



THOMAS
&
HUTTON

REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)
TOWN OF RAVENEL, SOUTH CAROLINA

Prepared for:
MCLEOD LUMBER CO., INC.

J - 28397

August 2021

TABLE OF CONTENTS

I. General Description of the Planned Unit DevelopmentPage 1
II. Proposed Land Uses and Intensities.....Page 5
III. Definitions of Land Use Terms.....Page 6
IV. Development Criteria.....Page 11
V. Green Space.....Page 11
VI. Stormwater ManagementPage 12
VII. WetlandsPage 12
VIII. Water and Sewer Services/Utility Services/StreetlightsPage 13
IX. Site Access and TrafficPage 13
X. Tree Regulations.....Page 14
XI. Landscape RegulationsPage 15
XII. Signage RegulationsPage 15
XIII. Street Lighting.....Page 16
XIV. Residential Architectural Standards.....Page 16
XV. Property Owners Association.....Page 17
XVI. Design Review ProcessPage 17
XVI. Development SchedulePage 18

TABLES

Table 1: Density Allocation.....Page 6
Table 2: Development CriteriaPage 11

EXHIBITS

Context Map A
Boundary and Wetland Map B
Consent Letter C
Street Sections D
Conceptual Land Use Master Plan E
Preliminary Drainage Map F
Coordination Letters G
Planned Development LOI/Sewer Request H
Traffic Impact Study I

APPENDIX

Standard Ordinance I

I. GENERAL DESCRIPTION OF THE PLANNED UNIT DEVELOPMENT

The Tea Farm Planned Development District (PD) is a portion of the Tea Farm property owned by McLeod Lumber Co., Inc. The property is located adjacent to the intersection of US Highway 17 and Old Jacksonboro Road in Charleston County. The property consists of approximately 163 acres located in the Town of Ravenel and 233 acres in unincorporated Charleston County. The unincorporated Charleston County land is contiguous to lands within the Town of Ravenel and will be annexed into the Town as part of the PD rezoning process along with a development agreement. The site consists of approximately 397 acres and includes all of parcel # 301-00-00-010 (+/- 163 ac.) and of portion of parcel number 301-00-00-015 (+/-233 ac.) from the Charleston County Tax Map. Approximately 163 acres are Agricultural Residential (AR) in the Town of Ravenel and approximately 233 acres are zoned Recourse Management in Charleston County. The property is bounded on the south by US Highway 17 and Old Jacksonboro Road and lands of the Charleston County School District, on the north by lands of the McLeod Lumber Co., Inc., to the west by Laurel Oak Plantation, and to the east by lands of the Charleston County Parks and Recreation as well as miscellaneous parcels of KWM Enterprises. Vehicular access to the property is off Old Jacksonboro Road. An aerial photograph and context map of the property are included as **Exhibit A – Context Map**.

The total property is approximately three hundred ninety-six acres (396 ac.) consisting of approximately two hundred nine acres (209 ac.) of uplands and approximately one hundred eighty-seven acres (187 ac.) of wetlands. A Boundary and Wetland Map is attached as **Exhibit B – Boundary and Wetland Map**. The map depicts the property boundary, wetlands, and surrounding land uses.

A. Property Ownership

The Tea Farm PD is comprised of lands owned by The McLeod Lumber Company represented by Mr. Mac Rhodes. The property ownership group has given written consent for Thomas & Hutton to submit this proposed zoning change to The Town of Ravenel. See **Exhibit C – Consent Letter**.

Property Owner:
McLeod Lumber Co., Inc.
1820 Savannah Hwy. #1F
Charleston, SC 29407
Ph. 843-776-9134
Email: Mac Rhodes mac@mcleodrhodes.com
Mr. Mac Rhodes

Agent for the Applicant:
Thomas and Hutton
682 Johnnie Dodd's Blvd.
Mt Pleasant, SC 29464
Ph. 843-338-9015
Email Bruce Boysen boysen.b@tandh.com
Mr. Bruce Boysen

B. Intent of The Tea Farm PD and

The intent of the Tea Farm PD is to provide a new walkable mixed-use residential neighborhood within Ravenel with usable parks, recreational facilities, mixed use commercial, a two-acre municipal site and open space adjacent to the E.B. Ellington Elementary School. The new neighborhood will offer alternate housing options to the residents of Ravenel and the growing population of the Charleston region. The neighborhood has excellent access to existing infrastructure including water, sanitary sewer, and Old Jacksonboro Road, one of Ravenel's primary collector streets.

The PD proposes to cluster the residential development and provide an interconnected street network with sidewalks, street trees, pocket parks, recreational facilities, and neighborhood commercial uses coupled with commitment to a minimum of 60% of the gross acreage in open space resulting in a residential density of +/- 1 home per gross acre of land.

