/h		456	2549			163	2116		377	485	460	391
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		47.3	28.4	0.0		50.1	31.6	0.0	26.0	29.3	29.4	47.9
Incr Delay (d2), s/veh		4.8	1.2	0.0		1.9	1.3	0.0	0.2	0.7	0.8	4.8
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.2	10.8	0.0		0.6	9.5	0.0	1.2	1.5	1.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		52.1	29.6	0.0		52.1	32.9	0.0	26.2	29.9	30.1	52.7
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1772	A			1337	A		216		
Approach Delay, s/veh			32.6				33.6			28.8		
Approach LOS			C				C			C		

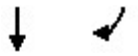
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	41.3	10.3	39.0	9.6	47.2	14.3	35.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	44.0	5.0	33.0	5.0	53.0	12.0	26.0
Max Q Clear Time (g_c+I1), s	9.2	26.0	4.9	23.7	3.3	29.9	8.1	5.6
Green Ext Time (p_c), s	0.3	8.2	0.0	1.8	0.0	11.3	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	199	344
Future Volume (veh/h)	199	344
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	209	362
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1105	493
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	209	362
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	4.6	21.7
Cycle Q Clear(g_c), s	4.6	21.7
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1105	493
V/C Ratio(X)	0.19	0.73
Avail Cap(c_a), veh/h	1105	493
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	26.8	32.7
Incr Delay (d2), s/veh	0.4	9.4
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	27.2	42.0
LnGrp LOS	C	D
Approach Vol, veh/h	775	
Approach Delay, s/veh	40.8	
Approach LOS	D	
Timer - Assigned Phs		

APPENDIX D:

TURN LANE EVALUATIONS

GDOT Access Manual Turn Lane Evaluations

ID	Intersection	Movement/ Turn Lane	GDOT Criteria met?	AADT (Norman Rd): < 6,000	Trip Dist.	Volume	
1	Driveway 1 / Otello Rd & Norman Rd	WBL	NO	LTV	4%	37	> 300
		EBR	NO	RTV	8%	74	> 200
2	Driveway 2 & Norman Rd	WBL	NO	LTV	18%	166	> 300
		EBR	YES	RTV	26%	240	> 200
4	Rays Rd & Spartan Ln	NBL	NO	LTV	31%	286	> 300
		SBR	NO	RTV	13%	120	> 200

		IN	OUT
Daily	1,844	922	922
AM Peak Hour	121	28	93
PM Peak Hour	147	92	55

APPENDIX E:

TECHNICAL MEMORANDUM

1255 Canton Street, Suite G
Roswell, GA 30075
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NV5.com

TECHINCAL MEMO

To: Davis Moore, Mosaic Communities

From: Naveed Jaffar, PE, PTOE

Date: April 27, 2021

Re: Spivey Lake Residential Development, DeKalb County, Georgia

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NV5 Engineers & Consultants, Inc. completed a traffic impact study in April 2021 for the proposed Spivey Lake Residential Development along Norman Road in DeKalb County, Georgia. This memorandum serves as a supplement to the completed traffic study in order to provide the hourly distribution of expected generated trips to and from the development. This memorandum also serves to explore the potential trip reduction for multi-modal and transit impacts.

Trip Generation – Hourly Trip Generation

The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The development has a projected build out date of 2024 and will generate a total of 1,844 new daily trips. Of these daily volumes, 121 (28 entering and 93 exiting) are expected to occur in the AM peak hour while 147 (92 entering and 55 exiting) are expected to occur in the PM peak hour. Table 1 depicts the total expected Trip Generation for the development.

Table 1. Complete Trip Generation

LAND USE	PERIOD	TOTAL	IN	OUT
Single Family Homes, LUC 210 (40 Dwelling Units)	Daily	448	224	224
	AM Peak Hour	33	8	25
	PM Peak Hour	42	26	16
***Two/Three Family Homes** (190 Dwelling Units - 138 Two-Family Homes, 52 Townhomes)	Daily	1,396	698	698
	AM Peak Hour	88	20	68
	PM Peak Hour	105	66	39
Total Net Trips	**Daily**	**1,844**	**922**	**922**
	AM Peak Hour	**121**	**28**	**93**
	PM Peak Hour	**147**	**92**	**55**

*Study utilizes ITE (Institute of Transportation Engineers) Land Use Code *Multi-Family Housing Low-Rise (LUC 220)*

The hourly trip generation was developed using the ITE (Institute of Transportation Engineers') methodology. From the hourly trip generation, we can expect on average for there to be one (1) vehicle every 0.8 minutes (46 seconds) throughout the day. Table 2 depicts the estimated number of generated trips expected every hour of the day and the frequency.

Table 2. Estimated Hourly Trip Generation – Trip Generation Rate

Beginning Hour	Expected Trips	
	Total	Vehicle Every (X) Minutes
12:00 AM	14	4.2
1:00 AM	8	7.6
2:00 AM	8	7.4
3:00 AM	9	6.5
4:00 AM	15	4.0
5:00 AM	33	1.8
6:00 AM	69	0.9
7:00 AM	118	0.5
8:00 AM	111	0.5
9:00 AM	97	0.6
10:00 AM	82	0.7
11:00 AM	96	0.6
12:00 PM	102	0.6
1:00 PM	94	0.6
2:00 PM	106	0.6
3:00 PM	127	0.5
4:00 PM	139	0.4
5:00 PM	149	0.4
6:00 PM	137	0.4
7:00 PM	110	0.5
8:00 PM	89	0.7
9:00 PM	66	0.9
10:00 PM	37	1.6
11:00 PM	28	2.2
Total	**1,844**	**0.8**

Table 3 depicts the expected number of trips that will utilize Norman Road, Rays Road, and Spartan Lane during each hour of the day. The planned traffic calming measures are likely to discourage travel along Othello Avenue. Therefore, there is not a significant amount of traffic from the development expected to utilize Othello Avenue. Supporting worksheets for computations are attached. The hourly breakdown by movement for each of the access points of the development is also attached.

Table 3. Estimated Hourly Roadway Trips

Beginning Hour	Norman Road b/w Othello Ave and Rays Road		Rays Road b/w Norman Road and Spartan Lane		Spartan Lane b/w subject development and Rays Road	
	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound
12:00 AM	4	4	5	4	2	4
1:00 AM	2	2	3	2	1	2
2:00 AM	2	2	2	3	2	2
3:00 AM	3	3	3	3	2	2
4:00 AM	4	5	4	6	4	2
5:00 AM	8	10	7	13	11	3
6:00 AM	17	22	13	29	25	5
7:00 AM	29	37	25	47	40	12
8:00 AM	28	34	24	43	36	12
9:00 AM	25	29	25	34	27	15
10:00 AM	22	24	24	27	20	16
11:00 AM	27	27	29	30	22	20
12:00 PM	29	28	31	31	22	23
1:00 PM	26	26	29	29	21	21
2:00 PM	30	29	34	31	21	25
3:00 PM	37	34	43	34	22	34
4:00 PM	41	37	48	36	23	38
5:00 PM	44	40	52	39	25	41
6:00 PM	41	36	48	36	22	38
7:00 PM	32	30	37	31	21	28
8:00 PM	26	24	31	23	14	25
9:00 PM	20	17	24	17	10	19
10:00 PM	11	10	14	9	5	11
11:00 PM	8	7	11	6	3	9
TOTAL	**516**	**516**	**563**	**563**	**406**	**406**

Trip Reduction

NV5 Engineers & Consultants has developed a potential trip reduction factor that could possibly be used to reduce the number of trips generated by the development. The factor considers the area use of transit, transit availability, pedestrian connection to transit facilities and nearby land uses, and site-specific characteristics. From the data and methodology used, a reduction factor of 0.90 was developed. The trip reduction worksheet is attached.

ATTACHMENTS

2024 Build Traffic Counts - All Vehicles																				
Time (Hr Beg.)	Norman Road					Norman Road					North Access Point 1					Othello Avenue				
	Eastbound					Westbound					Northbound					Southbound				
	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM				1			0					0		0						
1:00 AM				0			0					0		0						
2:00 AM				0			0					0		0						
3:00 AM				0			0					0		0						
4:00 AM				0			0					1		0						
5:00 AM				1			0					2		1						
6:00 AM				1			0					5		2						
7:00 AM				2			1					7		4						
8:00 AM				2			1					7		3						
9:00 AM				3			1					5		2						
10:00 AM				3			1					4		2						
11:00 AM				4			2					4		2						
12:00 PM				4			2					4		2						
1:00 PM				4			2					4		2						
2:00 PM				5			2					4		2						
3:00 PM				6			3					4		2						
4:00 PM				7			3					4		2						
5:00 PM				7			4					5		2						
6:00 PM				7			3					4		2						
7:00 PM				5			3					4		2						
8:00 PM				5			2					3		1						
9:00 PM				3			2					2		1						
10:00 PM				2			1					1		0						
11:00 PM				2			1					1		0						
TOTAL				74			37					74		37						

2024 Build Traffic Counts - All Vehicles																				
Time (Hr Beg.)	Norman Road Eastbound					Norman Road Westbound					North Access Point 2 Northbound					Southbound				
	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM			0	2			2	0				1		1						
1:00 AM			0	1			1	0				1		1						
2:00 AM			0	1			1	0				1		1						
3:00 AM			0	1			1	0				1		1						
4:00 AM			0	1			1	0				3		2						
5:00 AM			1	2			1	0				7		5						
6:00 AM			2	3			2	0				15		10						
7:00 AM			4	7			5	1				24		16						
8:00 AM			3	7			5	1				22		15						
9:00 AM			2	9			6	1				16		11						
10:00 AM			2	10			7	1				12		8						
11:00 AM			2	12			8	2				13		9						
12:00 PM			2	13			9	2				13		9						
1:00 PM			2	12			8	2				12		9						
2:00 PM			2	15			10	2				13		9						
3:00 PM			2	20			14	3				13		9						
4:00 PM			2	22			16	3				14		9						
5:00 PM			2	24			17	4				15		10						
6:00 PM			2	22			16	3				13		9						
7:00 PM			2	16			11	3				12		8						
8:00 PM			1	15			10	2				9		6						
9:00 PM			1	11			8	2				6		4						
10:00 PM			0	7			5	1				3		2						
11:00 PM			0	5			4	1				2		1						
TOTAL			37	240			166	37				240		166						

2024 Build Traffic Counts - All Vehicles																				
Time (Hr	Spartan Lane										Rays Road					Rays Road				
	Eastbound					Westbound					Northbound					Southbound				
Beg.)	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM		1		2								3	1					1	1	
1:00 AM		0		1								1	1					1	1	
2:00 AM		1		1								1	1					1	1	
3:00 AM		1		2								1	1					1	1	
4:00 AM		1		3								2	1					2	1	
5:00 AM		3		8								2	1					4	1	
6:00 AM		8		18								3	2					10	1	
7:00 AM		12		28								8	5					15	4	
8:00 AM		11		26								9	5					14	4	
9:00 AM		8		19								11	6					11	4	
10:00 AM		6		14								11	6					8	5	
11:00 AM		6		15								14	8					8	6	
12:00 PM		7		16								16	9					9	7	
1:00 PM		6		15								15	8					8	6	
2:00 PM		6		15								18	10					8	7	
3:00 PM		6		15								24	13					8	10	
4:00 PM		7		16								27	15					9	11	
5:00 PM		7		18								29	16					10	12	
6:00 PM		7		16								27	15					9	11	
7:00 PM		6		14								20	11					8	8	
8:00 PM		4		10								18	10					6	7	
9:00 PM		3		7								13	7					4	6	
10:00 PM		2		4								8	4					2	3	
11:00 PM		1		2								6	3					1	3	
TOTAL		120		286								286	157					157	120	

Transit and Carpool Evaluation Tool

4069 Norman Road, Stone Mountain, Georgia 30083

Spivey Lake Residential

Date: 4/21/2021

Prepared by: M. Early

Trip Reduction Factor: **0.90**

Parking Reduction Factor: **N/A**

Transit Summary

Local Fixed-Route Bus; GOOD arrival times; SOMEWHAT CLOSE; ADEQUATE ped access; ALL can use

Transit is Available to **100%** of Residents

Influence of Available Transit	90.0%
Area Transit Usage	16.4%
Area Carpool Usage	9.5%
Area Bike/Ped Activity	1.5%

Source: American Community Survey, 2018

Comments:

MARTA bus route 121 - Memorial Drive/N. Hairston Road (nearest transit to development); walk to closest transit stop, 0.63 - 1.05 miles; Transect Development character rating, T4; Pedestrian Connection, ADEQUATE- lack of sidewalk along Spartan Lane, consistent sidewalk to transit stops; TDM Strategy, IN PLACE - walking trails facilitating access to local roadway network

Possible TDM Measures

- ☐ Pre-Tax Incentives
- ☐ Guaranteed Ride Home
- ☐ Ride-Share / Carpool
- ☐ Carpool Parking
- ☐ Bike Facilities
- ☐ Lockers
- ☐ Informational Kiosks
- ☐ Transportation Coordinators
- ☐ Shuttle to Transit
- ☑ Other (Specify)

Site Image:



Pedestrian connections are categorized as follows.

Pedestrian Connection

Site to Transit Stop/Stn	Rating
Complete	Excellent
Partial-Mitigatable	Adequate
Partial-Non-Mitigatable	Poor
Not an Influencing Factor	Non-Relevant
None	No

Explanation of Rating

Excellent. An unbroken/unobstructed sidewalk or formal walking path from the site to the transit stop/station, providing a safe travel route.

Adequate. A broken/obstructed sidewalk or formal walking path from the site to the transit stop/station, which can be mitigated, and traveler movement and safety are minimally impacted

Poor. An unsafe and/or uncomfortable pedestrian travel environment between the site and the transit stop/station that cannot be mitigated.

Non-relevant. Access to transit stop/station from the site is not impacted by the presence, or lack thereof, of a formal pedestrian connection.

Proprietary to NV5, Inc.

TRAFFIC IMPACT STUDY FOR

SPIVEY LAKE RESIDENTIAL DEVELOPMENT

DATE:
April 28, 2021

LOCATION:
DeKalb County, Georgia

PREPARED FOR:
Mosaic Communities

PREPARED BY:
NV5 Engineers and Consultants, Inc.
1255 Canton Street, Suite G
Roswell, GA 30075

NV5
nv5.com

EXECUTIVE SUMMARY

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The development has a projected build out date of 2024 and will generate a total of 1,844 new daily trips. Of these daily volumes, 121 (28 entering and 93 exiting) are expected to occur in the AM peak hour while 147 (92 entering and 55 exiting) are expected to occur in the PM peak hour.

The development will contain two (2) full access points along Norman Road and one (1) access point as an extension of Spartan Lane.

Existing intersections adjacent to the planned development were evaluated to determine if new roadway geometries or traffic controls will be needed once the development is built.

The following intersections were evaluated in this study:

1. Otello Avenue/Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

The analysis uses adjustment factors applied to existing traffic counts as a baseline condition to account for the decrease in traffic due to the COVID-19 pandemic. Under baseline conditions, all intersections operate at a level of service (LOS) “D” or better at each approach.

No-Build conditions for this study show that the assumed 3.4% growth rate does not have a significant effect on the study network. With the increased growth, the intersections do increase in delay (as expected) and only two approaches increase in overall LOS compared to baseline conditions. All intersections continue to operate satisfactorily at an overall LOS D or better.

The additional project trips from the Spivey Lake Residential Development do not significantly affect the study network. With the added trips, the intersections do increase in delay (as expected), but do not change the overall levels of service experienced in the No-Build conditions.

Based on GDOT criteria, the eastern site driveway (Driveway 2) for the development warrants a right-turn deceleration lane. However, the installation of the turn lane is at the discretion of DeKalb County.

Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.

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A. Introduction

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes.

This traffic study analyzes the impact of new traffic added to the local roadways upon the occupancy of the residential development.

This study includes analysis of the Existing and Baseline Conditions, No-Build Conditions (including background growth and expected traffic from adjacent/nearby developments), and Build Conditions at the following intersections:

1. Otello Avenue/ Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

The report summarizes background and projected traffic at the study locations, analysis of traffic impacts including level of service (LOS) and conclusions and recommendations from the analysis.

Figure 1 depicts the site location in DeKalb County. The study intersections listed above are depicted in Figure 2. A copy of the development concept plan is included in the Appendix.

Figure 1. Vicinity Map

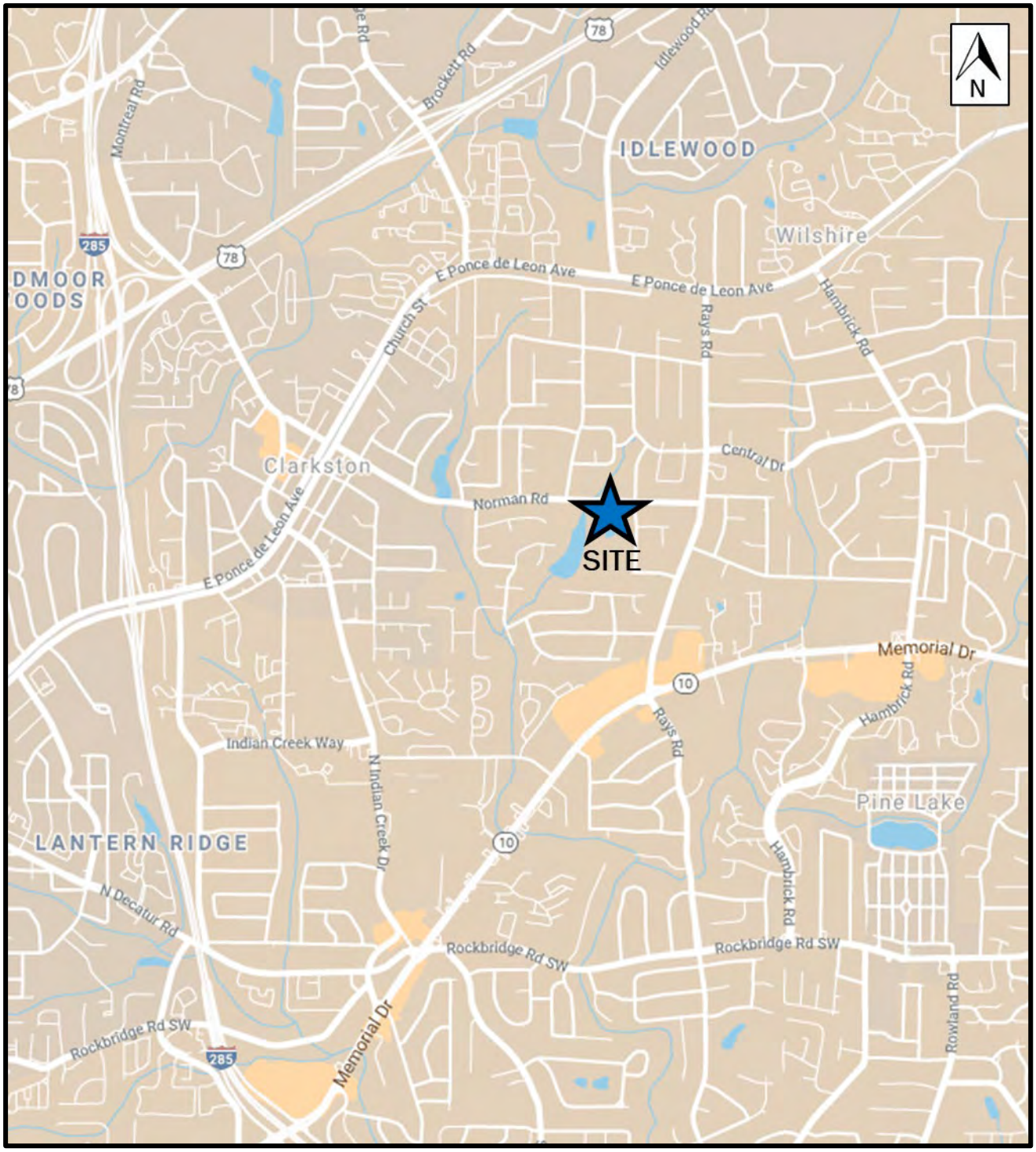
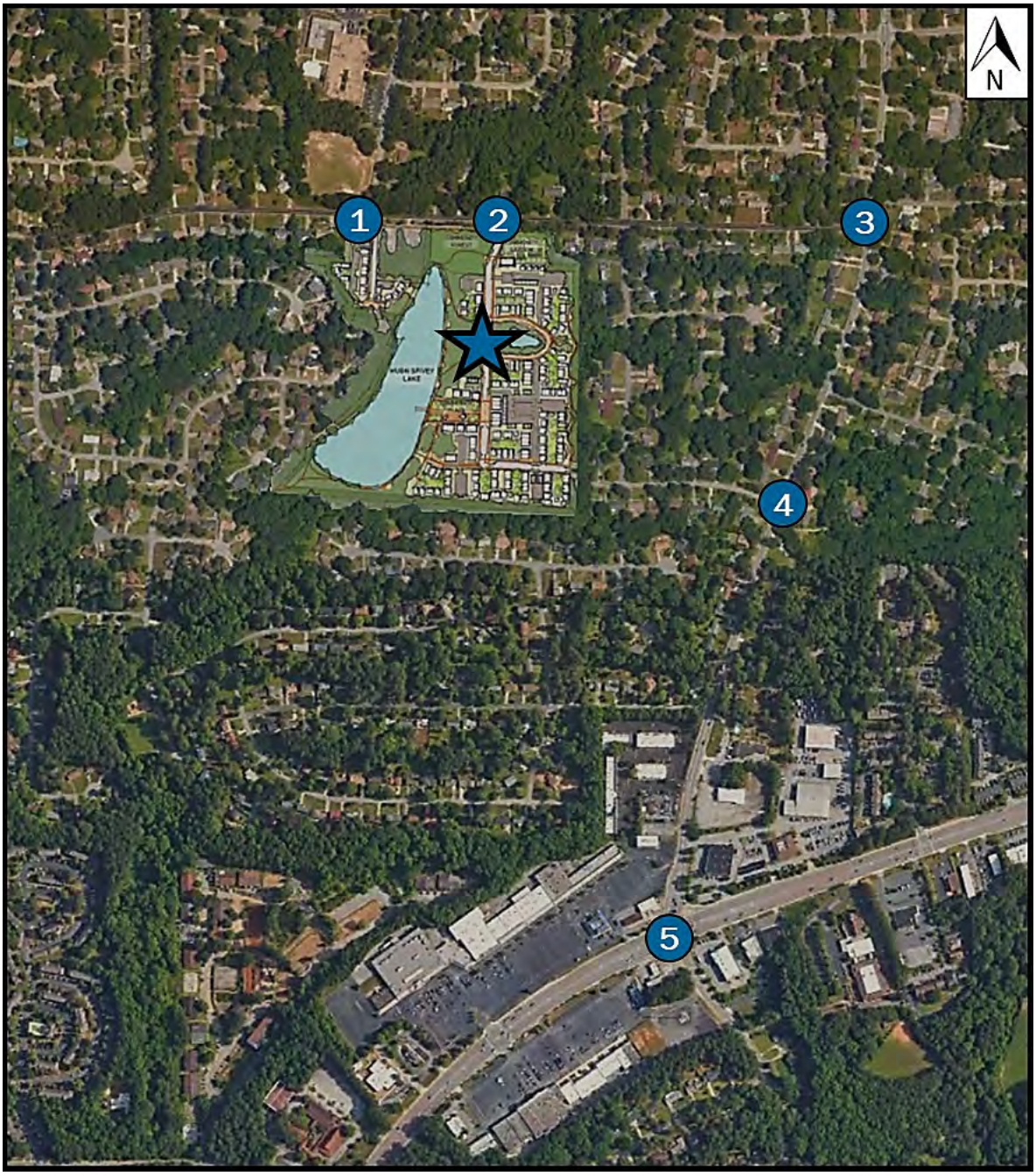


Figure 2. Site Location Aerial



1. Otello Avenue/ Driveway 1 & Norman Road
2. Driveway 2 & Norman Road
3. Norman Road & Rays Road
4. Spartan Lane & Rays Road
5. Rays Road & Memorial Drive

B. Existing Conditions

B.1. Transportation Facilities

Norman Road is an east-west, two-lane undivided, collector roadway with a posted speed of 35 MPH. The road is in a school zone beginning 0.2 mile west of its intersection with Otello Avenue and ending 0.1 mile east of said intersection. The roadway facilitates access to primarily residential land. The roadway will service two access points for the subject development.

Otello Road is a north-south, two-lane undivided, local roadway with a posted speed of 25 MPH. Jolly Elementary School is located along the roadway 400 feet north of its intersection with Norman Road. Northbound traffic is prohibited from 7:15 AM to 8:15 AM and 1:45 PM to 2:45 PM. Land uses along the roadway are residential and institutional.

Spartan Lane is an east-west, two-lane undivided, local residential roadway with a posted speed of 25 MPH. The roadway will service one access point for the subject development.

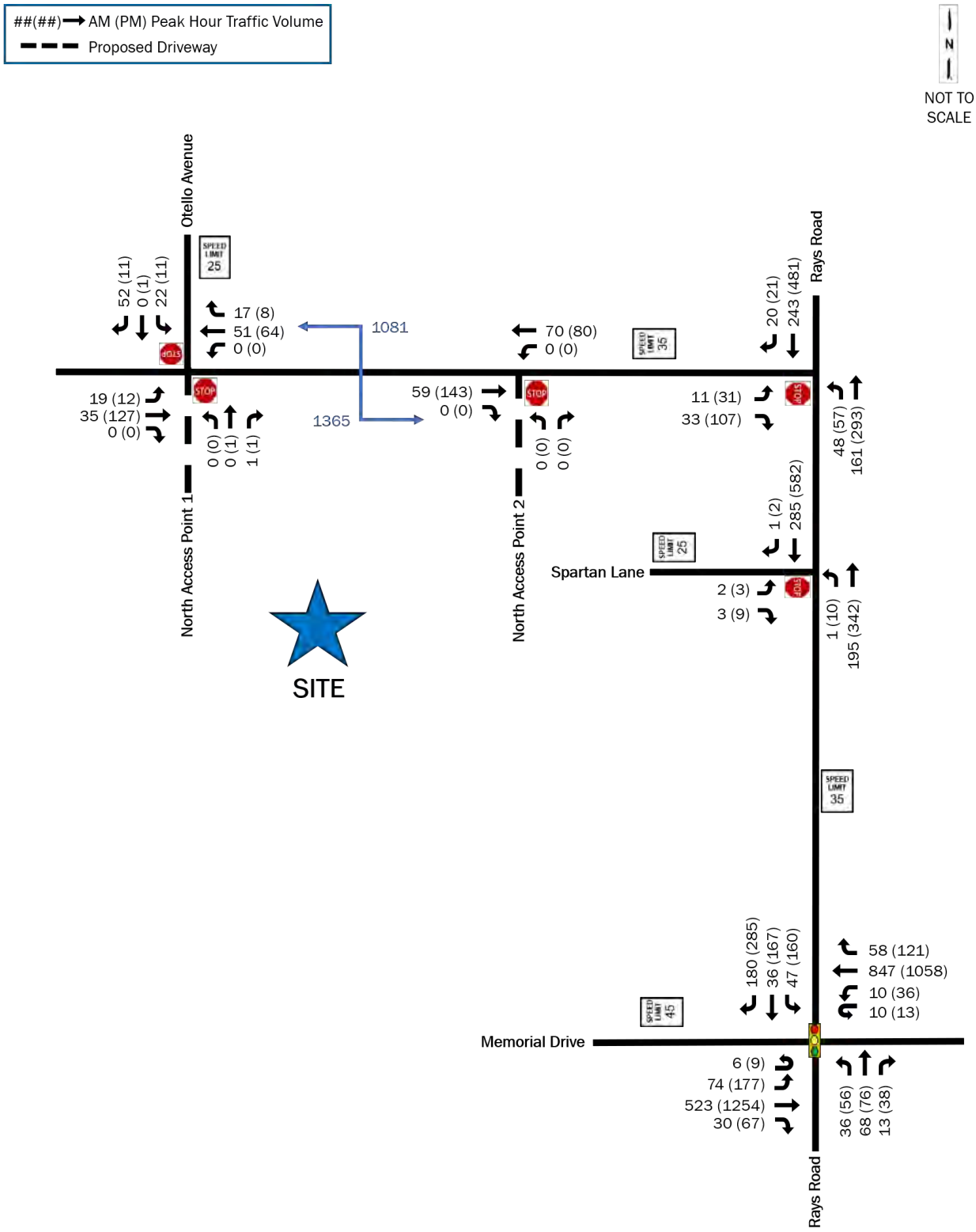
Rays Road is a north-south, two-lane undivided, collector roadway with a posted speed of 35 MPH. The roadway provides access to Memorial Drive approximately one mile south of its intersection with Norman Road. The roadway facilitates access to primarily residential land uses with commercial/retail land uses surrounding Memorial Drive. Rays Road has an AADT of about 10,700 vehicles per day near the study intersection.

Memorial Drive (SR-10) is a six-lane, major arterial roadway with a posted speed of 45 MPH. The roadway provides access to I-285 approximately two miles southwest of its intersection with Rays Road. There are a plethora of land uses along the roadway within the vicinity of the project including commercial/retail, institutional, medical, and residential. Memorial Drive has an AADT of about 40,800 vehicles per day near the study intersection.

B.2. Traffic Counts

Weekday peak period turning movement counts were collected at the existing intersections depicted in Figure 2 on Thursday, March 25, 2021 while schools were in session. Bi-directional traffic counts were also collected on Norman Road near the site on Thursday, March 25, 2021. The daily traffic recorded along Norman Road was 2,446 vehicles. The turning peak hour counts at the study intersections are shown in Figure 3 (Existing Traffic Volumes). The count worksheets are included in Appendix B.

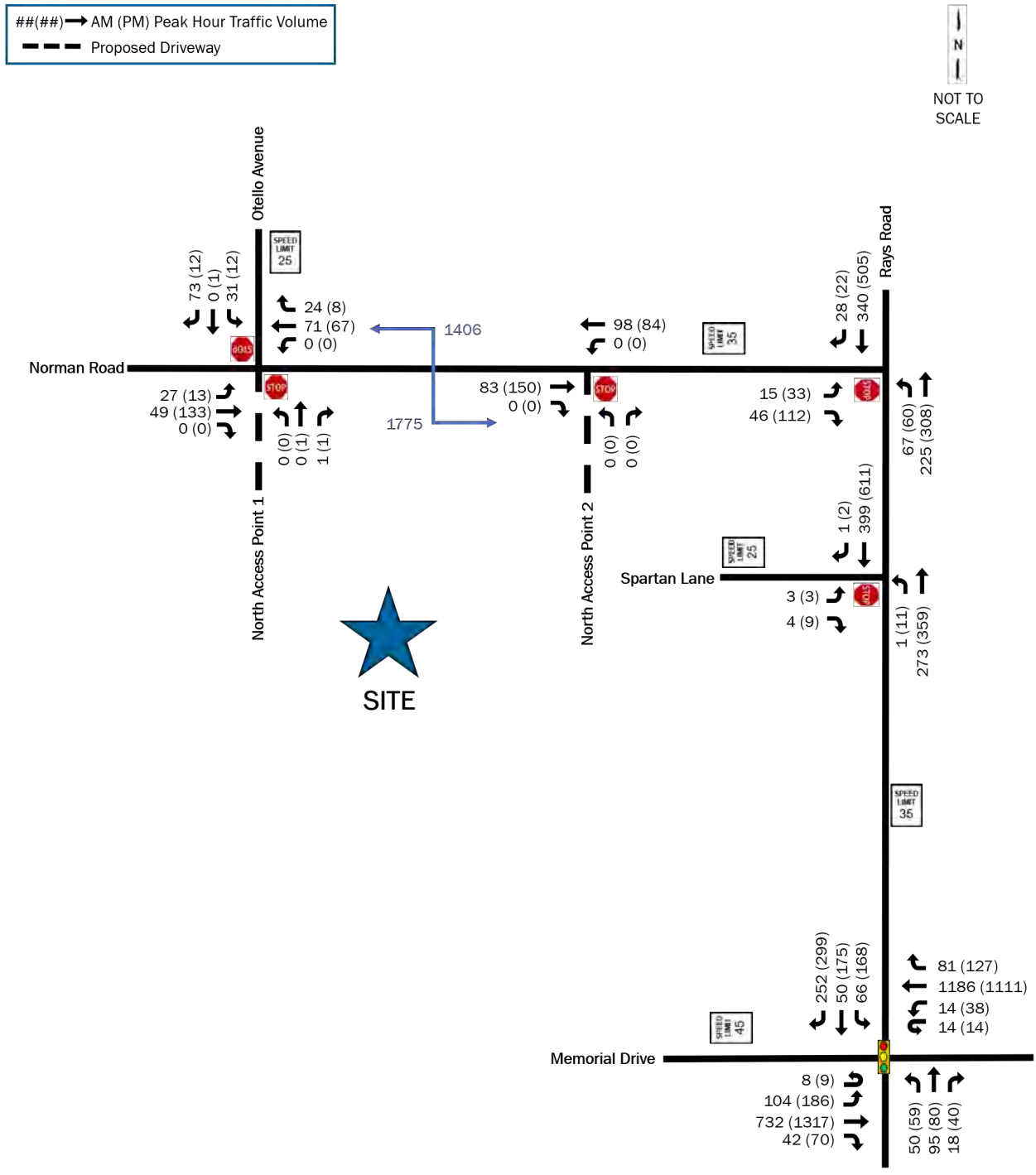
Figure 3: Existing Volumes (2021)



B.3. Baseline Adjustment

The analysis utilizes an adjustment factor to account for the decrease in traffic due to the COVID-19 pandemic. The factors were developed using counts from the Georgia Department of Transportation's (GDOT) Automated Traffic Signal Performance Measures (ATSPM). Turning movement counts recorded at the intersection of Memorial Drive (SR 10) and Rays Road in March 2019 were compared to counts recorded in March 2021 at the same intersection. From the data, the analysis uses a factor of 1.4 applied to the AM peak hour counts and a factor of 1.05 applied to the PM peak hour counts at each of the study intersections depicted in Figure 2. The adjusted volumes (Baseline Volumes) are depicted in Figure 4. The No-Build and Build scenarios in the study utilize these volumes as baseline conditions. The adjustment factor worksheet and supporting data are included in Appendix B.

Figure 4: Baseline Volumes (2021)



C. Future Conditions

C.1. Background Data Collection

The growth rate in the study area is based upon an analysis of historical traffic counts collected by the Georgia Department of Transportation (GDOT). The project is expected to be built-out in 2024. To account for ambient growth in the area, the baseline traffic counts were grown by 3.4% per year for three years. The growth rate considers historical GDOT traffic data collected along Rays Road, Memorial Drive, and Ponce de Leon Avenue. The expected volumes are depicted in Figure 5, 2024 No-Build Volumes. The historical counts and growth rate development worksheet are included in Appendix B.

C.2. Project Trip Generation

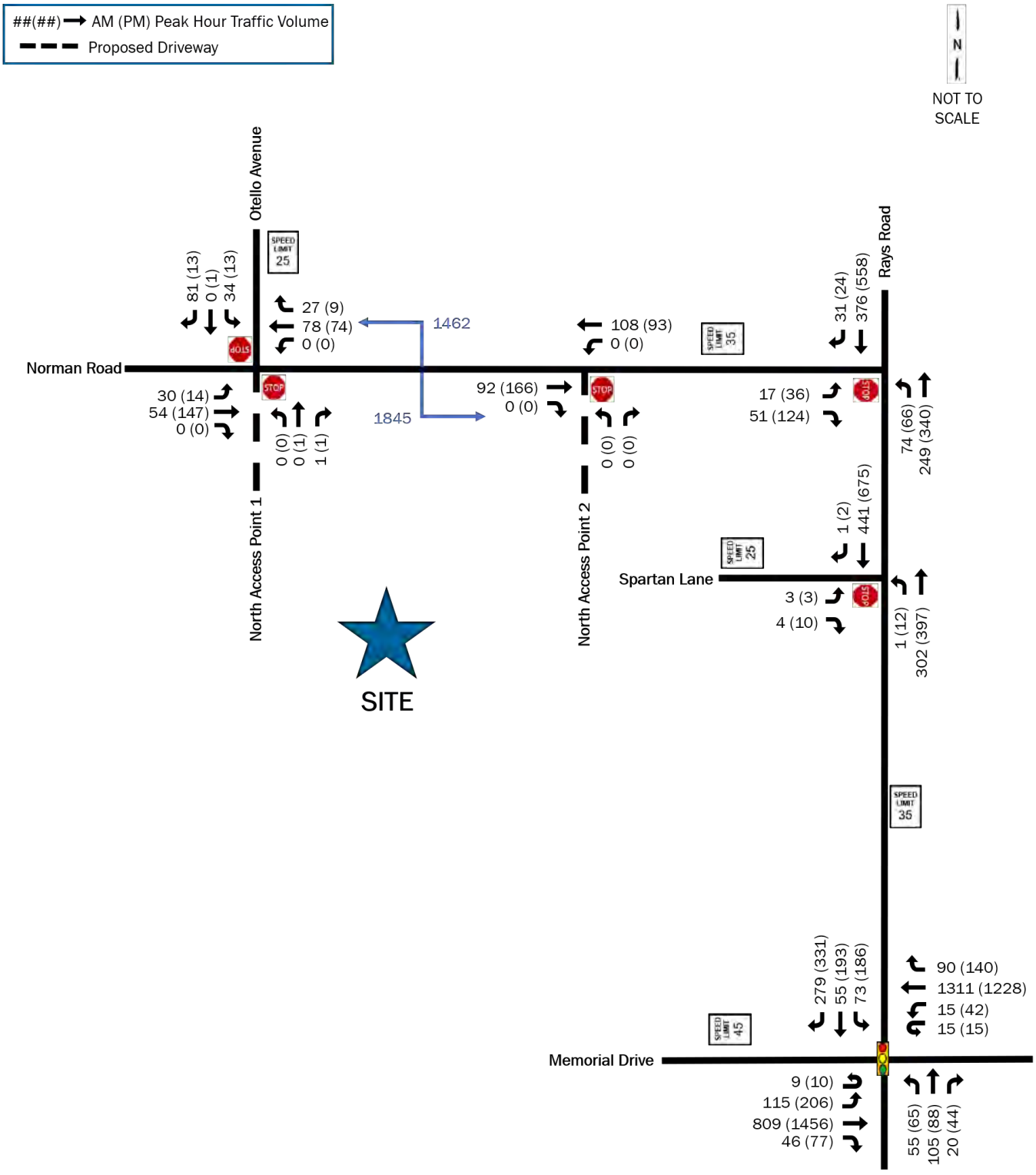
Table 1 summarizes the project trip generation calculated using the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017. The community consists of three types of dwelling units including 138 Two-Family Homes, 52 Townhomes, and 40 Single Family Detached Homes. The homes encompass two types of ITE Land Use Codes (LUC) including one for the single-family detached homes (LUC 210) and one for both the two-family home unit type and the townhome unit type (LUC 220). Table 1 below summarizes the daily and hourly trip generation of the proposed residential development. The scale of the project does not warrant trip reductions for pass-by and/or internal capture. Conservatively, the analysis does not consider reduced, generated trips to account for transit/multimodal use.

Table 1: Project Trip Generation

LAND USE	PERIOD	TOTAL	IN	OUT
Single Family Homes, LUC 210 (40 Dwelling Units)	Daily	448	224	224
	AM Peak Hour	33	8	25
	PM Peak Hour	42	26	16
***Two/Three Family Homes** (190 Dwelling Units - 138 Two-Family Homes, 52 Townhomes)	Daily	1,396	698	698
	AM Peak Hour	88	20	68
	PM Peak Hour	105	66	39
Total Net Trips	Daily	**1,844**	**922**	**922**
	AM Peak Hour	**121**	**28**	**93**
	PM Peak Hour	**147**	**92**	**55**

*Study utilizes ITE (Institute of Transportation Engineers) Land Use Code *Multi-Family Housing Low-Rise (LUC 220)*

Figure 5: 2024 No-Build Traffic Volumes



C.3. Trip Distribution and Assignment

The distribution and assignment of project trips for the development is based on an evaluation of traffic patterns typical of a residential development in addition to traffic patterns within the area, alongside an analysis of the collected traffic counts. Approximately 12% of the newly generated trips are expected to utilize Driveway 1 at Norman Road and Otello Avenue, 44% of the newly generated trips are expected to utilize Driveway 2 at Norman Road and the remaining 44% of the newly generated trips are expected to use Spartan Lane at Rays Road. An expected 34% of the generated trips will be distributed to/from the west via Norman Road, an estimated 18% of the newly generated trips will be distributed to/from the north via Rays Road. Approximately 48% of the newly generated trips will be distributed to/from the south via Memorial Drive. The trip generation is depicted in Figure 6. The project trips generated from the development utilize the trip distribution and are depicted in Figure 7. The No-Build plus project trips (Build Volumes) are depicted in Figure 8.