The Tea Farm PD seeks limited variations to the current Ravenel zoning code. Current trends from national builders include clustering homes via smaller lots and setbacks thus increasing open space and reducing infrastructure cost so the saving can be passed along in the form of lower housing cost while still providing the elements that create great neighborhoods. Details of the requested variations follow in this document.

C. Compatibility with the Town's Comprehensive Plan

The Ravenel 2020 Comprehensive Plan Update adopted May 26, 2020 designated the Tea Farm property as Low Density Agricultural Residential. Adjacent properties are designated the same except for the institutional use of the E.B. Ellington Elementary School. Low Density Agricultural Residential is defined in the current Ravenel Zoning Code as one-acre lots. The Tea Farm PD proposes to cluster residential development on smaller lots while still achieving a density of one home per gross acre.

The Comprehensive Plan lists numerous goals for the Town and some of these goals can be achieved through annexation, development agreement, and rezoning of the Tea Farm to a Planned Development District. The following are goals that are taken from the Comprehensive Plan that can be achieved, responses are in italics:

Population Element

Goal: Encourage population growth if it will enhance Ravenel's character.

- Develop an annexation plan, with focus on protecting current Town.

The Town of Ravenel recently adopted a Planned Development District Ordinance to achieve this goal. The Tea Farm PD will be the first PD in the Town and is in a logical location for quality growth with existing infrastructure and the elementary school adjacent to the site.

Goal: Support access to resources that Ravenel residents need to improve themselves.

- Promote opportunities for the location of businesses or service that Ravenel residents need or desire.

The Tea Farm PD contains a commercial component targeting neighborhood commercial activities such as a grocery store, restaurants, and service businesses.

Housing Element

Goal: Encourage a variety of housing options that appeal to Ravenel residents of all incomes.

- Review and amend Zoning Ordinance and map with respect to residential districts, standards, and densities.
- Remain flexible to take advantage of unique and innovative solutions for housing, including consideration of cluster or mixed-use zoning.

The new PD ordinance allows for clustering of homes to preserve open space and reduce infrastructure cost. The reduced development cost will allow the Tea Farm neighborhood to be unique to Ravenel and include 60% open space, 5-foot sidewalks on both sides of the street, street trees, a recreational facility, neighborhood parks, and the like.

Natural Resource Element

Goal: Limit the negative impacts of development on the environment in and around Ravenel.

- Require new development to use public services instead of wells and septic system.
- Require grading and erosion control plans.
- Continue with landscape requirements.
- Enforce stormwater runoff standards.

The Tea Farm PD will utilize the Town's sanitary sewer system and CWS water. Civil site design construction plans will include best management practices for stormwater quality and control and best management practices for grading and erosion control. The Tea Farm neighborhood will include enhanced landscape and entry monumentation, streetscapes with a street tree on every lot, and a minimum of three (3) landscaped neighborhood pocket parks.

Community Facilities Element

Goal: Require new development to address community needs by providing public improvements

- Use Development Agreements to ensure commitments.

The Tea Farm Development Agreement commits to dedicating the sewer system and streets to the city of Ravenel along with other environmental and quality of life commitments.

Goal: Improve Ravenel pedestrian Experience.

- Sidewalks/trails/crosswalks.
- Connections to schools and parks.
- Lighting with focus on efficiency, signage – entryway and directional.

The Tea Farm neighborhood will have 5-foot sidewalks on both sides of the street linking all homes to the neighborhood amenities and parks. An 8-foot-wide leisure trail shall be required in the 50-foot buffer zone parallel to Old Jacksonboro Road providing the Tea Farm and surrounding area with a safe walkway/bikeway to the elementary school. The primary entry to the Tea Farm Neighborhood will include an entry monument and landscape. Traffic control sign will be included through the streetscapes with directory signage, as necessary.

Transportation Element

Goal: Improve pedestrian amenities

- Focus on safety element such as lighting and crosswalks.
- Enforce sidewalk requirement during development review...

The tea Farm Neighborhood will include 5-foot sidewalks on both sides of the street, street trees and streetlights throughout its streetscape. An eight-foot-wide leisure trail shall be required in the 50-foot buffer zone parallel to Old Jacksonboro Road providing the Tea Farm and surrounding area with a safe walkway/bikeway to the elementary school. Painted Crosswalks will be required at the entry access street off Old Jacksonboro Road.

In the **Housing section** of the Comprehensive Plan identifies issues and solutions including:

- Establish parameters for cluster zoning within Planned Developments to cluster homes near infrastructure services (e.g., public water and sewer connections) and to conserve more open space.
- Establish maximum allowed density for Planned Developments that is greater than the current allowable density in the R-3 Zoning District to increase flexibility for unique housing developments in the Town.
- Encourage mixed-use zoning within or nearby large residential development, especially Planned Development Districts.