Figure 6: Trip Distribution

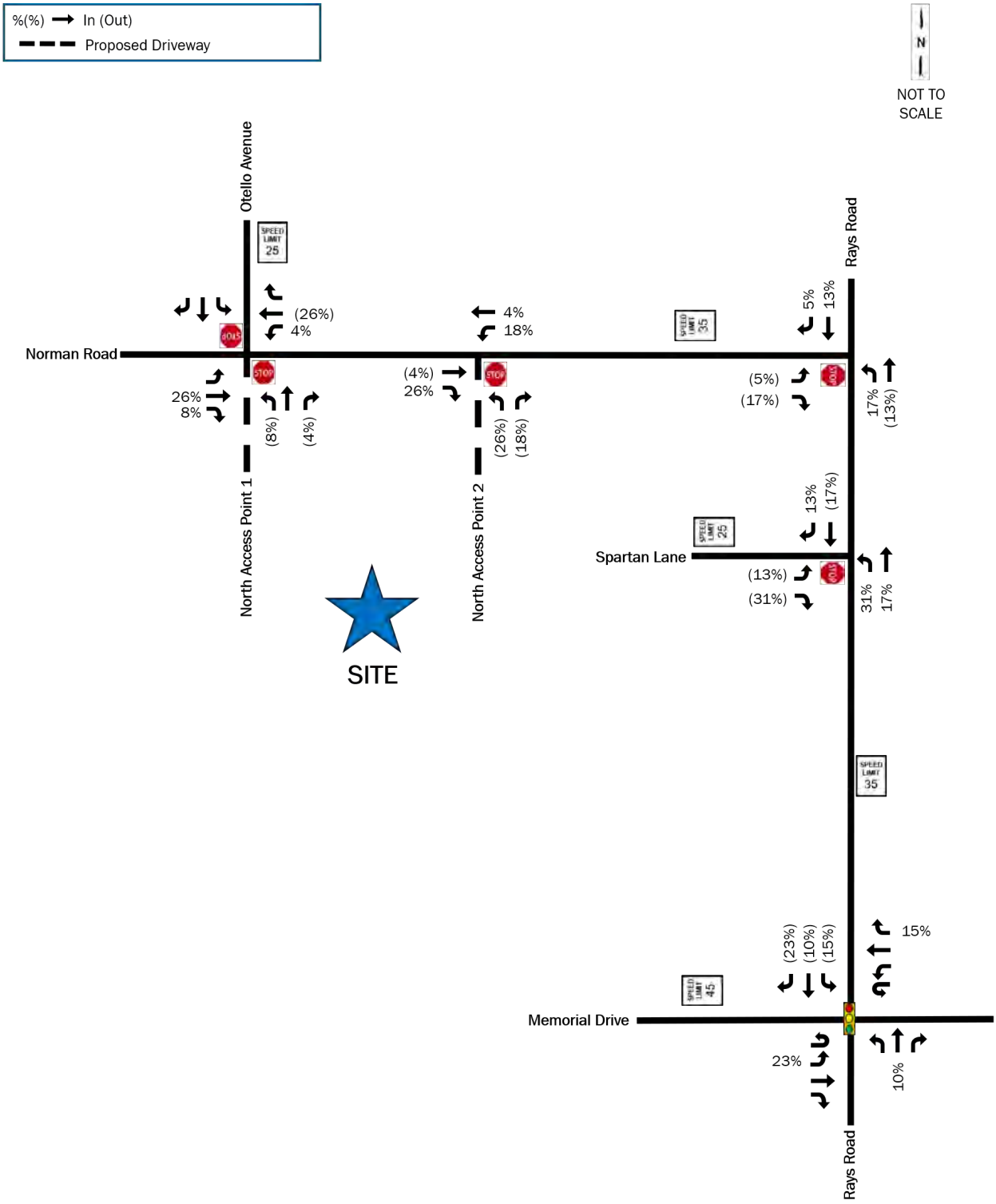


Figure 7: Project Development Trips

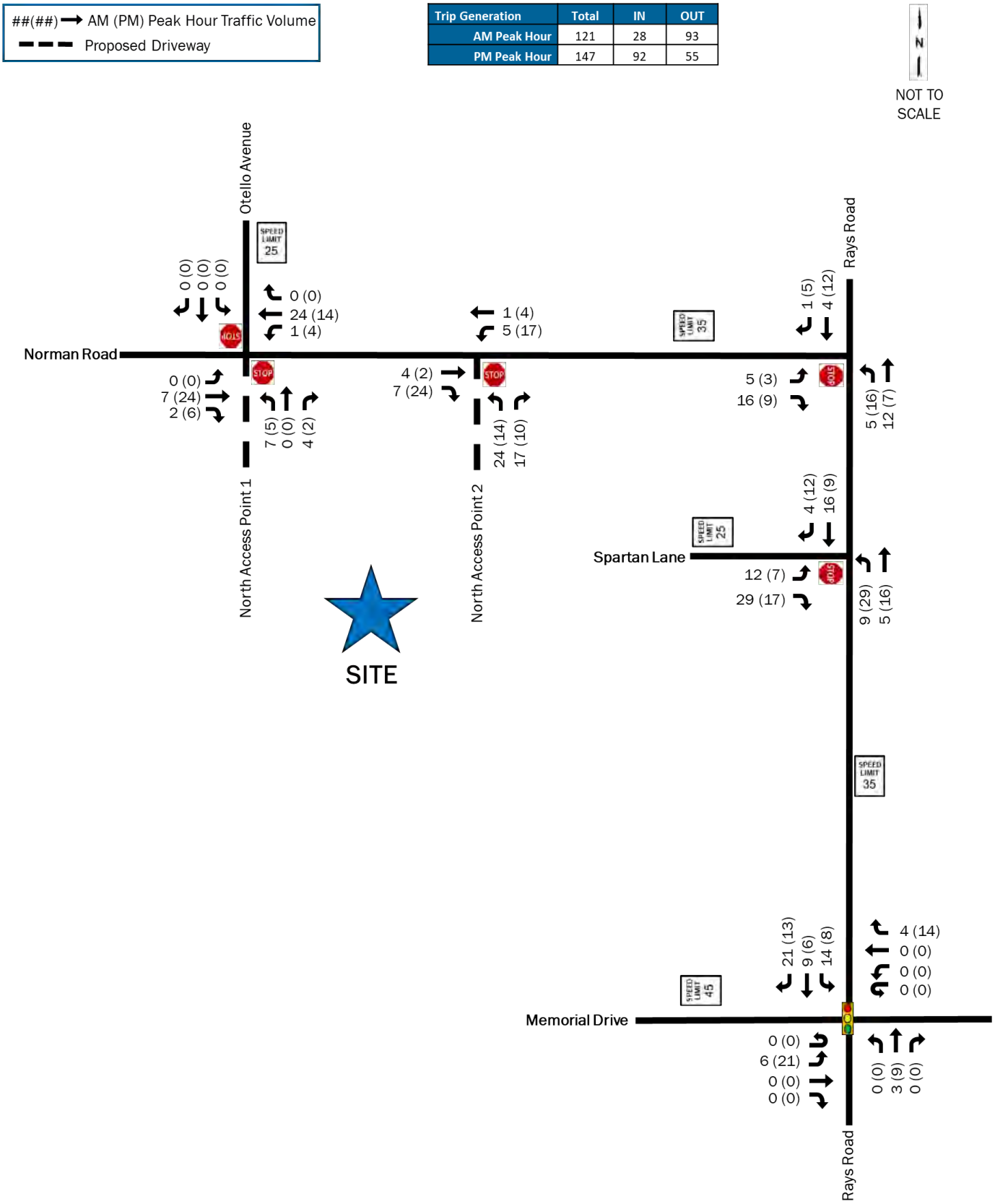
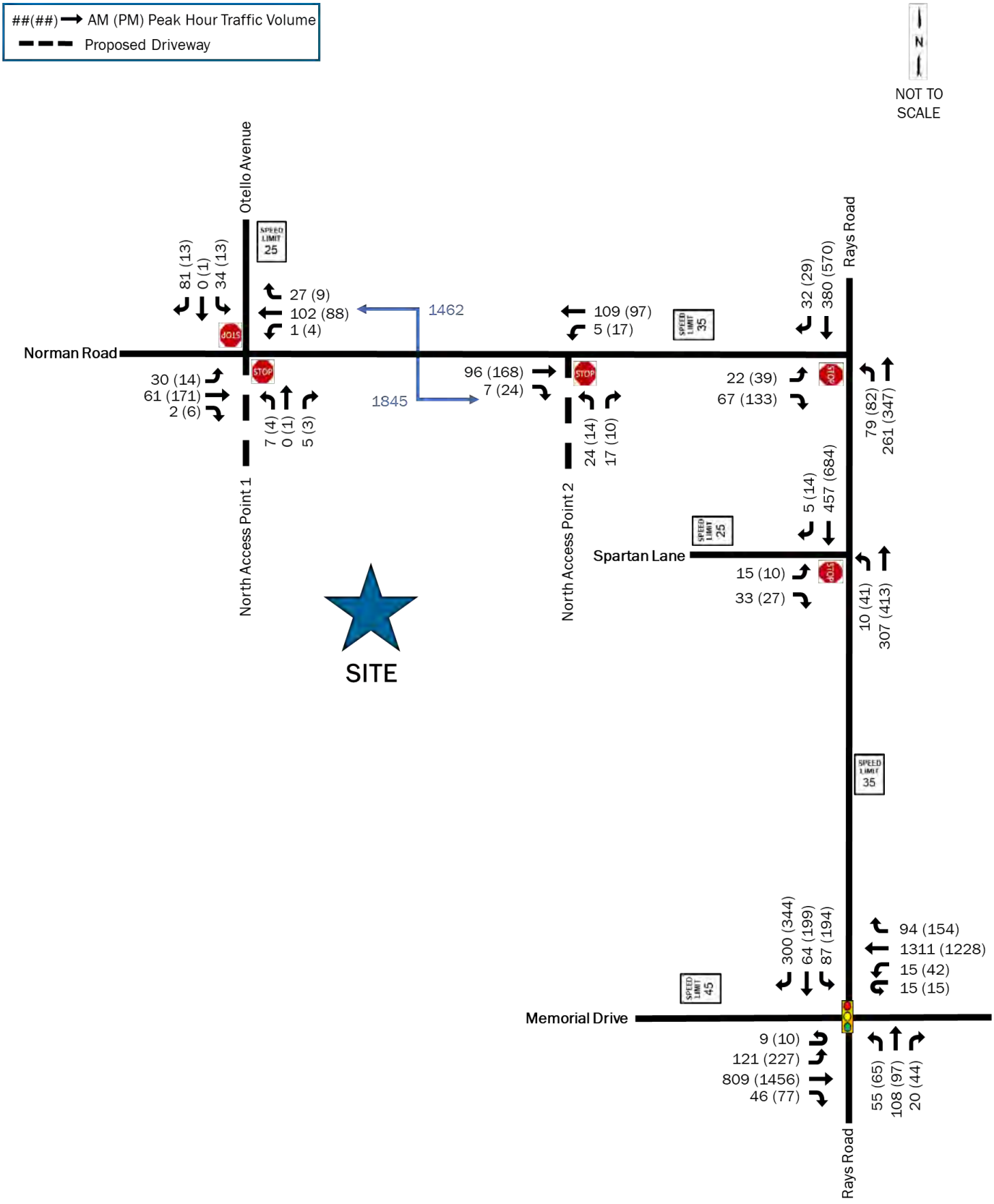


Figure 8: 2024 Build Traffic Volumes



D. Traffic Impact Analyses

The analysis in each of the scenarios for the study was performed using the traffic analysis software Synchro® 11. The analysis utilizes optimized signal timing with assumed cycle lengths of 120 seconds in the AM and PM peak hours. Average vehicular delays are calculated and reported as Levels of Service (LOS) as defined by the Highway Capacity Manual (HCM 6th Edition). HCM uses a grading system from A through F, where A is best (little to no delay) and F is worst (very heavy delay). HCM level of service (LOS) standards and Synchro® output reports are included in Appendix C.

D.1. 2021 Existing Capacity Analysis

The results of the 2021 existing conditions capacity analysis are shown in Table 2 and include analysis of the volumes presented in Figure 3.

Table 2: 2021 Existing Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	Dwy 1/Otello Rd & Norman Rd	Stop-Control	NB	8.5	A	9.8	A
			SB	9.6	A	9.6	A
			EBL	7.4	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	11.1	B	17.6	C
			NBL	8	A	8.7	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	10.9	B	14.8	B
			NBL	7.9	A	8.9	A
5	Rays Rd & Memorial Dr	Signal	EB	24.9	C	29.4	C
			WB	27.9	C	29.7	C
			NB	16.9	B	24.5	C
			SB	23.5	C	33.9	C
			Overall	**25.6**	**C**	**30.1**	**C**

The study assumes adequate operations as LOS D or better. As shown in Table 2, the overall traffic operations at the study intersection are satisfactory in existing conditions.

D.2. 2021 Baseline Capacity Analysis

The results of the 2021 baseline conditions capacity analysis are shown in Table 3 and include analysis of the volumes presented in Figure 4.

Table 3: 2021 Baseline Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	Dwy 1/Otello Rd & Norman Rd	Stop-Control	NB	8.6	A	9.8	A
			SB	10.2	B	9.6	A
			EBL	7.5	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	13.0	B	18.9	C
			NBL	8.4	A	8.9	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	12.5	B	15.4	C
			NBL	8.2	A	9.0	A
5	Rays Rd & Memorial Dr	Signal	EB	24.9	C	30.2	C
			WB	27.8	C	30.6	C
			NB	22.5	C	25.7	C
			SB	32.5	C	35.6	D
			Overall	**27.2**	**C**	**31.1**	**C**

The study assumes adequate operations as LOS D or better. As shown in Table 3, the overall traffic operations at the study intersection are satisfactory in baseline conditions.

D.3. 2024 No-Build Capacity Analysis

The results of the No-Build capacity analysis are shown in Table 4 and include analysis of the volumes presented in Figure 5.

Table 4: 2024 No-Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	DWY 1/Otello Rd & Norman Rd	Stop-Control	NB	8.6	A	10.0	B
			SB	10.5	B	9.8	A
			EBL	7.5	A	7.5	A
			WBL	-	-	-	-
2	DWY 2 & Norman Rd	Stop-Control	NB	-	-	-	-
			WBL	-	-	-	-
3	Rays Rd & Norman Rd	Stop-Control	EB	14.1	B	23.0	C
			NBL	8.5	A	9.1	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	13.2	B	16.7	C
			NBL	8.4	A	9.3	A
5	Rays Rd & Memorial Dr	Signal	EB	25.8	C	30.9	C
			WB	29.7	C	31.4	C
			NB	24.6	C	28.9	C
			SB	36.5	D	40.7	D
			Overall	**29.1**	**C**	**32.7**	**C**

As shown in Table 4, under No-Build conditions with the calculated growth rate of 3.4% in the area, the intersections operate adequately at overall acceptable levels of services. The intersections do increase in delay (as expected with the growth rate) with all intersections operating at a level of service (LOS) D or better overall and at each approach.

D.4. 2024 Build Conditions Capacity Analysis

The results of the 2024 Build conditions intersection capacity analysis are shown in Table 5 for No-Build plus project volumes (Figure 8).

Table 5: 2024 Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				Delay	LOS	Delay	LOS
1	DWY 1/Otello Rd & Norman Rd	Stop-Control	NB	10.7	B	10.5	B
			SB	10.8	B	10.1	B
			EBL	7.6	A	7.5	A
			WBL	7.4	A	7.6	A
2	DWY 2 & Norman Rd	Stop-Control	NB	9.6	A	10.2	B
			WBL	7.4	A	7.7	A
3	Rays Rd & Norman Rd	Stop-Control	EB	14.9	B	26.6	D
			NBL	8.6	A	9.3	A
4	Rays Rd & Spartan Ln	Stop-Control	EB	14.0	B	20.0	C
			NBL	8.5	A	9.6	A
5	Rays Rd & Memorial Dr	Signal	EB	26.9	C	32.6	C
			WB	31.0	C	33.6	C
			NB	24.7	C	28.8	C
			SB	37.8	D	40.8	D
			Overall	**30.4**	**C**	**34.3**	**C**

As shown in Table 5, the overall traffic from the additional project trips from the Spivey Lake Residential Development do not significantly affect the study network. With the added trips, the intersections do increase in delay (as expected), but do not change the overall levels of service experienced in No-Build conditions.

E. GDOT Turn Lane Evaluations

The need for turn lanes was evaluated for both driveways along Norman Road and the existing intersection of Rays Road and Spartan Lane using methodologies from the Georgia Department of Transportation (GDOT) Access Manual. The results of the evaluation are summarized in Table 6. From the evaluation, given the amount of expected traffic at Driveway 2, a right-turn deceleration lane is recommended.

Table 6: GDOT Turn Lane Evaluations

ID	Intersection	Movement/ Turn Lane	GDOT Criteria met?
1	Driveway 1 / Otello Rd & Norman Rd	WBL	NO
		EBR	NO
2	Driveway 2 & Norman Rd	WBL	NO
		EBR	YES
4	Rays Rd & Spartan Ln	NBL	NO
		SBR	NO

F. Conclusions

A new residential development is proposed for construction along Norman Road in DeKalb County, Georgia. The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The proposed development will generate a daily total of 1,844 trips with 121 trips (28 entering and 93 exiting) during the AM peak hour, and 147 trips (92 entering and 55 exiting) during the PM peak hour. The following are conclusions from the study:

- Traffic operations at the study intersections are satisfactory (LOS D or better) in existing and baseline conditions.
- The conditions are expected to increase in delay as evidenced in the No-Build scenario due to the anticipated growth in the study area. Even with anticipated growth, the intersections are expected to operate at a level of service (LOS) D or better overall and at each approach.
- The addition of project traffic is expected to have little impact on the traffic operations at the study intersections. No improvements are recommended because the impact is minimal.
- Based on GDOT criteria, the eastern site driveway (Driveway 2) for the development warrants a right-turn deceleration lane. However, the installation of the turn lane is at the discretion of DeKalb County.

Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.

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APPENDIX A:

CONCEPT PLAN



UNIT TYPE	TOTAL
SINGLE-FAMILY HOME	40
TWO-FAMILY HOME	138
TOWNHOUSE	52
TOTAL	**230**

230 UNITS / 34.88 AC = 6.59 UNITS / AC

PARKING	TOTAL
90° SPACE	213
PARALLEL SPACE	108
GARAGE SPACE	54
TOTAL	**375**

375 TOTAL PARKING SPACES
- 3 CLUBHOUSE SPACES
-10 COMMUNITY GARDEN SPACES
= **362 RESIDENTIAL PARKING SPACES**

362 SPACES / 230 UNITS = **1.57 PARKING RATIO**

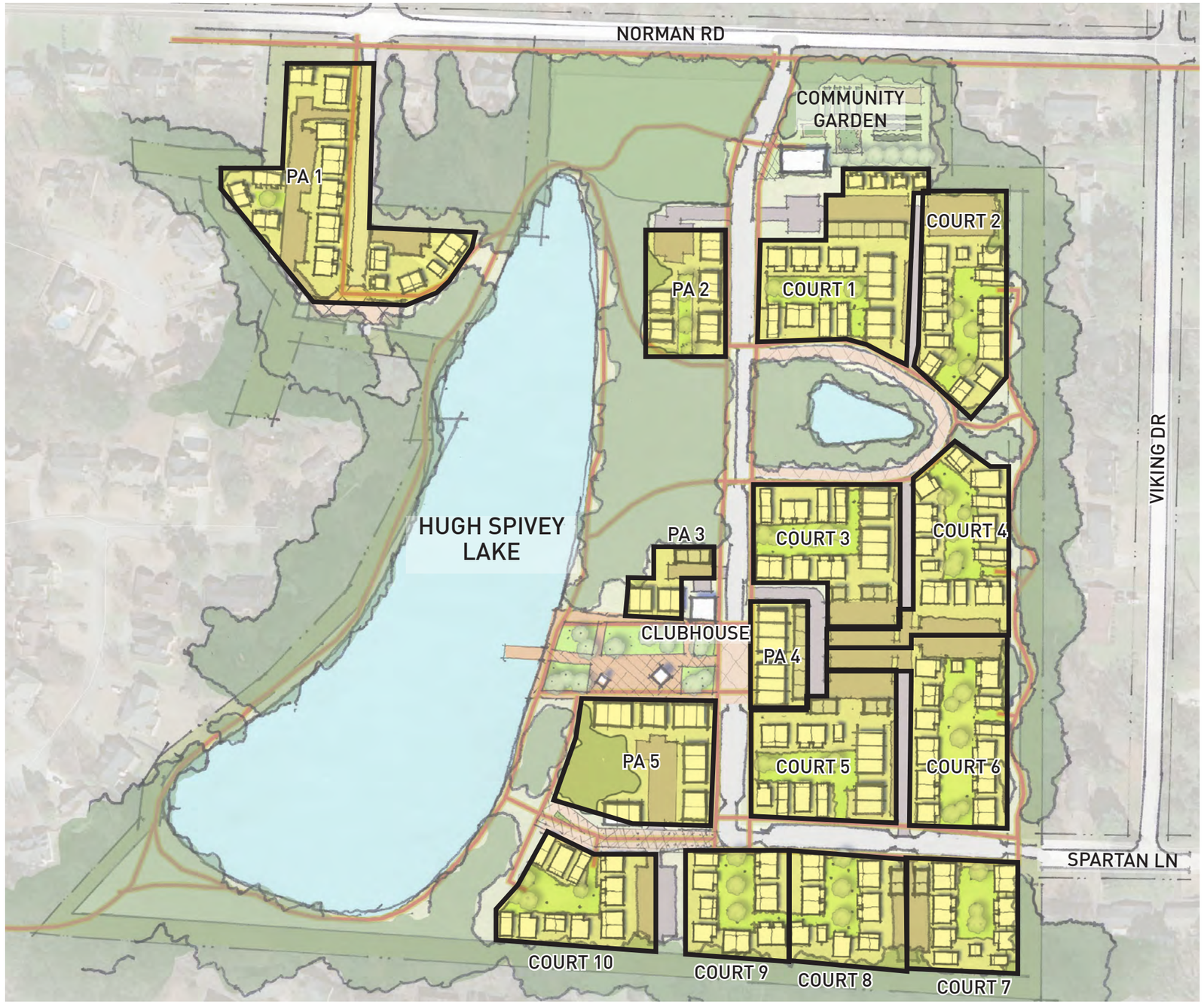
COTTAGE COURT COURTYARD
TRAIL
BUILDING

100 0 100 200 400 Feet

KRONBERG URBANISTS ARCHITECTS

SITE STUDY ILLUSTRATIVE PLAN

HUGH SPIVEY LAKE



RESIDENTIAL PROGRAM

BLOCK	SINGLE-FAMILY / TWO-FAMILY	ADU	TOWN-HOUSE	TOTAL	OFF-STREET PARKING
PA-1	11	16	-	27	26
PA-2	-	-	11	11	12
PA-3	-	-	4	4	6
PA-4	-	-	6	6	14
PA-5	-	-	16	16	17
COURT 1	7	10	5	22	31
COURT 2	12	6	-	18	22
COURT 3	7	6	5	18	23
COURT 4	12	7	-	19	24
COURT 5	6	5	5	16	26
COURT 6	14	6	-	20	24
COURT 7	11	1	-	12	11
COURT 8	10	3	-	13	11
COURT 9	11	2	-	13	13
COURT 10	9	6	-	15	13
TOTAL	**110**	**68**	**52**	**230**	**273**

230 UNITS / 34.88 AC = 6.59 UNITS / AC

1-STORY UNITS: APP. 10% (24 UNITS)
2-STORY UNITS: APP 90% (206 UNITS)

COMMUNITY GARDEN	TOTAL
AREA	0.64 AC
PARKING	10 SPACES

CLUBHOUSE	TOTAL
SF	1,400 SF
PARKING	3 SPACES

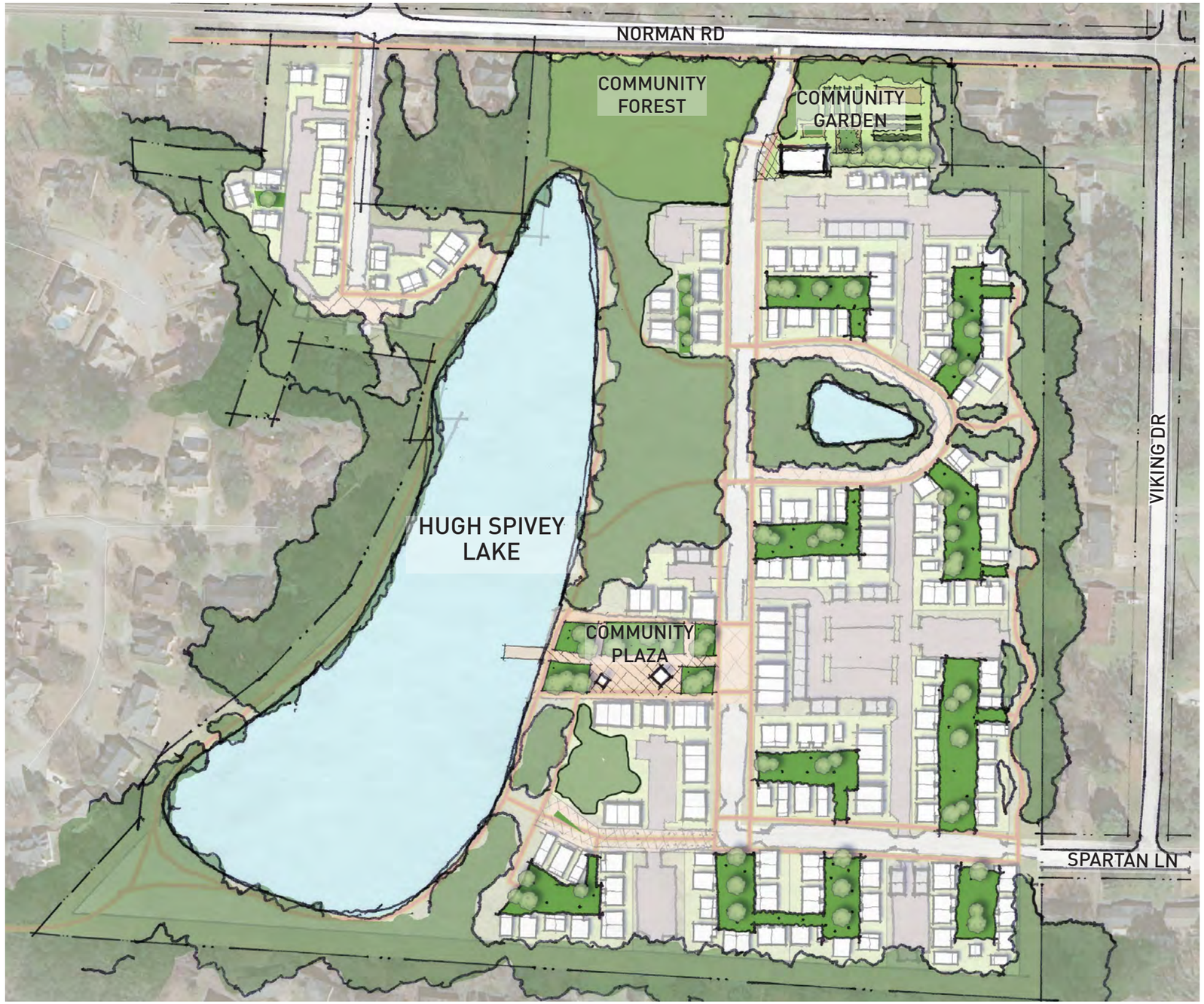
ON-STREET PARKING	TOTAL
PARALLEL SPACE	89

100 0 100 200 400 Feet

SITE STUDY CAPACITY DIAGRAM

HUGH SPIVEY LAKE

KRONBERG URBANISTS ARCHITECTS



UNDEVELOPED LAND	TOTAL (AC)
TOTAL SITE AREA	34.88
TOTAL UNDEVELOPED AREA	18.00

18.00 AC UNDEVELOPED / 34.88 AC TOTAL = 51.6% OF LAND UNTOUCHED

AREA OF COMMUNITY AMENITIES	TOTAL (AC)
COMMUNITY GARDEN	0.64
COMMUNITY FOREST	1.21
COMMUNITY PLAZA	0.65
COTTAGE COURT COURTYARDS	2.03
HUGH SPIVEY LAKE	7.00 AC
TOTAL	**11.53 AC**

TRAILS	TOTAL MILES
LINEAR DISTANCE OF TRAILS	2.1

COTTAGE COURT COURTYARD
TRAIL
BUILDING

100 0 100 200 400 Feet

SITE STUDY GREEN SPACE DIAGRAM

HUGH SPIVEY LAKE

KRONBERG URBANISTS ARCHITECTS

APPENDIX B:

TRAFFIC COUNTS,

GROWTH RATE &

ADJUSTMENT FACTOR

WORKSHEETS

Project ID: 21-180077-001
Location: Otello Ave & Norman Rd
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Otello Ave Northbound						Otello Ave Southbound						Norman Rd Eastbound						Norman Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	8	0	10	0	0	18	7	6	1	0	0	14	0	7	10	0	0	17	49
7:15 AM	0	0	0	0	0	0	8	0	23	0	0	31	3	7	0	0	0	10	0	17	5	0	0	22	63
7:30 AM	0	0	1	0	2	1	6	0	11	0	0	17	6	12	0	0	2	18	0	15	1	0	0	16	52
7:45 AM	0	0	0	0	3	0	0	0	8	0	0	8	3	10	0	0	2	13	0	12	1	0	0	13	34
Total	0	0	1	0	5	1	22	0	52	0	0	74	19	35	1	0	4	55	0	51	17	0	0	68	198
8:00 AM	0	0	0	0	1	0	4	0	4	0	0	8	6	8	0	0	0	14	0	18	2	0	0	20	42
8:15 AM	0	1	0	0	1	1	4	0	5	0	0	9	2	4	1	0	1	7	0	18	0	0	0	18	35
8:30 AM	0	0	0	0	1	0	3	0	2	0	1	5	0	12	0	0	1	12	0	14	3	0	1	17	34
8:45 AM	0	0	0	0	1	0	1	0	2	0	0	3	5	10	0	0	0	15	1	15	3	0	0	19	37
Total	0	1	0	0	4	1	12	0	13	0	1	25	13	34	1	0	2	48	1	65	8	0	1	74	148
BREAK																									
4:00 PM	0	0	0	0	1	0	3	0	2	0	0	5	1	25	0	0	2	26	0	18	1	0	0	19	50
4:15 PM	0	0	0	0	0	0	6	0	2	0	0	8	5	22	0	0	2	27	1	15	1	0	0	17	52
4:30 PM	0	0	0	0	0	0	6	0	1	0	0	7	3	25	0	0	0	28	0	13	2	0	0	15	50
4:45 PM	0	0	0	0	0	0	7	0	0	0	0	7	3	22	0	0	1	25	1	15	0	0	0	16	48
Total	0	0	0	0	1	0	22	0	5	0	0	27	12	94	0	0	5	106	2	61	4	0	0	67	200
5:00 PM	0	0	0	0	1	0	3	0	2	0	0	5	5	28	0	0	0	33	0	12	1	0	0	13	51
5:15 PM	0	0	0	0	4	0	2	1	4	0	0	7	3	30	0	0	2	33	0	20	5	0	2	25	65
5:30 PM	0	0	1	0	0	1	1	0	3	0	0	4	3	37	0	0	2	40	0	19	0	0	0	19	64
5:45 PM	0	1	0	0	0	1	5	0	2	0	0	7	1	32	0	0	0	33	0	13	2	0	0	15	56
Total	0	1	1	0	5	2	11	1	11	0	0	23	12	127	0	0	4	139	0	64	8	0	2	72	236
Grand Total	0	2	2	0	15	4	67	1	81	0	1	149	56	290	2	0	15	348	3	241	37	0	3	281	782
Apprch %	0.0	50.0	50.0	0.0	375.0		45.0	0.7	54.4	0.0	0.7		16.1	83.3	0.6	0.0	4.3		1.1	85.8	13.2	0.0	1.1		
Total %	0.0	0.3	0.3	0.0	1.9	0.5	8.6	0.1	10.4	0.0	0.1	19.1	7.2	37.1	0.3	0.0	1.9	44.5	0.4	30.8	4.7	0.0	0.4	35.9	
Cars, PU, Vans	0	2	2	0		4	58	1	73	0		132	55	286	2	0		343	3	229	36	0		268	747
% Cars, PU, Vans	0.0	100.0	100.0	0.0		100.0	86.6	100.0	90.1	0.0		88.6	98.2	98.6	100.0	0.0		98.6	100.0	95.0	97.3	0.0		95.4	95.5
Heavy trucks	0	0	0	0		0	9	0	8	0		17	1	4	0	0		5	0	12	1	0		13	35
%Heavy trucks	0.0	0.0	0.0	0.0		0.0	13.4	0.0	9.9	0.0		11.4	1.8	1.4	0.0	0.0		1.4	0.0	5.0	2.7	0.0		4.6	4.5

Project ID: 21-180077-001
Location: Otello Ave & Norman Rd
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Otello Ave Northbound					Otello Ave Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	0	0	0	0	0	8	0	10	0	18	7	6	1	0	14	0	7	10	0	17	49
7:15 AM	0	0	0	0	0	8	0	23	0	31	3	7	0	0	10	0	17	5	0	22	63
7:30 AM	0	0	1	0	1	6	0	11	0	17	6	12	0	0	18	0	15	1	0	16	52
7:45 AM	0	0	0	0	0	0	0	8	0	8	3	10	0	0	13	0	12	1	0	13	34
Total Volume	0	0	1	0	1	22	0	52	0	74	19	35	1	0	55	0	51	17	0	68	198
% App. Total	0.0	0.0	100.0	0.0	100	29.7	0.0	70.3	0.0	100	34.5	63.6	1.8	0.0	100	0.0	75.0	25.0	0.0	100	
PHF					0.250					0.597					0.764					0.773	0.786
Cars, PU, Vans	0	0	1	0	1	17	0	45	0	62	19	32	1	0	52	0	45	16	0	61	176
% Cars, PU, Vans	0.0	0.0	100.0	0.0	100.0	77.3	0.0	86.5	0.0	83.8	100.0	91.4	100.0	0.0	94.5	0.0	88.2	94.1	0.0	89.7	88.9
Heavy trucks	0	0	0	0	0	5	0	7	0	12	0	3	0	0	3	0	6	1	0	7	22
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	22.7	0.0	13.5	0.0	16.2	0.0	8.6	0.0	0.0	5.5	0.0	11.8	5.9	0.0	10.3	11.1

PM

	Otello Ave Northbound					Otello Ave Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	0	0	0	0	0	3	0	2	0	5	5	28	0	0	33	0	12	1	0	13	51
5:15 PM	0	0	0	0	0	2	1	4	0	7	3	30	0	0	33	0	20	5	0	25	65
5:30 PM	0	0	1	0	1	1	0	3	0	4	3	37	0	0	40	0	19	0	0	19	64
5:45 PM	0	1	0	0	1	5	0	2	0	7	1	32	0	0	33	0	13	2	0	15	56
Total Volume	0	1	1	0	2	11	1	11	0	23	12	127	0	0	139	0	64	8	0	72	236
% App. Total	0.0	50.0	50.0	0.0	100	47.8	4.3	47.8	0.0	100	8.6	91.4	0.0	0.0	100	0.0	88.9	11.1	0.0	100	
PHF					0.500					0.821					0.869					0.720	0.908
Cars, PU, Vans	0	1	1	0	2	11	1	11	0	23	11	126	0	0	137	0	62	8	0	70	232
% Cars, PU, Vans	0.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	91.7	99.2	0.0	0.0	98.6	0.0	96.9	100.0	0.0	97.2	98.3
Heavy trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	0	0	2	4
%Heavy trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.8	0.0	0.0	1.4	0.0	3.1	0.0	0.0	2.8	1.7

Project ID: 21-180077-002
Location: Rays Rd & Norman Rd
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Norman Rd Eastbound						Norman Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	18	23	0	0	0	41	0	34	3	0	0	37	0	0	7	0	0	7	0	0	0	0	0	0	85
7:15 AM	13	44	0	0	0	57	0	42	5	0	0	47	5	0	9	0	0	14	0	0	0	0	0	0	118
7:30 AM	14	40	0	0	0	54	0	40	1	0	0	41	9	0	10	0	0	19	0	0	0	0	0	0	114
7:45 AM	12	37	0	0	0	49	0	45	4	0	0	49	5	0	9	0	0	14	0	0	0	0	0	0	112
Total	57	144	0	0	0	201	0	161	13	0	0	174	19	0	35	0	0	54	0	0	0	0	0	0	429
8:00 AM	11	39	0	0	0	50	0	61	6	0	0	67	3	0	8	0	0	11	0	0	0	0	0	0	128
8:15 AM	12	31	0	0	0	43	0	49	5	0	0	54	2	0	8	0	0	10	0	0	0	0	0	0	107
8:30 AM	10	48	0	0	0	58	0	63	6	0	0	69	1	0	7	0	0	8	0	0	0	0	0	0	135
8:45 AM	15	43	0	0	0	58	0	70	3	0	0	73	5	0	10	0	0	15	0	0	0	0	0	0	146
Total	48	161	0	0	0	209	0	243	20	0	0	263	11	0	33	0	0	44	0	0	0	0	0	0	516
BREAK																									
4:00 PM	10	69	0	0	0	79	0	110	2	0	0	112	5	0	22	0	0	27	0	0	0	0	0	0	218
4:15 PM	13	78	0	0	1	91	0	114	9	0	0	123	5	0	16	0	0	21	0	0	0	0	0	0	235
4:30 PM	10	73	0	0	0	83	0	143	6	0	0	149	11	0	21	0	0	32	0	0	0	0	0	0	264
4:45 PM	11	57	0	0	0	68	0	115	1	0	0	116	7	0	18	0	0	25	0	0	0	0	0	0	209
Total	44	277	0	0	1	321	0	482	18	0	0	500	28	0	77	0	0	105	0	0	0	0	0	0	926
5:00 PM	13	75	0	0	0	88	0	101	3	0	0	104	6	0	27	0	0	33	0	0	0	0	0	0	225
5:15 PM	15	63	0	0	0	78	0	143	12	0	0	155	6	0	20	0	0	26	0	0	0	0	0	0	259
5:30 PM	15	78	0	0	0	93	0	135	4	0	0	139	12	0	26	0	0	38	0	0	0	0	0	0	270
5:45 PM	14	77	0	0	0	91	0	102	2	0	0	104	7	0	34	0	0	41	0	0	0	0	0	0	236
Total	57	293	0	0	0	350	0	481	21	0	0	502	31	0	107	0	0	138	0	0	0	0	0	0	990
Grand Total	206	875	0	0	1	1081	0	1367	72	0	0	1439	89	0	252	0	0	341	0	0	0	0	0	0	2861
Apprch %	19.1	80.9	0.0	0.0	0.1		0.0	95.0	5.0	0.0	0.0		26.1	0.0	73.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	7.2	30.6	0.0	0.0	0.0	37.8	0.0	47.8	2.5	0.0	0.0	50.3	3.1	0.0	8.8	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	202	849	0	0		1051	0	1334	68	0		1402	85	0	242	0		327	0	0	0	0		0	2780
% Cars, PU, Vans	98.1	97.0	0.0	0.0		97.2	0.0	97.6	94.4	0.0		97.4	95.5	0.0	96.0	0.0		95.9	0.0	0.0	0.0	0.0		0.0	97.2
Heavy trucks	4	26	0	0		30	0	33	4	0		37	4	0	10	0		14	0	0	0	0		0	81
%Heavy trucks	1.9	3.0	0.0	0.0		2.8	0.0	2.4	5.6	0.0		2.6	4.5	0.0	4.0	0.0		4.1	0.0	0.0	0.0	0.0		0.0	2.8

Project ID: 21-180077-002
Location: Rays Rd & Norman Rd
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
8:00 AM	11	39	0	0	50	0	61	6	0	67	3	0	8	0	11	0	0	0	0	0	128
8:15 AM	12	31	0	0	43	0	49	5	0	54	2	0	8	0	10	0	0	0	0	0	107
8:30 AM	10	48	0	0	58	0	63	6	0	69	1	0	7	0	8	0	0	0	0	0	135
8:45 AM	15	43	0	0	58	0	70	3	0	73	5	0	10	0	15	0	0	0	0	0	146
Total Volume	48	161	0	0	209	0	243	20	0	263	11	0	33	0	44	0	0	0	0	0	516
% App. Total	23.0	77.0	0.0	0.0	100	0.0	92.4	7.6	0.0	100	25.0	0.0	75.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.901					0.901					0.733						0.884
Cars, PU, Vans	48	152	0	0	200	0	223	20	0	243	11	0	32	0	43	0	0	0	0	0	486
% Cars, PU, Vans	100.0	94.4	0.0	0.0	95.7	0.0	91.8	100.0	0.0	92.4	100.0	0.0	97.0	0.0	97.7	0.0	0.0	0.0	0.0	0.0	94.2
Heavy trucks	0	9	0	0	9	0	20	0	0	20	0	0	1	0	1	0	0	0	0	0	30
%Heavy trucks	0.0	5.6	0.0	0.0	4.3	0.0	8.2	0.0	0.0	7.6	0.0	0.0	3.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	5.8

PM

	Rays Rd Northbound					Rays Rd Southbound					Norman Rd Eastbound					Norman Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	13	75	0	0	88	0	101	3	0	104	6	0	27	0	33	0	0	0	0	0	225
5:15 PM	15	63	0	0	78	0	143	12	0	155	6	0	20	0	26	0	0	0	0	0	259
5:30 PM	15	78	0	0	93	0	135	4	0	139	12	0	26	0	38	0	0	0	0	0	270
5:45 PM	14	77	0	0	91	0	102	2	0	104	7	0	34	0	41	0	0	0	0	0	236
Total Volume	57	293	0	0	350	0	481	21	0	502	31	0	107	0	138	0	0	0	0	0	990
% App. Total	16.3	83.7	0.0	0.0	100	0.0	95.8	4.2	0.0	100	22.5	0.0	77.5	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.941					0.810					0.841						0.917
Cars, PU, Vans	56	291	0	0	347	0	477	20	0	497	31	0	105	0	136	0	0	0	0	0	980
% Cars, PU, Vans	98.2	99.3	0.0	0.0	99.1	0.0	99.2	95.2	0.0	99.0	100.0	0.0	98.1	0.0	98.6	0.0	0.0	0.0	0.0	0.0	99.0
Heavy trucks	1	2	0	0	3	0	4	1	0	5	0	0	2	0	2	0	0	0	0	0	10
%Heavy trucks	1.8	0.7	0.0	0.0	0.9	0.0	0.8	4.8	0.0	1.0	0.0	0.0	1.9	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.0

Project ID: 21-180077-003
Location: Rays Rd & Spartan Ln
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Spartan Ln Eastbound						Spartan Ln Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	1	36	0	0	0	37	0	46	0	0	0	46	0	0	0	0	0	0	0	0	0	0	1	0	83
7:15 AM	2	59	0	0	0	61	0	48	0	0	0	48	0	0	1	0	0	1	0	0	0	0	0	0	110
7:30 AM	0	46	0	1	0	47	0	58	0	0	0	58	0	0	1	0	0	1	0	0	0	0	0	0	106
7:45 AM	0	48	0	0	0	48	0	51	0	0	0	51	0	0	2	0	0	2	0	0	0	0	2	0	101
Total	3	189	0	1	0	193	0	203	0	0	0	203	0	0	4	0	0	4	0	0	0	0	3	0	400
8:00 AM	0	45	0	0	0	45	0	71	0	0	0	71	0	0	1	0	0	1	0	0	0	0	0	0	117
8:15 AM	0	41	1	0	0	42	0	60	1	0	0	61	0	0	1	0	0	1	0	0	0	0	0	0	104
8:30 AM	0	58	0	0	0	58	0	76	0	0	0	76	0	0	1	0	0	1	0	0	0	0	0	0	135
8:45 AM	1	51	0	0	0	52	0	78	0	0	0	78	2	0	0	0	1	2	0	0	0	0	0	0	132
Total	1	195	1	0	0	197	0	285	1	0	0	286	2	0	3	0	1	5	0	0	0	0	0	0	488
BREAK																									
4:00 PM	1	88	0	0	0	89	0	132	1	0	0	133	0	0	0	0	0	0	0	0	0	0	1	0	222
4:15 PM	1	89	0	0	0	90	0	129	1	0	0	130	1	0	2	0	1	3	0	0	0	0	0	0	223
4:30 PM	1	86	0	0	0	87	0	166	0	0	0	166	0	0	1	0	1	1	0	0	0	0	1	0	254
4:45 PM	2	74	0	0	0	76	0	133	0	0	0	133	0	0	4	0	0	4	0	0	0	0	2	0	213
Total	5	337	0	0	0	342	0	560	2	0	0	562	1	0	7	0	2	8	0	0	0	0	4	0	912
5:00 PM	2	84	0	0	0	86	0	123	0	0	0	123	1	0	2	0	0	3	0	0	0	0	0	0	212
5:15 PM	4	86	0	0	0	90	0	169	2	0	0	171	2	0	2	0	0	4	0	0	0	0	0	0	265
5:30 PM	2	98	0	0	0	100	0	157	0	0	0	157	0	0	1	0	0	1	0	0	0	0	0	0	258
5:45 PM	0	78	0	0	0	78	0	125	0	0	0	125	0	0	1	0	0	1	0	0	0	0	0	0	204
Total	8	346	0	0	0	354	0	574	2	0	0	576	3	0	6	0	0	9	0	0	0	0	0	0	939
Grand Total	17	1067	1	1	0	1086	0	1622	5	0	0	1627	6	0	20	0	3	26	0	0	0	0	7	0	2739
Apprch %	1.6	98.3	0.1	0.1	0.0		0.0	99.7	0.3	0.0	0.0		23.1	0.0	76.9	0.0	11.5		0.0	0.0	0.0	0.0	0.0		
Total %	0.6	39.0	0.0	0.0	0.0	39.6	0.0	59.2	0.2	0.0	0.0	59.4	0.2	0.0	0.7	0.0	0.1	0.9	0.0	0.0	0.0	0.0	0.3	0.0	
Cars, PU, Vans	16	1034	1	0		1051	0	1579	5	0		1584	6	0	19	0		25	0	0	0	0		0	2660
% Cars, PU, Vans	94.1	96.9	100.0	0.0		96.8	0.0	97.3	100.0	0.0		97.4	100.0	0.0	95.0	0.0		96.2	0.0	0.0	0.0	0.0		0.0	97.1
Heavy trucks	1	33	0	1		35	0	43	0	0		43	0	0	1	0		1	0	0	0	0		0	79
%Heavy trucks	5.9	3.1	0.0	100.0		3.2	0.0	2.7	0.0	0.0		2.6	0.0	0.0	5.0	0.0		3.8	0.0	0.0	0.0	0.0		0.0	2.9

Project ID: 21-180077-003
Location: Rays Rd & Spartan Ln
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Spartan Ln Eastbound					Spartan Ln Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
8:00 AM	0	45	0	0	45	0	71	0	0	71	0	0	1	0	1	0	0	0	0	0	117
8:15 AM	0	41	1	0	42	0	60	1	0	61	0	0	1	0	1	0	0	0	0	0	104
8:30 AM	0	58	0	0	58	0	76	0	0	76	0	0	1	0	1	0	0	0	0	0	135
8:45 AM	1	51	0	0	52	0	78	0	0	78	2	0	0	0	2	0	0	0	0	0	132
Total Volume	1	195	1	0	197	0	285	1	0	286	2	0	3	0	5	0	0	0	0	0	488
% App. Total	0.5	99.0	0.5	0.0	100	0.0	99.7	0.3	0.0	100	40.0	0.0	60.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.849					0.917					0.625						0.904
Cars, PU, Vans	1	184	1	0	186	0	265	1	0	266	2	0	3	0	5	0	0	0	0	0	457
% Cars, PU, Vans	100.0	94.4	100.0	0.0	94.4	0.0	93.0	100.0	0.0	93.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	93.6
Heavy trucks	0	11	0	0	11	0	20	0	0	20	0	0	0	0	0	0	0	0	0	0	31
%Heavy trucks	0.0	5.6	0.0	0.0	5.6	0.0	7.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4

PM

	Rays Rd Northbound					Rays Rd Southbound					Spartan Ln Eastbound					Spartan Ln Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
4:45 PM	2	74	0	0	76	0	133	0	0	133	0	0	4	0	4	0	0	0	0	0	213
5:00 PM	2	84	0	0	86	0	123	0	0	123	1	0	2	0	3	0	0	0	0	0	212
5:15 PM	4	86	0	0	90	0	169	2	0	171	2	0	2	0	4	0	0	0	0	0	265
5:30 PM	2	98	0	0	100	0	157	0	0	157	0	0	1	0	1	0	0	0	0	0	258
Total Volume	10	342	0	0	352	0	582	2	0	584	3	0	9	0	12	0	0	0	0	0	948
% App. Total	2.8	97.2	0.0	0.0	100	0.0	99.7	0.3	0.0	100	25.0	0.0	75.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.880					0.854					0.750						0.894
Cars, PU, Vans	10	338	0	0	348	0	577	2	0	579	3	0	9	0	12	0	0	0	0	0	939
% Cars, PU, Vans	100.0	98.8	0.0	0.0	98.9	0.0	99.1	100.0	0.0	99.1	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	99.1
Heavy trucks	0	4	0	0	4	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	9
%Heavy trucks	0.0	1.2	0.0	0.0	1.1	0.0	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9

Project ID: 21-180077-004
Location: Rays Rd & Memorial Dr/SR 10
City: Stone Mountain

Day: Thursday
Date: 3/25/2021

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Rays Rd Northbound						Rays Rd Southbound						Memorial Dr/SR 10 Eastbound						Memorial Dr/SR 10 Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	2	8	2	0	0	12	3	3	39	1	0	46	14	96	3	0	0	113	2	199	13	0	0	214	385
7:15 AM	3	12	2	0	0	17	6	6	41	0	0	53	21	96	3	0	0	120	0	204	20	0	0	224	414
7:30 AM	4	14	4	0	0	22	16	14	38	0	1	68	18	116	2	2	0	138	1	191	12	1	0	205	433
7:45 AM	9	15	2	0	1	26	10	6	35	0	0	51	21	148	9	0	0	178	0	229	11	0	0	240	495
Total	18	49	10	0	1	77	35	29	153	1	1	218	74	456	17	2	0	549	3	823	56	1	0	883	1727
8:00 AM	12	13	3	0	0	28	14	11	53	0	1	78	19	131	8	2	0	160	5	215	13	1	0	234	500
8:15 AM	8	17	4	0	0	29	15	7	41	0	1	63	17	132	8	3	0	160	1	200	15	3	0	219	471
8:30 AM	7	23	4	0	1	34	8	12	51	0	0	71	17	112	5	1	0	135	4	203	19	6	0	232	472
8:45 AM	17	19	3	0	0	39	13	12	56	0	0	81	27	122	4	0	1	153	2	183	15	3	0	203	476
Total	44	72	14	0	1	130	50	42	201	0	2	293	80	497	25	6	1	608	12	801	62	13	0	888	1919
BREAK																									
4:00 PM	18	17	13	0	1	48	50	43	76	0	0	169	59	269	21	1	0	350	5	254	28	8	0	295	862
4:15 PM	20	14	6	0	0	40	40	28	71	0	0	139	55	275	14	4	0	348	10	248	36	6	0	300	827
4:30 PM	13	18	6	0	2	37	39	48	68	0	0	155	46	297	16	4	0	363	12	276	21	10	1	319	874
4:45 PM	7	17	10	0	0	34	48	41	66	0	1	155	33	253	17	4	0	307	8	243	26	5	1	282	778
Total	58	66	35	0	3	159	177	160	281	0	1	618	193	1094	68	13	0	1368	35	1021	111	29	2	1196	3341
5:00 PM	15	20	6	0	0	41	30	31	65	0	1	126	42	304	14	2	0	362	6	280	29	3	0	318	847
5:15 PM	14	17	12	0	1	43	41	48	74	0	0	163	43	327	18	3	0	391	9	266	32	3	0	310	907
5:30 PM	16	26	11	0	1	53	51	45	88	0	0	184	48	327	10	3	0	388	12	259	30	3	0	304	929
5:45 PM	11	13	9	0	2	33	38	43	58	0	0	139	44	296	25	1	0	366	9	253	30	4	1	296	834
Total	56	76	38	0	4	170	160	167	285	0	1	612	177	1254	67	9	0	1507	36	1058	121	13	1	1228	3517
Grand Total	176	263	97	0	9	536	422	398	920	1	5	1741	524	3301	177	30	1	4032	86	3703	350	56	3	4195	10504
Apprch %	32.8	49.1	18.1	0.0	1.7		24.2	22.9	52.8	0.1	0.3		13.0	81.9	4.4	0.7	0.0		2.1	88.3	8.3	1.3	0.1		
Total %	1.7	2.5	0.9	0.0	0.1	5.1	4.0	3.8	8.8	0.0	0.0	16.6	5.0	31.4	1.7	0.3	0.0	38.4	0.8	35.3	3.3	0.5	0.0	39.9	
Cars, PU, Vans	172	261	97	0		530	404	395	897	1		1697	499	3186	170	30		3885	85	3567	336	55		4043	10155
% Cars, PU, Vans	97.7	99.2	100.0	0.0		98.9	95.7	99.2	97.5	100.0		97.5	95.2	96.5	96.0	100.0		96.4	98.8	96.3	96.0	98.2		96.4	96.7
Heavy trucks	4	2	0	0		6	18	3	23	0		44	25	115	7	0		147	1	136	14	1		152	349
%Heavy trucks	2.3	0.8	0.0	0.0		1.1	4.3	0.8	2.5	0.0		2.5	4.8	3.5	4.0	0.0		3.6	1.2	3.7	4.0	1.8		3.6	3.3

Project ID: 21-180077-004
Location: Rays Rd & Memorial Dr/SR 10
City: Stone Mountain

PEAK HOURS

Day: Thursday
Date: 3/25/2021

AM

	Rays Rd Northbound					Rays Rd Southbound					Memorial Dr/SR 10 Eastbound					Memorial Dr/SR 10 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
7:45 AM	9	15	2	0	26	10	6	35	0	51	21	148	9	0	178	0	229	11	0	240	495
8:00 AM	12	13	3	0	28	14	11	53	0	78	19	131	8	2	160	5	215	13	1	234	500
8:15 AM	8	17	4	0	29	15	7	41	0	63	17	132	8	3	160	1	200	15	3	219	471
8:30 AM	7	23	4	0	34	8	12	51	0	71	17	112	5	1	135	4	203	19	6	232	472
Total Volume	36	68	13	0	117	47	36	180	0	263	74	523	30	6	633	10	847	58	10	925	1938
% App. Total	30.8	58.1	11.1	0.0	100	17.9	13.7	68.4	0.0	100	11.7	82.6	4.7	0.9	100	1.1	91.6	6.3	1.1	100	
PHF					0.860					0.843					0.889					0.964	0.969
Cars, PU, Vans	36	67	13	0	116	42	36	167	0	245	67	488	29	6	590	9	805	54	10	878	1829
% Cars, PU, Vans	100.0	98.5	100.0	0.0	99.1	89.4	100.0	92.8	0.0	93.2	90.5	93.3	96.7	100.0	93.2	90.0	95.0	93.1	100.0	94.9	94.4
Heavy trucks	0	1	0	0	1	5	0	13	0	18	7	35	1	0	43	1	42	4	0	47	109
%Heavy trucks	0.0	1.5	0.0	0.0	0.9	10.6	0.0	7.2	0.0	6.8	9.5	6.7	3.3	0.0	6.8	10.0	5.0	6.9	0.0	5.1	5.6

PM

	Rays Rd Northbound					Rays Rd Southbound					Memorial Dr/SR 10 Eastbound					Memorial Dr/SR 10 Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	15	20	6	0	41	30	31	65	0	126	42	304	14	2	362	6	280	29	3	318	847
5:15 PM	14	17	12	0	43	41	48	74	0	163	43	327	18	3	391	9	266	32	3	310	907
5:30 PM	16	26	11	0	53	51	45	88	0	184	48	327	10	3	388	12	259	30	3	304	929
5:45 PM	11	13	9	0	33	38	43	58	0	139	44	296	25	1	366	9	253	30	4	296	834
Total Volume	56	76	38	0	170	160	167	285	0	612	177	1254	67	9	1507	36	1058	121	13	1228	3517
% App. Total	32.9	44.7	22.4	0.0	100	26.1	27.3	46.6	0.0	100	11.7	83.2	4.4	0.6	100	2.9	86.2	9.9	1.1	100	
PHF					0.802					0.832					0.964					0.965	0.946
Cars, PU, Vans	55	76	38	0	169	157	166	282	0	605	173	1227	66	9	1475	36	1040	120	13	1209	3458
% Cars, PU, Vans	98.2	100.0	100.0	0.0	99.4	98.1	99.4	98.9	0.0	98.9	97.7	97.8	98.5	100.0	97.9	100.0	98.3	99.2	100.0	98.5	98.3
Heavy trucks	1	0	0	0	1	3	1	3	0	7	4	27	1	0	32	0	18	1	0	19	59
%Heavy trucks	1.8	0.0	0.0	0.0	0.6	1.9	0.6	1.1	0.0	1.1	2.3	2.2	1.5	0.0	2.1	0.0	1.7	0.8	0.0	1.5	1.7

Prepared by National Data & Surveying Services

VOLUME

Norman Rd Bet. Otello Ave & Viking Dr

Day: Thursday
Date: 3/25/2021

City: Stone Mountain
Project #: GA21_180078_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,365	1,081	2,446

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			4		3		7		12:00			16		14		30	
00:15			4		2		6		12:15			17		19		36	
00:30			4		4		8		12:30			18		12		30	
00:45			5	17	0	9	5	26	12:45			22	73	9	54	31	127
01:00			6		2		8		13:00			22		16		38	
01:15			2		5		7		13:15			23		15		38	
01:30			3		3		6		13:30			22		22		44	
01:45			4	15	2	12	6	27	13:45			21	88	17	70	38	158
02:00			4		2		6		14:00			23		29		52	
02:15			1		2		3		14:15			22		22		44	
02:30			1		4		5		14:30			26		14		40	
02:45			4	10	2	10	6	20	14:45			32	103	15	80	47	183
03:00			1		0		1		15:00			40		14		54	
03:15			2		0		2		15:15			47		20		67	
03:30			1		0		1		15:30			42		20		62	
03:45			1	5	1	1	2	6	15:45			27	156	27	81	54	237
04:00			0		1		1		16:00			26		15		41	
04:15			0		1		1		16:15			29		20		49	
04:30			3		1		4		16:30			33		15		48	
04:45			1	4	1	4	2	8	16:45			29	117	12	62	41	179
05:00			2		1		3		17:00			32		17		49	
05:15			1		3		4		17:15			31		26		57	
05:30			6		2		8		17:30			41		16		57	
05:45			4	13	9	15	13	28	17:45			39	143	21	80	60	223
06:00			4		4		8		18:00			29		17		46	
06:15			9		11		20		18:15			31		17		48	
06:30			4		21		25		18:30			38		15		53	
06:45			5	22	29	65	34	87	18:45			21	119	19	68	40	187
07:00			7		21		28		19:00			22		11		33	
07:15			20		18		38		19:15			24		14		38	
07:30			18		21		39		19:30			20		7		27	
07:45			14	59	10	70	24	129	19:45			19	85	13	45	32	130
08:00			11		20		31		20:00			12		18		30	
08:15			12		16		28		20:15			10		12		22	
08:30			10		19		29		20:30			15		11		26	
08:45			13	46	18	73	31	119	20:45			10	47	11	52	21	99
09:00			14		15		29		21:00			8		4		12	
09:15			9		15		24		21:15			9		8		17	
09:30			13		10		23		21:30			15		14		29	
09:45			8	44	17	57	25	101	21:45			6	38	6	32	12	70
10:00			9		8		17		22:00			11		6		17	
10:15			10		11		21		22:15			9		5		14	
10:30			14		13		27		22:30			9		10		19	
10:45			19	52	10	42	29	94	22:45			4	33	5	26	9	59
11:00			17		25		42		23:00			2		1		3	
11:15			12		7		19		23:15			3		1		4	
11:30			16		15		31		23:30			8		3		11	
11:45			13	58	15	62	28	120	23:45			5	18	6	11	11	29
TOTALS				345		420		765	TOTALS				1020		661		1681
SPLIT %				45.1%		54.9%		31.3%	SPLIT %				60.7%		39.3%		68.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,365	1,081	2,446

AM Peak Hour				10:45		06:30		06:45	PM Peak Hour				14:45		13:30		15:00
AM Pk Volume				64		89		139	PM Pk Volume				161		90		237
Pk Hr Factor				0.842		0.767		0.891	Pk Hr Factor				0.856		0.776		0.884
7 - 9 Volume	0	0		105		143		248	4 - 6 Volume	0	0		260		142		402
7 - 9 Peak Hour				07:15		08:00		07:15	4 - 6 Peak Hour				17:00		17:00		17:00
7 - 9 Pk Volume	0	0		63		73		132	4 - 6 Pk Volume	0	0		143		80		223
Pk Hr Factor	0.000	0.000		0.788		0.913		0.846	Pk Hr Factor	0.000	0.000		0.872		0.769		0.929

Growth Rate Calculations

Percentage Growth											
Roadway	**County**	**Traffic Count Station**	**2016 Traffic Volumes**	**2017 Traffic Volumes**	**2018 Traffic Volumes**	**2019 Traffic Volumes**	**2020 Traffic Volumes by Linear Regress.**	**2021 Traffic Volumes by Linear Regress.**	**2024 Traffic Volumes by Linear Regress.**	**Annual Growth 2020 to 2022**	**Annual Growth 2020 to 2025**
Rays Rd	DeKalb	089-3995	9,860	10,100	10,500	10,700	11,020	11,312	12,188	2.6%	2.6%
Memorial Dr	DeKalb	089-3049	33,200	35,100	35,000	40,800	41,700	43,970	50,780	5.4%	5.2%
E Ponce de Leon Ave	DeKalb	089-3743	18,700	19,800	18,800	19,000	19,050	19,040	19,010	-0.1%	-0.1%
Weighted Average			**61,760**	**65,000**	**64,300**	**70,500**	**71,770**	**74,322**	**81,978**	**3.6%**	**3.4%**

Adjustment Factor Calculations

2019

	Eastbound	Westbound	Northbound	Southbound	Total
8:00 AM	971	1014	117	196	2298
6:00 PM	1560	721	143	350	2774

2021

	Eastbound	Westbound	Northbound	Southbound	Total
8:00 AM	576	807	87	171	1641
6:00 PM	1050	1311	122	303	2786

	Eastbound	Westbound	Northbound	Southbound	Total
	2019/2021	2019/2021	2019/2021	2019/2021	AVG
8:00 AM	1.69	1.26	1.40	1.15	1.37
6:00 PM	1.49	0.55	1.00	1.16	1.05

AM	1.40
PM	1.05

ATSPM
Automated Traffic Signal Performance Measures

GDOT
Georgia Department of Transportation
(http://www.dot.ga.gov)

Signal

Signal Selection

Signal ID

7740 Select **SR 10 @ Rays Road**

Signal List

Signal Map

Region

--Select Region--

Metric Type

--Select a Metric--

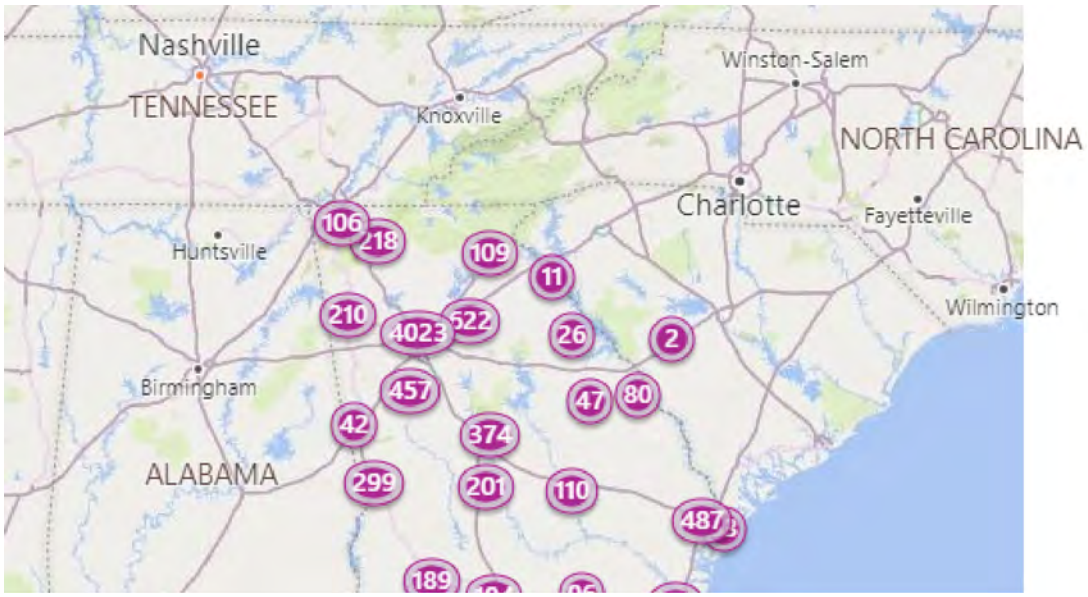


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Chart Selection

Metrics List

- Purdue Phase Termination
- Split Monitor
- Pedestrian Delay
- Preemption Details
- Turning Movement Counts
- Purdue Coordination Diagram
- Approach Volume
- Approach Delay
- Arrivals On Red
- Purdue Split Failure
- Left Turn Gap Analysis

Turning Movement Counts Options

Thru Movement Y-axis Max

1000

Turn Movement Y- axis Max

300

Volume Bin Size

60

- [x] **Show MovementType Volume**
- [x] **Show Total Volume**
- [x] **Show Data Table**

Date Selection

Start Date

03/20/2019 | 12:00 | AM

March 2019

Su	Mo	Tu	We	Th	Fr	Sa

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End Date

03/20/2019 | 11:59 | PM

Reset Date

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Create Chart

-	Vehicle														
	Eastbound			Westbound			Northbound				Southbound				
	L	T	Total	L	T	Total	L	T	TR	Total	L	T	R	Total	Vehicle Total
12:00 AM	35	292	327	3	116	119	4	7	4	15	23	20	34	77	538
1:00 AM	29	132	161	0	53	53	5	6	2	13	14	15	20	49	276
2:00 AM	23	111	134	3	53	56	6	7	3	16	9	8	17	34	240
3:00 AM	12	94	106	1	49	50	3	2	0	5	5	6	29	40	201
4:00 AM	8	92	100	3	78	81	5	12	5	22	10	10	37	57	260
5:00 AM	22	186	208	4	227	231	12	20	5	37	9	9	65	83	559
6:00 AM	52	434	486	6	710	716	27	32	16	75	17	27	91	135	1412
7:00 AM	53	839	892	10	1336	1346	55	80	32	167	25	45	160	230	2635
8:00 AM	37	934	971	23	991	1014	50	43	24	117	29	47	120	196	2298
9:00 AM	27	793	820	16	622	638	36	28	27	91	29	36	130	195	1744
10:00 AM	60	792	852	23	506	529	37	34	24	95	32	34	119	185	1661
11:00 AM	44	877	921	29	534	563	38	29	20	87	35	44	126	205	1776
12:00 PM	54	1061	1115	25	547	572	43	44	30	117	41	62	128	231	2035
1:00 PM	69	1164	1233	20	613	633	53	38	42	133	46	67	122	235	2234
2:00 PM	55	1304	1359	31	697	728	60	49	37	146	38	73	144	255	2488
3:00 PM	46	1341	1387	27	639	666	56	34	29	119	39	98	156	293	
4:00 PM	46	1601	1647	26	738	764	57	54	39	150	35	133	157	325	

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5:00 PM	46	1595	1641	25	721	746	51	48	36	135	45	144	176	365	2887
6:00 PM	43	1517	1560	29	692	721	67	43	33	143	36	124	190	350	2774
7:00 PM	34	979	1013	22	481	503	40	34	30	104	34	83	127	244	1864
8:00 PM	42	868	910	32	421	453	36	35	20	91	33	63	104	200	1654
9:00 PM	44	699	743	23	291	314	32	24	15	71	34	37	78	149	1277
10:00 PM	46	511	557	12	256	268	11	12	19	42	23	28	68	119	986
11:00 PM	37	410	447	16	171	187	11	17	13	41	25	26	67	118	793
Total	964	18626	19590	409	11542	11951	795	732	505	2032	666	1239	2465	4370	37943

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ATSPM
Automated Traffic Signal Performance Measures

GDOT
Georgia Department of Transportation
(http://www.dot.ga.gov)

Signal

Signal Selection

Signal ID

7740 Select **SR 10 @ Rays Road**

Signal List

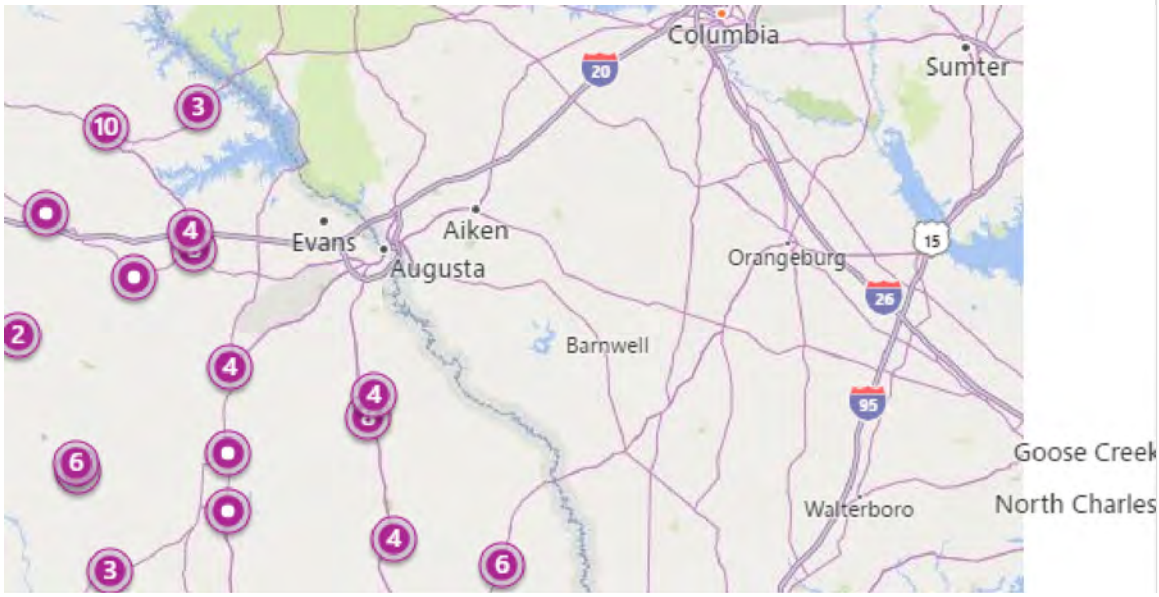
Signal Map

Region

--Select Region--

Metric Type

Turning Movement Counts



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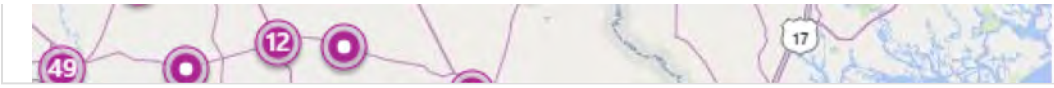

Chart Selection

Metrics List

- Purdue Phase Termination
- Split Monitor
- Pedestrian Delay
- Preemption Details
- Turning Movement Counts
- Purdue Coordination Diagram
- Approach Volume
- Approach Delay
- Arrivals On Red
- Purdue Split Failure
- Left Turn Gap Analysis

Turning Movement Counts Options

Thru Movement Y-axis Max

1000

Turn Movement Y- axis Max

300

Volume Bin Size

60

- [x] **Show MovementType Volume**
- [x] **Show Total Volume**
- [x] **Show Data Table**

Date Selection

Start Date

03/24/2021 12:00 AM

April 2021

Su	Mo	Tu	We	Th	Fr	Sa

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End Date

03/24/2021 | 11:59 | PM

Reset Date

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Create Chart

-	Vehicle														
	Eastbound			Westbound			Northbound				Southbound				
	L	T	Total	L	T	Total	L	T	TR	Total	L	T	R	Total	Vehicle Total
12:00 AM	36	272	308	5	236	241	10	6	8	24	22	18	25	65	638
1:00 AM	31	234	265	4	127	131	7	9	2	18	15	16	22	53	467
2:00 AM	18	182	200	1	102	103	7	4	2	13	11	8	14	33	349
3:00 AM	22	124	146	2	125	127	4	3	5	12	6	10	19	35	320
4:00 AM	18	126	144	4	104	108	9	8	4	21	11	6	32	49	322
5:00 AM	17	281	298	4	269	273	7	18	5	30	9	7	58	74	675
6:00 AM	22	201	223	3	425	428	11	19	10	40	20	16	63	99	790
7:00 AM	13	220	233	5	521	526	15	18	9	42	10	14	60	84	885
8:00 AM	30	546	576	15	807	822	32	33	22	87	30	31	111	172	1657
9:00 AM	37	571	608	18	824	842	34	40	26	100	27	58	86	171	1721
10:00 AM	31	581	612	10	821	831	26	31	21	78	30	41	103	174	1695
11:00 AM	38	738	776	16	1009	1025	33	38	28	99	41	52	125	218	2118
12:00 PM	48	784	832	26	1396	1422	50	45	35	130	42	59	136	237	2621
1:00 PM	48	838	886	25	1436	1461	48	53	32	133	48	70	136	254	2734
2:00 PM	52	889	941	28	1533	1561	59	52	39	150	51	80	142	273	2925
3:00 PM	46	977	1023	26	1635	1661	51	43	43	137	46	103	139	288	3109
4:00 PM	53	973	1026	29	1833	1862	50	41	30	121	44	97	121	262	
5:00 PM	52	1136	1188	26	1599	1625	52	47	44	143	45	112	155	312	

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6:00 PM	54	996	1050	17	1294	1311	47	44	31	122	44	121	138	303	2786
7:00 PM	48	837	885	29	940	969	53	31	30	114	46	49	107	202	2170
8:00 PM	54	697	751	16	816	832	44	43	30	117	43	64	56	163	1863
9:00 PM	46	563	609	17	643	660	20	22	22	64	35	44	87	166	1499
10:00 PM	44	419	463	13	428	441	15	17	19	51	29	32	61	122	1077
11:00 PM	42	330	372	16	280	296	12	20	8	40	28	31	42	101	809
Total	900	13515	14415	355	19203	19558	696	685	505	1886	733	1139	2038	3910	39769

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APPENDIX C:

SYNCHRO REPORTS

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	35	0	0	51	17	0	0	1	22	0	52
Future Vol, veh/h	19	35	0	0	51	17	0	0	1	22	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	24	44	0	0	65	22	0	0	1	28	0	66

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	87	0	0	44	0	0	201	179	44	169	168	76
Stage 1	-	-	-	-	-	-	92	92	-	76	76	-
Stage 2	-	-	-	-	-	-	109	87	-	93	92	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1509	-	-	1564	-	-	757	715	1026	750	725	953
Stage 1	-	-	-	-	-	-	915	819	-	883	832	-
Stage 2	-	-	-	-	-	-	896	823	-	865	819	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1564	-	-	696	704	1026	740	713	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	696	704	-	740	713	-
Stage 1	-	-	-	-	-	-	900	806	-	869	832	-
Stage 2	-	-	-	-	-	-	834	823	-	850	806	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.6	0	8.5	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1026	1509	-	-	1564	-	-	878
HCM Lane V/C Ratio	0.001	0.016	-	-	-	-	-	0.107
HCM Control Delay (s)	8.5	7.4	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	0	0	70	0	0
Future Vol, veh/h	59	0	0	70	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	0	0	76	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	64	0	140	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1538	-	853	1000
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1538	-	853	1000
Mov Cap-2 Maneuver	-	-	-	-	853	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1538	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	33	48	161	243	20
Future Vol, veh/h	11	33	48	161	243	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	13	38	55	183	276	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	581	288	299	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	476	749	1262	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	453	749	1262	-	-	-
Mov Cap-2 Maneuver	453	-	-	-	-	-
Stage 1	724	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1262	-	644	-	-
HCM Lane V/C Ratio	0.043	-	0.078	-	-
HCM Control Delay (s)	8	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	3	1	195	285	1
Future Vol, veh/h	2	3	1	195	285	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	2	3	1	217	317	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	537	318	318	0	-	0
Stage 1	318	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	505	723	1242	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	504	723	1242	-	-	-
Mov Cap-2 Maneuver	504	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	616	-	-
HCM Lane V/C Ratio	0.001	-	0.009	-	-
HCM Control Delay (s)	7.9	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	6	74	523	30	10	10	847	58	36	68	13	47
Future Volume (veh/h)	6	74	523	30	10	10	847	58	36	68	13	47
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		76	539	0		10	873	0	37	70	13	48
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		163	1455			40	1290		561	1069	193	130
Arrive On Green		0.05	0.30	0.00		0.01	0.26	0.00	0.03	0.36	0.36	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	3006	544	3209
Grp Volume(v), veh/h		76	539	0		10	873	0	37	41	42	48
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1772	1605
Q Serve(g_s), s		1.9	7.1	0.0		0.2	12.8	0.0	1.1	1.2	1.3	1.2
Cycle Q Clear(g_c), s		1.9	7.1	0.0		0.2	12.8	0.0	1.1	1.2	1.3	1.2
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.31	1.00
Lane Grp Cap(c), veh/h		163	1455			40	1290		561	632	631	130
V/C Ratio(X)		0.47	0.37			0.25	0.68		0.07	0.06	0.07	0.37
Avail Cap(c_a), veh/h		477	2948			357	2813		696	632	631	354
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		37.6	22.6	0.0		39.9	27.1	0.0	15.5	17.3	17.3	38.1
Incr Delay (d2), s/veh		2.1	0.2	0.0		3.2	0.6	0.0	0.0	0.2	0.2	1.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.7	2.5	0.0		0.1	4.7	0.0	0.4	0.5	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		39.7	22.8	0.0		43.0	27.8	0.0	15.5	17.5	17.5	39.8
LnGrp LOS		D	C			D	C		B	B	B	D
Approach Vol, veh/h			615	A			883	A		120		
Approach Delay, s/veh			24.9				27.9			16.9		
Approach LOS			C				C			B		

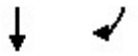
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	27.1	8.8	35.5	7.0	30.2	9.3	35.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	46.0	9.0	29.0	9.0	49.0	9.0	29.0
Max Q Clear Time (g_c+I1), s	3.9	14.8	3.1	9.2	2.2	9.1	3.2	3.3
Green Ext Time (p_c), s	0.1	6.3	0.0	0.7	0.0	3.7	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	36	180
Future Volume (veh/h)	36	180
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	37	186
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1285	551
Arrive On Green	0.36	0.36
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	37	186
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	0.5	7.2
Cycle Q Clear(g_c), s	0.5	7.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1285	551
V/C Ratio(X)	0.03	0.34
Avail Cap(c_a), veh/h	1285	551
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	16.8	18.9
Incr Delay (d2), s/veh	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	16.8	20.6
LnGrp LOS	B	C
Approach Vol, veh/h	271	
Approach Delay, s/veh	23.5	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	127	0	0	64	8	0	1	1	11	1	11
Future Vol, veh/h	12	127	0	0	64	8	0	1	1	11	1	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	13	140	0	0	70	9	0	1	1	12	1	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	140	0	0	247	245	140	242	241	75
Stage 1	-	-	-	-	-	-	166	166	-	75	75	-
Stage 2	-	-	-	-	-	-	81	79	-	167	166	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1482	-	-	1443	-	-	707	657	908	712	660	986
Stage 1	-	-	-	-	-	-	836	761	-	934	833	-
Stage 2	-	-	-	-	-	-	927	829	-	835	761	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1482	-	-	1443	-	-	692	650	908	705	653	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	692	650	-	705	653	-
Stage 1	-	-	-	-	-	-	828	753	-	925	833	-
Stage 2	-	-	-	-	-	-	914	829	-	824	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	9.8	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	758	1482	-	-	1443	-	-	813
HCM Lane V/C Ratio	0.003	0.009	-	-	-	-	-	0.031
HCM Control Delay (s)	9.8	7.5	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	143	0	0	80	0	0
Future Vol, veh/h	143	0	0	80	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	0	0	87	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	155	0	242	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1425	-	746	891
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1425	-	746	891
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1425	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	107	57	293	481	21
Future Vol, veh/h	31	107	57	293	481	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	34	116	62	318	523	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	977	535	546	0	-	0
Stage 1	535	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	278	545	1023	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	257	545	1023	-	-	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1023	-	435	-	-
HCM Lane V/C Ratio	0.061	-	0.345	-	-
HCM Control Delay (s)	8.7	0	17.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

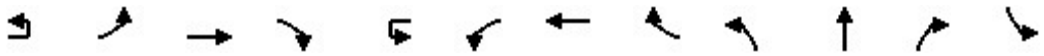
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	9	10	342	582	2
Future Vol, veh/h	3	9	10	342	582	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	11	384	654	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1061	655	656	0	-	0
Stage 1	655	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	248	466	931	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	244	466	931	-	-	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	509	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	931	-	380	-	-
HCM Lane V/C Ratio	0.012	-	0.035	-	-
HCM Control Delay (s)	8.9	0	14.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	177	1254	67	13	36	1058	121	56	76	38	160
Future Volume (veh/h)	9	177	1254	67	13	36	1058	121	56	76	38	160
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		186	1320	0		38	1114	0	59	80	40	168
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		263	1825			115	1605		407	673	316	243
Arrive On Green		0.08	0.36	0.00		0.03	0.31	0.00	0.04	0.29	0.29	0.07
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2348	1101	3456
Grp Volume(v), veh/h		186	1320	0		38	1114	0	59	59	61	168
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1672	1728
Q Serve(g_s), s		5.0	21.3	0.0		1.0	18.2	0.0	2.2	2.3	2.6	4.5
Cycle Q Clear(g_c), s		5.0	21.3	0.0		1.0	18.2	0.0	2.2	2.3	2.6	4.5
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		263	1825			115	1605		407	509	479	243
V/C Ratio(X)		0.71	0.72			0.33	0.69		0.15	0.12	0.13	0.69
Avail Cap(c_a), veh/h		509	2953			182	2470		445	509	479	472
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		42.9	26.5	0.0		44.9	28.6	0.0	22.2	25.0	25.1	43.2
Incr Delay (d2), s/veh		3.5	0.6	0.0		1.7	0.5	0.0	0.2	0.5	0.5	3.5
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.2	8.1	0.0		0.4	7.0	0.0	0.9	1.0	1.1	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		46.3	27.0	0.0		46.6	29.1	0.0	22.4	25.5	25.7	46.7
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1506	A			1152	A		179		
Approach Delay, s/veh			29.4				29.7			24.5		
Approach LOS			C				C			C		

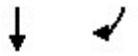
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	35.9	9.9	36.0	9.2	40.0	12.7	33.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	46.0	6.0	30.0	5.0	55.0	13.0	23.0
Max Q Clear Time (g_c+I1), s	7.0	20.2	4.2	17.2	3.0	23.3	6.5	4.6
Green Ext Time (p_c), s	0.3	8.0	0.0	1.7	0.0	10.7	0.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	167	285
Future Volume (veh/h)	167	285
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	176	300
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1121	500
Arrive On Green	0.32	0.32
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	176	300
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	3.4	15.2
Cycle Q Clear(g_c), s	3.4	15.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1121	500
V/C Ratio(X)	0.16	0.60
Avail Cap(c_a), veh/h	1121	500
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	23.4	27.5
Incr Delay (d2), s/veh	0.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.3
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	23.7	32.7
LnGrp LOS	C	C
Approach Vol, veh/h	644	
Approach Delay, s/veh	33.9	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	27	49	0	0	71	24	0	0	1	31	0	73
Future Vol, veh/h	27	49	0	0	71	24	0	0	1	31	0	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	34	62	0	0	90	30	0	0	1	39	0	92

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	62	0	0	281	250	62	236	235	105
Stage 1	-	-	-	-	-	-	130	130	-	105	105	-
Stage 2	-	-	-	-	-	-	151	120	-	131	130	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1468	-	-	1541	-	-	671	653	1003	677	666	918
Stage 1	-	-	-	-	-	-	874	789	-	852	808	-
Stage 2	-	-	-	-	-	-	851	796	-	825	789	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1468	-	-	1541	-	-	592	637	1003	663	650	918
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	637	-	663	650	-
Stage 1	-	-	-	-	-	-	853	770	-	832	808	-
Stage 2	-	-	-	-	-	-	765	796	-	804	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0	8.6	10.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1003	1468	-	-	1541	-	-	824
HCM Lane V/C Ratio	0.001	0.023	-	-	-	-	-	0.16
HCM Control Delay (s)	8.6	7.5	0	-	0	-	-	10.2
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	83	0	0	98	0	0
Future Vol, veh/h	83	0	0	98	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	0	0	107	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	90	0	197	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	107	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1505	-	792	968
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1505	-	792	968
Mov Cap-2 Maneuver	-	-	-	-	792	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1505	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	46	67	225	340	28
Future Vol, veh/h	15	46	67	225	340	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	17	52	76	256	386	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	810	402	418	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	349	646	1141	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	322	646	1141	-	-	-
Mov Cap-2 Maneuver	322	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1141	-	518	-	-
HCM Lane V/C Ratio	0.067	-	0.134	-	-
HCM Control Delay (s)	8.4	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	1	273	399	1
Future Vol, veh/h	3	4	1	273	399	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	3	4	1	303	443	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	749	444	444	0	-	0
Stage 1	444	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	379	614	1116	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	379	614	1116	-	-	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	748	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1116	-	485	-	-
HCM Lane V/C Ratio	0.001	-	0.016	-	-
HCM Control Delay (s)	8.2	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	8	104	732	42	14	14	1186	81	50	95	18	66
Future Volume (veh/h)	8	104	732	42	14	14	1186	81	50	95	18	66
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		107	755	0		14	1223	0	52	98	19	68
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		168	1832			53	1685		471	917	173	143
Arrive On Green		0.05	0.37	0.00		0.02	0.34	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2982	564	3209
Grp Volume(v), veh/h		107	755	0		14	1223	0	52	57	60	68
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1769	1605
Q Serve(g_s), s		3.0	10.6	0.0		0.4	20.0	0.0	1.8	2.1	2.2	1.9
Cycle Q Clear(g_c), s		3.0	10.6	0.0		0.4	20.0	0.0	1.8	2.1	2.2	1.9
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.32	1.00
Lane Grp Cap(c), veh/h		168	1832			53	1685		471	546	544	143
V/C Ratio(X)		0.64	0.41			0.27	0.73		0.11	0.11	0.11	0.48
Avail Cap(c_a), veh/h		383	2903			244	2736		496	546	544	276
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		43.2	21.6	0.0		45.1	27.0	0.0	20.4	23.0	23.1	43.3
Incr Delay (d2), s/veh		4.0	0.1	0.0		2.6	0.6	0.0	0.1	0.4	0.4	2.4
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.2	3.8	0.0		0.2	7.4	0.0	0.7	0.9	1.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		47.2	21.7	0.0		47.8	27.6	0.0	20.5	23.4	23.5	45.8
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			862	A			1237	A		169		
Approach Delay, s/veh			24.9				27.8			22.5		
Approach LOS			C				C			C		

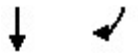
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	37.4	9.7	35.0	7.5	40.7	10.1	34.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	51.0	5.0	29.0	7.0	55.0	8.0	26.0
Max Q Clear Time (g_c+I1), s	5.0	22.0	3.8	15.2	2.4	12.6	3.9	4.2
Green Ext Time (p_c), s	0.1	9.4	0.0	1.0	0.0	5.5	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	50	252
Future Volume (veh/h)	50	252
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	52	260
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1109	475
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	52	260
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	0.9	13.2
Cycle Q Clear(g_c), s	0.9	13.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1109	475
V/C Ratio(X)	0.05	0.55
Avail Cap(c_a), veh/h	1109	475
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	22.3	26.5
Incr Delay (d2), s/veh	0.1	4.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.2
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	22.4	31.0
LnGrp LOS	C	C
Approach Vol, veh/h	380	
Approach Delay, s/veh	32.5	
Approach LOS	C	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	133	0	0	67	8	0	1	1	12	1	12
Future Vol, veh/h	13	133	0	0	67	8	0	1	1	12	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	14	146	0	0	74	9	0	1	1	13	1	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	83	0	0	146	0	0	260	257	146	254	253	79
Stage 1	-	-	-	-	-	-	174	174	-	79	79	-
Stage 2	-	-	-	-	-	-	86	83	-	175	174	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1477	-	-	1436	-	-	693	647	901	699	650	981
Stage 1	-	-	-	-	-	-	828	755	-	930	829	-
Stage 2	-	-	-	-	-	-	922	826	-	827	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1477	-	-	1436	-	-	678	641	901	692	644	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	678	641	-	692	644	-
Stage 1	-	-	-	-	-	-	820	747	-	921	829	-
Stage 2	-	-	-	-	-	-	908	826	-	817	747	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	9.8	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	749	1477	-	-	1436	-	-	803
HCM Lane V/C Ratio	0.003	0.01	-	-	-	-	-	0.034
HCM Control Delay (s)	9.8	7.5	0	-	0	-	-	9.6
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	0	0	84	0	0
Future Vol, veh/h	150	0	0	84	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	0	0	91	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	163	0	254	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1416	-	735	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	735	882
Mov Cap-2 Maneuver	-	-	-	-	735	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1416	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	112	60	308	505	22
Future Vol, veh/h	33	112	60	308	505	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	36	122	65	335	549	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1026	561	573	0	-	0
Stage 1	561	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	260	527	1000	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	239	527	1000	-	-	-
Mov Cap-2 Maneuver	239	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	632	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1000	-	414	-	-
HCM Lane V/C Ratio	0.065	-	0.381	-	-
HCM Control Delay (s)	8.9	0	18.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.7	-	-

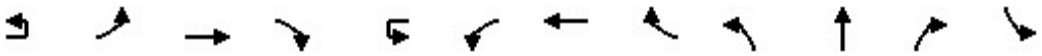
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	9	11	359	611	2
Future Vol, veh/h	3	9	11	359	611	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	12	403	687	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1115	688	689	0	-	0
Stage 1	688	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	230	446	905	-	-	-
Stage 1	499	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	226	446	905	-	-	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	658	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	905	-	359	-	-
HCM Lane V/C Ratio	0.014	-	0.038	-	-
HCM Control Delay (s)	9	0	15.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	186	1317	70	14	38	1111	127	59	80	40	168
Future Volume (veh/h)	9	186	1317	70	14	38	1111	127	59	80	40	168
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		196	1386	0		40	1169	0	62	84	42	177
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		271	1872			117	1643		396	666	313	250
Arrive On Green		0.08	0.37	0.00		0.03	0.32	0.00	0.04	0.28	0.28	0.07
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2347	1102	3456
Grp Volume(v), veh/h		196	1386	0		40	1169	0	62	62	64	177
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1672	1728
Q Serve(g_s), s		5.5	23.3	0.0		1.1	19.8	0.0	2.4	2.6	2.8	4.9
Cycle Q Clear(g_c), s		5.5	23.3	0.0		1.1	19.8	0.0	2.4	2.6	2.8	4.9
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		271	1872			117	1643		396	504	474	250
V/C Ratio(X)		0.72	0.74			0.34	0.71		0.16	0.12	0.13	0.71
Avail Cap(c_a), veh/h		491	2747			210	2332		431	504	474	456
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		44.3	27.1	0.0		46.5	29.4	0.0	23.2	26.2	26.3	44.7
Incr Delay (d2), s/veh		3.6	0.6	0.0		1.7	0.6	0.0	0.2	0.5	0.6	3.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.4	8.8	0.0		0.5	7.7	0.0	1.0	1.1	1.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		48.0	27.7	0.0		48.3	30.0	0.0	23.4	26.7	26.9	48.3
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1582	A			1209	A		188		
Approach Delay, s/veh			30.2				30.6			25.7		
Approach LOS			C				C			C		

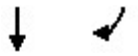
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	37.7	10.1	37.0	9.3	42.1	13.1	33.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	45.0	6.0	31.0	6.0	53.0	13.0	24.0
Max Q Clear Time (g_c+I1), s	7.5	21.8	4.4	18.7	3.1	25.3	6.9	4.8
Green Ext Time (p_c), s	0.3	8.2	0.0	1.8	0.0	10.9	0.3	0.6

Intersection Summary	
HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	175	299
Future Volume (veh/h)	175	299
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	184	315
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1118	499
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	184	315
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	3.7	16.7
Cycle Q Clear(g_c), s	3.7	16.7
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1118	499
V/C Ratio(X)	0.16	0.63
Avail Cap(c_a), veh/h	1118	499
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.4	28.9
Incr Delay (d2), s/veh	0.3	6.0
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.7	34.8
LnGrp LOS	C	C
Approach Vol, veh/h	676	
Approach Delay, s/veh	35.6	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	30	54	0	0	78	27	0	0	1	34	0	81
Future Vol, veh/h	30	54	0	0	78	27	0	0	1	34	0	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	38	68	0	0	99	34	0	0	1	43	0	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	133	0	0	68	0	0	312	277	68	261	260	116
Stage 1	-	-	-	-	-	-	144	144	-	116	116	-
Stage 2	-	-	-	-	-	-	168	133	-	145	144	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1452	-	-	1533	-	-	641	631	995	651	645	905
Stage 1	-	-	-	-	-	-	859	778	-	840	800	-
Stage 2	-	-	-	-	-	-	834	786	-	810	778	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1452	-	-	1533	-	-	556	614	995	637	628	905
Mov Cap-2 Maneuver	-	-	-	-	-	-	556	614	-	637	628	-
Stage 1	-	-	-	-	-	-	836	757	-	817	800	-
Stage 2	-	-	-	-	-	-	740	786	-	787	757	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0	8.6	10.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	995	1452	-	-	1533	-	-	805
HCM Lane V/C Ratio	0.001	0.026	-	-	-	-	-	0.181
HCM Control Delay (s)	8.6	7.5	0	-	0	-	-	10.5
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	92	0	0	108	0	0
Future Vol, veh/h	92	0	0	108	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	0	0	117	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	217	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	117	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1493	-	771	956
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1493	-	771	956
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	908	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1493	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	51	74	249	376	31
Future Vol, veh/h	17	51	74	249	376	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	19	58	84	283	427	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	896	445	462	0	-	0
Stage 1	445	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	311	611	1099	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	642	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	283	611	1099	-	-	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	642	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1099	-	474	-	-
HCM Lane V/C Ratio	0.077	-	0.163	-	-
HCM Control Delay (s)	8.5	0	14.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	1	302	441	1
Future Vol, veh/h	3	4	1	302	441	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	3	4	1	336	490	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	829	491	491	0	-	0
Stage 1	491	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	340	578	1072	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	340	578	1072	-	-	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1072	-	445	-	-
HCM Lane V/C Ratio	0.001	-	0.017	-	-
HCM Control Delay (s)	8.4	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	115	809	46	15	15	1311	90	55	105	20	73
Future Volume (veh/h)	9	115	809	46	15	15	1311	90	55	105	20	73
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		119	834	0		15	1352	0	57	108	21	75
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		179	1936			55	1777		451	909	173	140
Arrive On Green		0.06	0.39	0.00		0.02	0.36	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2980	565	3209
Grp Volume(v), veh/h		119	834	0		15	1352	0	57	63	66	75
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1769	1605
Q Serve(g_s), s		3.6	12.4	0.0		0.5	24.0	0.0	2.2	2.6	2.7	2.3
Cycle Q Clear(g_c), s		3.6	12.4	0.0		0.5	24.0	0.0	2.2	2.6	2.7	2.3
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.32	1.00
Lane Grp Cap(c), veh/h		179	1936			55	1777		451	542	540	140
V/C Ratio(X)		0.67	0.43			0.27	0.76		0.13	0.12	0.12	0.53
Avail Cap(c_a), veh/h		355	2690			161	2436		469	542	540	224
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		46.5	22.1	0.0		48.7	28.5	0.0	22.2	25.1	25.1	46.9
Incr Delay (d2), s/veh		4.2	0.2	0.0		2.6	1.0	0.0	0.1	0.4	0.5	3.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.5	4.5	0.0		0.2	9.0	0.0	0.9	1.1	1.2	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		50.7	22.3	0.0		51.3	29.4	0.0	22.4	25.5	25.6	50.1
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			953	A			1367	A		186		
Approach Delay, s/veh			25.8				29.7			24.6		
Approach LOS			C				C			C		

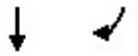
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	41.8	10.0	37.0	7.7	45.6	10.4	36.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	49.0	5.0	31.0	5.0	55.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	5.6	26.0	4.2	18.2	2.5	14.4	4.3	4.7
Green Ext Time (p_c), s	0.1	9.7	0.0	1.1	0.0	6.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	55	279
Future Volume (veh/h)	55	279
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	57	288
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1099	471
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	57	288
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	1.1	16.2
Cycle Q Clear(g_c), s	1.1	16.2
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1099	471
V/C Ratio(X)	0.05	0.61
Avail Cap(c_a), veh/h	1099	471
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.3	29.5
Incr Delay (d2), s/veh	0.1	5.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.5
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.4	35.3
LnGrp LOS	C	D
Approach Vol, veh/h	420	
Approach Delay, s/veh	36.5	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	147	0	0	74	9	0	1	1	13	1	13
Future Vol, veh/h	14	147	0	0	74	9	0	1	1	13	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	15	162	0	0	81	10	0	1	1	14	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	162	0	0	286	283	162	279	278	86
Stage 1	-	-	-	-	-	-	192	192	-	86	86	-
Stage 2	-	-	-	-	-	-	94	91	-	193	192	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1467	-	-	1417	-	-	666	626	883	673	630	973
Stage 1	-	-	-	-	-	-	810	742	-	922	824	-
Stage 2	-	-	-	-	-	-	913	820	-	809	742	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1467	-	-	1417	-	-	650	619	883	666	623	973
Mov Cap-2 Maneuver	-	-	-	-	-	-	650	619	-	666	623	-
Stage 1	-	-	-	-	-	-	801	734	-	912	824	-
Stage 2	-	-	-	-	-	-	898	820	-	798	734	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	10	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	728	1467	-	-	1417	-	-	783
HCM Lane V/C Ratio	0.003	0.01	-	-	-	-	-	0.038
HCM Control Delay (s)	10	7.5	0	-	0	-	-	9.8
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	0	0	93	0	0
Future Vol, veh/h	166	0	0	93	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	0	0	101	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	180	0	281	180
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1396	-	709	863
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1396	-	709	863
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1396	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	124	66	340	558	24
Future Vol, veh/h	36	124	66	340	558	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	39	135	72	370	607	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1134	620	633	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	224	488	950	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	203	488	950	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	600	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23	1.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	950	-	371	-	-
HCM Lane V/C Ratio	0.076	-	0.469	-	-
HCM Control Delay (s)	9.1	0	23	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	2.4	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	10	12	397	675	2
Future Vol, veh/h	3	10	12	397	675	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	11	13	446	758	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1231	759	760	0	-	0
Stage 1	759	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	196	406	852	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	192	406	852	-	-	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	852	-	323	-	-
HCM Lane V/C Ratio	0.016	-	0.045	-	-
HCM Control Delay (s)	9.3	0	16.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	10	206	1456	77	15	42	1228	140	65	88	44	186
Future Volume (veh/h)	10	206	1456	77	15	42	1228	140	65	88	44	186
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		217	1533	0		44	1293	0	68	93	46	196
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		289	2015			120	1765		362	619	288	265
Arrive On Green		0.08	0.39	0.00		0.03	0.35	0.00	0.04	0.26	0.26	0.08
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2354	1096	3456
Grp Volume(v), veh/h		217	1533	0		44	1293	0	68	69	70	196
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1673	1728
Q Serve(g_s), s		6.4	27.0	0.0		1.3	23.1	0.0	2.9	3.1	3.4	5.8
Cycle Q Clear(g_c), s		6.4	27.0	0.0		1.3	23.1	0.0	2.9	3.1	3.4	5.8
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.66	1.00
Lane Grp Cap(c), veh/h		289	2015			120	1765		362	467	440	265
V/C Ratio(X)		0.75	0.76			0.37	0.73		0.19	0.15	0.16	0.74
Avail Cap(c_a), veh/h		466	2703			166	2261		374	467	440	399
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		46.5	27.2	0.0		49.0	29.8	0.0	26.1	29.3	29.4	46.9
Incr Delay (d2), s/veh		3.9	0.9	0.0		1.9	0.9	0.0	0.2	0.7	0.8	4.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.8	10.3	0.0		0.6	9.0	0.0	1.2	1.4	1.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		50.5	28.1	0.0		50.9	30.7	0.0	26.4	30.0	30.2	51.0
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1750	A			1337	A		207		
Approach Delay, s/veh			30.9				31.4			28.9		
Approach LOS			C				C			C		

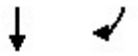
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	41.9	10.3	37.0	9.6	47.0	14.0	33.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	46.0	5.0	31.0	5.0	55.0	12.0	24.0
Max Q Clear Time (g_c+I1), s	8.4	25.1	4.9	22.5	3.3	29.0	7.8	5.4
Green Ext Time (p_c), s	0.3	8.8	0.0	1.7	0.0	12.0	0.2	0.6

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	193	331
Future Volume (veh/h)	193	331
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	203	348
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1060	473
Arrive On Green	0.30	0.30
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	203	348
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	4.4	20.5
Cycle Q Clear(g_c), s	4.4	20.5
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1060	473
V/C Ratio(X)	0.19	0.74
Avail Cap(c_a), veh/h	1060	473
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	27.1	32.8
Incr Delay (d2), s/veh	0.4	9.8
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	8.9
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	27.5	42.5
LnGrp LOS	C	D
Approach Vol, veh/h	747	
Approach Delay, s/veh	40.7	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	61	2	1	102	27	7	0	5	34	0	81
Future Vol, veh/h	30	61	2	1	102	27	7	0	5	34	0	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	9	2	2	12	6	2	2	2	23	2	14
Mvmt Flow	38	77	3	1	129	34	9	0	6	43	0	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	163	0	0	80	0	0	355	320	79	306	304	146
Stage 1	-	-	-	-	-	-	155	155	-	148	148	-
Stage 2	-	-	-	-	-	-	200	165	-	158	156	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.33	6.52	6.34
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.33	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.707	4.018	3.426
Pot Cap-1 Maneuver	1416	-	-	1518	-	-	600	597	981	607	609	870
Stage 1	-	-	-	-	-	-	847	769	-	807	775	-
Stage 2	-	-	-	-	-	-	802	762	-	797	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1416	-	-	1518	-	-	518	580	981	590	591	870
Mov Cap-2 Maneuver	-	-	-	-	-	-	518	580	-	590	591	-
Stage 1	-	-	-	-	-	-	823	747	-	784	774	-
Stage 2	-	-	-	-	-	-	707	761	-	770	747	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.1	10.7	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	645	1416	-	-	1518	-	-	763
HCM Lane V/C Ratio	0.024	0.027	-	-	0.001	-	-	0.191
HCM Control Delay (s)	10.7	7.6	0	-	7.4	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	96	7	5	109	24	17
Future Vol, veh/h	96	7	5	109	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	8	5	118	26	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	112	0	236	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1478	-	752	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1478	-	749	946
Mov Cap-2 Maneuver	-	-	-	-	749	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	820	-	-	1478	-
HCM Lane V/C Ratio	0.054	-	-	0.004	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	67	79	261	380	32
Future Vol, veh/h	22	67	79	261	380	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	2	6	8	2
Mvmt Flow	25	76	90	297	432	36

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	927	450	468	0	-	0
Stage 1	450	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Critical Hdwy	6.42	6.23	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	2.218	-	-	-
Pot Cap-1 Maneuver	298	607	1094	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	269	607	1094	-	-	-
Mov Cap-2 Maneuver	269	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1094	-	463	-	-
HCM Lane V/C Ratio	0.082	-	0.218	-	-
HCM Control Delay (s)	8.6	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.8	-	-

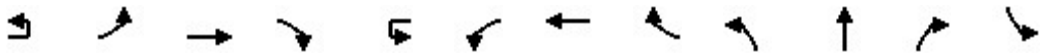
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	33	10	307	457	5
Future Vol, veh/h	15	33	10	307	457	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	6	7	2
Mvmt Flow	17	37	11	341	508	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	874	511	514	0	-	0
Stage 1	511	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	320	563	1052	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	316	563	1052	-	-	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	704	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1052	-	452	-	-
HCM Lane V/C Ratio	0.011	-	0.118	-	-
HCM Control Delay (s)	8.5	0	14	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	9	121	809	46	15	15	1311	94	55	108	20	87
Future Volume (veh/h)	9	121	809	46	15	15	1311	94	55	108	20	87
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1752	1796	1856		1752	1826	1796	1870	1870	1870	1737
Adj Flow Rate, veh/h		125	834	0		15	1352	0	57	111	21	90
Peak Hour Factor		0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		10	7	3		10	5	7	2	2	2	11
Cap, veh/h		183	1924			55	1759		448	939	173	144
Arrive On Green		0.06	0.39	0.00		0.02	0.35	0.00	0.04	0.31	0.31	0.04
Sat Flow, veh/h		3237	4904	1572		3237	4985	1522	1781	2994	553	3209
Grp Volume(v), veh/h		125	834	0		15	1352	0	57	65	67	90
Grp Sat Flow(s),veh/h/ln		1618	1635	1572		1618	1662	1522	1781	1777	1771	1605
Q Serve(g_s), s		3.9	12.9	0.0		0.5	24.9	0.0	2.2	2.7	2.8	2.8
Cycle Q Clear(g_c), s		3.9	12.9	0.0		0.5	24.9	0.0	2.2	2.7	2.8	2.8
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.31	1.00
Lane Grp Cap(c), veh/h		183	1924			55	1759		448	557	555	144
V/C Ratio(X)		0.68	0.43			0.27	0.77		0.13	0.12	0.12	0.63
Avail Cap(c_a), veh/h		282	2516			157	2364		465	557	555	217
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		47.8	23.0	0.0		50.2	29.7	0.0	22.4	25.3	25.3	48.5
Incr Delay (d2), s/veh		4.5	0.2	0.0		2.7	1.1	0.0	0.1	0.4	0.4	4.4
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.6	4.7	0.0		0.2	9.5	0.0	0.9	1.2	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		52.3	23.1	0.0		52.8	30.8	0.0	22.5	25.7	25.7	52.9
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			959	A			1367	A		189		
Approach Delay, s/veh			26.9				31.0			24.7		
Approach LOS			C				C			C		

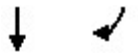
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	42.5	10.0	39.0	7.7	46.5	10.6	38.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	49.0	5.0	33.0	5.0	53.0	7.0	31.0
Max Q Clear Time (g_c+I1), s	5.9	26.9	4.2	19.9	2.5	14.9	4.8	4.8
Green Ext Time (p_c), s	0.1	9.6	0.0	1.2	0.0	6.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	64	300
Future Volume (veh/h)	64	300
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1796
Adj Flow Rate, veh/h	66	309
Peak Hour Factor	0.97	0.97
Percent Heavy Veh, %	2	7
Cap, veh/h	1135	486
Arrive On Green	0.32	0.32
Sat Flow, veh/h	3554	1522
Grp Volume(v), veh/h	66	309
Grp Sat Flow(s),veh/h/ln	1777	1522
Q Serve(g_s), s	1.3	17.9
Cycle Q Clear(g_c), s	1.3	17.9
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1135	486
V/C Ratio(X)	0.06	0.64
Avail Cap(c_a), veh/h	1135	486
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	24.4	30.0
Incr Delay (d2), s/veh	0.1	6.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.2
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	24.5	36.2
LnGrp LOS	C	D
Approach Vol, veh/h	465	
Approach Delay, s/veh	37.8	
Approach LOS	D	
Timer - Assigned Phs		

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	171	7	4	88	9	4	1	3	13	1	13
Future Vol, veh/h	14	171	7	4	88	9	4	1	3	13	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	8	2	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	15	188	8	4	97	10	4	1	3	14	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	107	0	0	196	0	0	340	337	192	334	336	102
Stage 1	-	-	-	-	-	-	222	222	-	110	110	-
Stage 2	-	-	-	-	-	-	118	115	-	224	226	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1447	-	-	1377	-	-	614	584	850	620	585	953
Stage 1	-	-	-	-	-	-	780	720	-	895	804	-
Stage 2	-	-	-	-	-	-	887	800	-	779	717	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1447	-	-	1377	-	-	597	575	850	609	576	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	597	575	-	609	576	-
Stage 1	-	-	-	-	-	-	771	711	-	884	802	-
Stage 2	-	-	-	-	-	-	870	798	-	765	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	10.5	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	668	1447	-	-	1377	-	-	735
HCM Lane V/C Ratio	0.013	0.011	-	-	0.003	-	-	0.04
HCM Control Delay (s)	10.5	7.5	0	-	7.6	0	-	10.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	168	24	17	97	14	10
Future Vol, veh/h	168	24	17	97	14	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	183	26	18	105	15	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	209	0	337	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1362	-	658	845
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1362	-	649	845
Mov Cap-2 Maneuver	-	-	-	-	649	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	718	-	-	1362	-
HCM Lane V/C Ratio	0.036	-	-	0.014	-
HCM Control Delay (s)	10.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	133	82	347	570	29
Future Vol, veh/h	39	133	82	347	570	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	5
Mvmt Flow	42	145	89	377	620	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1191	636	652	0	-	0
Stage 1	636	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	207	478	935	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	182	478	935	-	-	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	575	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.6	1.8	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	935	-	349	-	-
HCM Lane V/C Ratio	0.095	-	0.536	-	-
HCM Control Delay (s)	9.3	0	26.6	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.3	-	3	-	-

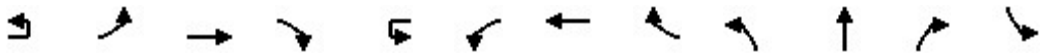
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	27	41	413	684	14
Future Vol, veh/h	10	27	41	413	684	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	30	46	464	769	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1333	777	785	0	-	0
Stage 1	777	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	170	397	834	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	574	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	397	834	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	834	-	281	-	-
HCM Lane V/C Ratio	0.055	-	0.148	-	-
HCM Control Delay (s)	9.6	0	20	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	10	227	1456	77	15	42	1228	154	65	97	44	194
Future Volume (veh/h)	10	227	1456	77	15	42	1228	154	65	97	44	194
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00		1.00		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No				No			No		
Adj Sat Flow, veh/h/ln		1870	1870	1870		1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		239	1533	0		44	1293	0	68	102	46	204
Peak Hour Factor		0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2		2	2	2	2	2	2	2
Cap, veh/h		309	1981			118	1699		366	662	283	272
Arrive On Green		0.09	0.39	0.00		0.03	0.33	0.00	0.04	0.27	0.27	0.08
Sat Flow, veh/h		3456	5106	1585		3456	5106	1585	1781	2425	1036	3456
Grp Volume(v), veh/h		239	1533	0		44	1293	0	68	73	75	204
Grp Sat Flow(s),veh/h/ln		1728	1702	1585		1728	1702	1585	1781	1777	1684	1728
Q Serve(g_s), s		7.2	27.9	0.0		1.3	24.0	0.0	2.9	3.3	3.6	6.1
Cycle Q Clear(g_c), s		7.2	27.9	0.0		1.3	24.0	0.0	2.9	3.3	3.6	6.1
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.62	1.00
Lane Grp Cap(c), veh/h		309	1981			118	1699		366	485	460	272
V/C Ratio(X)		0.77	0.77			0.37	0.76		0.19	0.15	0.16	0.75
Avail Cap(c_a), veh/h		456	2549			163	2116		377	485	460	391
HCM Platoon Ratio		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		47.3	28.4	0.0		50.1	31.6	0.0	26.0	29.3	29.4	47.9
Incr Delay (d2), s/veh		4.8	1.2	0.0		1.9	1.3	0.0	0.2	0.7	0.8	4.8
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.2	10.8	0.0		0.6	9.5	0.0	1.2	1.5	1.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		52.1	29.6	0.0		52.1	32.9	0.0	26.2	29.9	30.1	52.7
LnGrp LOS		D	C			D	C		C	C	C	D
Approach Vol, veh/h			1772	A			1337	A		216		
Approach Delay, s/veh			32.6				33.6			28.8		
Approach LOS			C				C			C		

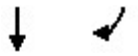
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	41.3	10.3	39.0	9.6	47.2	14.3	35.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	14.0	44.0	5.0	33.0	5.0	53.0	12.0	26.0
Max Q Clear Time (g_c+I1), s	9.2	26.0	4.9	23.7	3.3	29.9	8.1	5.6
Green Ext Time (p_c), s	0.3	8.2	0.0	1.8	0.0	11.3	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	199	344
Future Volume (veh/h)	199	344
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1870
Adj Flow Rate, veh/h	209	362
Peak Hour Factor	0.95	0.95
Percent Heavy Veh, %	2	2
Cap, veh/h	1105	493
Arrive On Green	0.31	0.31
Sat Flow, veh/h	3554	1585
Grp Volume(v), veh/h	209	362
Grp Sat Flow(s),veh/h/ln	1777	1585
Q Serve(g_s), s	4.6	21.7
Cycle Q Clear(g_c), s	4.6	21.7
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	1105	493
V/C Ratio(X)	0.19	0.73
Avail Cap(c_a), veh/h	1105	493
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	26.8	32.7
Incr Delay (d2), s/veh	0.4	9.4
Initial Q Delay(d3),s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.4
Unsig. Movement Delay, s/veh		
LnGrp Delay(d),s/veh	27.2	42.0
LnGrp LOS	C	D
Approach Vol, veh/h	775	
Approach Delay, s/veh	40.8	
Approach LOS	D	
Timer - Assigned Phs		

APPENDIX D:

TURN LANE EVALUATIONS

GDOT Access Manual Turn Lane Evaluations

ID	Intersection	Movement/ Turn Lane	GDOT Criteria met?	AADT (Norman Rd): < 6,000	Trip Dist.	Volume	
1	Driveway 1 / Otello Rd & Norman Rd	WBL	NO	LTV	4%	37	> 300
		EBR	NO	RTV	8%	74	> 200
2	Driveway 2 & Norman Rd	WBL	NO	LTV	18%	166	> 300
		EBR	YES	RTV	26%	240	> 200
4	Rays Rd & Spartan Ln	NBL	NO	LTV	31%	286	> 300
		SBR	NO	RTV	13%	120	> 200

		IN	OUT
Daily	1,844	922	922
AM Peak Hour	121	28	93
PM Peak Hour	147	92	55

APPENDIX E:

TECHNICAL MEMORANDUM

1255 Canton Street, Suite G
Roswell, GA 30075
P: 678.795.3600
F: 678.461.3494
NV5.com

TECHINCAL MEMO

To: Davis Moore, Mosaic Communities

From: Naveed Jaffar, PE, PTOE

Date: April 27, 2021

Re: Spivey Lake Residential Development, DeKalb County, Georgia

---

NV5 Engineers & Consultants, Inc. completed a traffic impact study in April 2021 for the proposed Spivey Lake Residential Development along Norman Road in DeKalb County, Georgia. This memorandum serves as a supplement to the completed traffic study in order to provide the hourly distribution of expected generated trips to and from the development. This memorandum also serves to explore the potential trip reduction for multi-modal and transit impacts.

Trip Generation – Hourly Trip Generation

The proposed development will consist of 40 single family homes, 138 two-family homes, and 52 townhomes. The development has a projected build out date of 2024 and will generate a total of 1,844 new daily trips. Of these daily volumes, 121 (28 entering and 93 exiting) are expected to occur in the AM peak hour while 147 (92 entering and 55 exiting) are expected to occur in the PM peak hour. Table 1 depicts the total expected Trip Generation for the development.

Table 1. Complete Trip Generation

LAND USE	PERIOD	TOTAL	IN	OUT
Single Family Homes, LUC 210 (40 Dwelling Units)	Daily	448	224	224
	AM Peak Hour	33	8	25
	PM Peak Hour	42	26	16
***Two/Three Family Homes** (190 Dwelling Units - 138 Two-Family Homes, 52 Townhomes)	Daily	1,396	698	698
	AM Peak Hour	88	20	68
	PM Peak Hour	105	66	39
Total Net Trips	**Daily**	**1,844**	**922**	**922**
	AM Peak Hour	**121**	**28**	**93**
	PM Peak Hour	**147**	**92**	**55**

*Study utilizes ITE (Institute of Transportation Engineers) Land Use Code *Multi-Family Housing Low-Rise (LUC 220)*

The hourly trip generation was developed using the ITE (Institute of Transportation Engineers') methodology. From the hourly trip generation, we can expect on average for there to be one (1) vehicle every 0.8 minutes (46 seconds) throughout the day. Table 2 depicts the estimated number of generated trips expected every hour of the day and the frequency.

Table 2. Estimated Hourly Trip Generation – Trip Generation Rate

Beginning Hour	Expected Trips	
	Total	Vehicle Every (X) Minutes
12:00 AM	14	4.2
1:00 AM	8	7.6
2:00 AM	8	7.4
3:00 AM	9	6.5
4:00 AM	15	4.0
5:00 AM	33	1.8
6:00 AM	69	0.9
7:00 AM	118	0.5
8:00 AM	111	0.5
9:00 AM	97	0.6
10:00 AM	82	0.7
11:00 AM	96	0.6
12:00 PM	102	0.6
1:00 PM	94	0.6
2:00 PM	106	0.6
3:00 PM	127	0.5
4:00 PM	139	0.4
5:00 PM	149	0.4
6:00 PM	137	0.4
7:00 PM	110	0.5
8:00 PM	89	0.7
9:00 PM	66	0.9
10:00 PM	37	1.6
11:00 PM	28	2.2
Total	**1,844**	**0.8**

Table 3 depicts the expected number of trips that will utilize Norman Road, Rays Road, and Spartan Lane during each hour of the day. The planned traffic calming measures are likely to discourage travel along Othello Avenue. Therefore, there is not a significant amount of traffic from the development expected to utilize Othello Avenue. Supporting worksheets for computations are attached. The hourly breakdown by movement for each of the access points of the development is also attached.

Table 3. Estimated Hourly Roadway Trips

Beginning Hour	Norman Road b/w Othello Ave and Rays Road		Rays Road b/w Norman Road and Spartan Lane		Spartan Lane b/w subject development and Rays Road	
	Eastbound	Westbound	Northbound	Southbound	Eastbound	Westbound
12:00 AM	4	4	5	4	2	4
1:00 AM	2	2	3	2	1	2
2:00 AM	2	2	2	3	2	2
3:00 AM	3	3	3	3	2	2
4:00 AM	4	5	4	6	4	2
5:00 AM	8	10	7	13	11	3
6:00 AM	17	22	13	29	25	5
7:00 AM	29	37	25	47	40	12
8:00 AM	28	34	24	43	36	12
9:00 AM	25	29	25	34	27	15
10:00 AM	22	24	24	27	20	16
11:00 AM	27	27	29	30	22	20
12:00 PM	29	28	31	31	22	23
1:00 PM	26	26	29	29	21	21
2:00 PM	30	29	34	31	21	25
3:00 PM	37	34	43	34	22	34
4:00 PM	41	37	48	36	23	38
5:00 PM	44	40	52	39	25	41
6:00 PM	41	36	48	36	22	38
7:00 PM	32	30	37	31	21	28
8:00 PM	26	24	31	23	14	25
9:00 PM	20	17	24	17	10	19
10:00 PM	11	10	14	9	5	11
11:00 PM	8	7	11	6	3	9
TOTAL	**516**	**516**	**563**	**563**	**406**	**406**

Trip Reduction

NV5 Engineers & Consultants has developed a potential trip reduction factor that could possibly be used to reduce the number of trips generated by the development. The factor considers the area use of transit, transit availability, pedestrian connection to transit facilities and nearby land uses, and site-specific characteristics. From the data and methodology used, a reduction factor of 0.90 was developed. The trip reduction worksheet is attached.

ATTACHMENTS

2024 Build Traffic Counts - All Vehicles																				
Time (Hr Beg.)	Norman Road					Norman Road					North Access Point 1					Othello Avenue				
	Eastbound					Westbound					Northbound					Southbound				
	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM				1			0					0		0						
1:00 AM				0			0					0		0						
2:00 AM				0			0					0		0						
3:00 AM				0			0					0		0						
4:00 AM				0			0					1		0						
5:00 AM				1			0					2		1						
6:00 AM				1			0					5		2						
7:00 AM				2			1					7		4						
8:00 AM				2			1					7		3						
9:00 AM				3			1					5		2						
10:00 AM				3			1					4		2						
11:00 AM				4			2					4		2						
12:00 PM				4			2					4		2						
1:00 PM				4			2					4		2						
2:00 PM				5			2					4		2						
3:00 PM				6			3					4		2						
4:00 PM				7			3					4		2						
5:00 PM				7			4					5		2						
6:00 PM				7			3					4		2						
7:00 PM				5			3					4		2						
8:00 PM				5			2					3		1						
9:00 PM				3			2					2		1						
10:00 PM				2			1					1		0						
11:00 PM				2			1					1		0						
TOTAL				74			37					74		37						

2024 Build Traffic Counts - All Vehicles																				
Time (Hr Beg.)	Norman Road Eastbound					Norman Road Westbound					North Access Point 2 Northbound					Southbound				
	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM			0	2			2	0				1		1						
1:00 AM			0	1			1	0				1		1						
2:00 AM			0	1			1	0				1		1						
3:00 AM			0	1			1	0				1		1						
4:00 AM			0	1			1	0				3		2						
5:00 AM			1	2			1	0				7		5						
6:00 AM			2	3			2	0				15		10						
7:00 AM			4	7			5	1				24		16						
8:00 AM			3	7			5	1				22		15						
9:00 AM			2	9			6	1				16		11						
10:00 AM			2	10			7	1				12		8						
11:00 AM			2	12			8	2				13		9						
12:00 PM			2	13			9	2				13		9						
1:00 PM			2	12			8	2				12		9						
2:00 PM			2	15			10	2				13		9						
3:00 PM			2	20			14	3				13		9						
4:00 PM			2	22			16	3				14		9						
5:00 PM			2	24			17	4				15		10						
6:00 PM			2	22			16	3				13		9						
7:00 PM			2	16			11	3				12		8						
8:00 PM			1	15			10	2				9		6						
9:00 PM			1	11			8	2				6		4						
10:00 PM			0	7			5	1				3		2						
11:00 PM			0	5			4	1				2		1						
TOTAL			37	240			166	37				240		166						

2024 Build Traffic Counts - All Vehicles																				
Time (Hr	Spartan Lane										Rays Road					Rays Road				
	Eastbound					Westbound					Northbound					Southbound				
Beg.)	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR	U-Turn	Left	Thru	Right	RTOR
12:00 AM		1		2								3	1					1	1	
1:00 AM		0		1								1	1					1	1	
2:00 AM		1		1								1	1					1	1	
3:00 AM		1		2								1	1					1	1	
4:00 AM		1		3								2	1					2	1	
5:00 AM		3		8								2	1					4	1	
6:00 AM		8		18								3	2					10	1	
7:00 AM		12		28								8	5					15	4	
8:00 AM		11		26								9	5					14	4	
9:00 AM		8		19								11	6					11	4	
10:00 AM		6		14								11	6					8	5	
11:00 AM		6		15								14	8					8	6	
12:00 PM		7		16								16	9					9	7	
1:00 PM		6		15								15	8					8	6	
2:00 PM		6		15								18	10					8	7	
3:00 PM		6		15								24	13					8	10	
4:00 PM		7		16								27	15					9	11	
5:00 PM		7		18								29	16					10	12	
6:00 PM		7		16								27	15					9	11	
7:00 PM		6		14								20	11					8	8	
8:00 PM		4		10								18	10					6	7	
9:00 PM		3		7								13	7					4	6	
10:00 PM		2		4								8	4					2	3	
11:00 PM		1		2								6	3					1	3	
TOTAL		120		286								286	157					157	120	

Transit and Carpool Evaluation Tool

4069 Norman Road, Stone Mountain, Georgia 30083

Spivey Lake Residential

Date: 4/21/2021

Prepared by: M. Early

Trip Reduction Factor: **0.90**

Parking Reduction Factor: **N/A**

Transit Summary

Local Fixed-Route Bus; GOOD arrival times; SOMEWHAT CLOSE; ADEQUATE ped access; ALL can use

Transit is Available to **100%** of Residents

Influence of Available Transit	90.0%
Area Transit Usage	16.4%
Area Carpool Usage	9.5%
Area Bike/Ped Activity	1.5%

Source: American Community Survey, 2018

Comments:

MARTA bus route 121 - Memorial Drive/N. Hairston Road (nearest transit to development); walk to closest transit stop, 0.63 - 1.05 miles; Transect Development character rating, T4; Pedestrian Connection, ADEQUATE- lack of sidewalk along Spartan Lane, consistent sidewalk to transit stops; TDM Strategy, IN PLACE - walking trails facilitating access to local roadway network

Possible TDM Measures

- ☐ Pre-Tax Incentives
- ☐ Guaranteed Ride Home
- ☐ Ride-Share / Carpool
- ☐ Carpool Parking
- ☐ Bike Facilities
- ☐ Lockers
- ☐ Informational Kiosks
- ☐ Transportation Coordinators
- ☐ Shuttle to Transit
- ☑ Other (Specify)

Site Image:



Pedestrian connections are categorized as follows.

Pedestrian Connection

Site to Transit Stop/Stn	Rating
Complete	Excellent
Partial-Mitigatable	Adequate
Partial-Non-Mitigatable	Poor
Not an Influencing Factor	Non-Relevant
None	No

Explanation of Rating

Excellent. An unbroken/unobstructed sidewalk or formal walking path from the site to the transit stop/station, providing a safe travel route.

Adequate. A broken/obstructed sidewalk or formal walking path from the site to the transit stop/station, which can be mitigated, and traveler movement and safety are minimally impacted

Poor. An unsafe and/or uncomfortable pedestrian travel environment between the site and the transit stop/station that cannot be mitigated.

Non-relevant. Access to transit stop/station from the site is not impacted by the presence, or lack thereof, of a formal pedestrian connection.

Proprietary to NV5, Inc.