The **Land Use section** of the Comprehensive Plan suggests the E.B. Ellington Elementary School should be used to attract nearby residents of a density greater than the current AR zoning. The Plan also states, "This area should be monitored for development pressure, but low-to-medium density would be preferred in the Old Jacksonboro Road corridor."

D. The Conceptual Land Use Master Plan

The Tea Farm PD is anticipated to be constructed in two or three phases over a period of approximately five (5) to ten (10) years. Development will begin single-family residential followed by neighborhood commercial. Development will occur in accordance with the **Conceptual Land Use Master Plan (Exhibit E)** and Section II.A as set forth in this document or as amended in the future.

The Conceptual Land Use Master Plan and this text outline the general scope of the development including number of units, maximum commercial use, development standards, open space, and other issues.

The Conceptual Land Use Master Plan shows a maximum 400 single-family dwelling units, and a neighborhood commercial area with a minimum area of 2 acres (to contain 16,000 square feet or less of commercial space) and a maximum area of 16 acres (no more than 128,000 square feet of commercial space). Maximum commercial development may be dependent on an access point being allowed and permitted by the SCDOT connecting the commercial area to US Highway 17. Should the Highway 17 access not be obtainable, Commercial development will likely move to the Landover Road intersection and may not require the maximum development acres or commercial square footage.

The Conceptual Land Use Master Plan and the elements of this text seek to establish areas of open space. The open space, ponds, and amenities will be owned and maintained by the developer, one or more property owners' association, or other legally designated entities. Property deeded to a governmental entity or dedicated to the public becomes the maintenance responsibility of that entity upon proper dedication and acceptance.

The Conceptual Land Use Master Plan and associated PD text includes amendments and exceptions to the current Town of Ravenel Ordinances. The provisions of the Conceptual Land Use Master Plan, Exhibits, and Appendices shall apply to the development of the Tea Farm PD. In the event of a conflict, the hierarchy of documents that control development shall be the Development Agreement, the Tea Farm PD, and the Standard Ordinances that are defined in the Development Agreement.

Preliminary and Final Plats for each phase of the Development shall be submitted for review and approval at staff level by the Town of Ravenel.

PROPOSED LAND USES AND INTENSITIES

A. Introduction

The Tea Farm has been divided into six (6) Land Use Areas as indicated on the Conceptual Land Use Master Plan included as **Exhibit E**. The Areas include:

1. Residential, Single Family
2. Residential, Attached.
3. Community Recreation
4. Neighborhood Commercial Center
5. Municipal Site
6. Silviculture
7. Wetlands
8. Upland Preserve

The Conceptual Land Use Master Plan for the Tea Farm shall maintain flexibility to accommodate specific soil conditions, environmental concerns, physical constraints, market conditions, and design parameters. Accordingly, the exact location of the elements of the Conceptual Land Use Master Plan and the preliminary design concepts described herein shall be subject to change as phases of the Development are submitted for detailed development; provided that the maximum densities, perimeter buffers, minimum open space, character and intent of the development and other conditions of the Tea Farm PD will be adhered to.

B. Allowed Density

The Conceptual Land Use Master Plan shows a maximum 400 single-family dwelling units, and a neighborhood commercial area with a minimum area of 2 acres (to contain 16,000 square feet or less of commercial space) and a maximum area of 16 acres (no more than 128,000 square feet of commercial space).

For planning purposes, densities for each area have been estimated. The actual number of dwellings or Neighborhood Commercial Center acreage shall not exceed the maximum allowed total densities for the Tea Farm PD. The following table summarizes allow densities within the Tea Farm PD:

Table 1. Density Allocation

Planning Areas and Land Use	Total Acres	Upland Acres	Wetland Acres	Max. DU's	Maximum Commercial SF
Residential, Single Family	128	128	-	346	-
Residential, Attached	9	9	-	54(b)	-
Community Recreation	4	4	-	-	-
Neighborhood Commercial Center	14(a)	14(a)	-	-	128,000 sf (a)
Municipal Site	2	2	0		-
Wetland	187	-	187		
Upland Preserve	52	52			
Total	396	209	187	400	128,000 sf (a)

FOOTNOTES:

- (a) The PD Master Plan shall allow a minimum acreage for Neighborhood Commercial Center of 2 acres with 16,000 square feet or less of commercial space, and a maximum acreage and square footage of space shown in the table above.
- (b) Attached residential units may be converted to Residential, Detached at a ratio of 1:1 (54 DU)
- (c) The Municipal Site shall be excluded from the density limitations in the Tea Farm PD.

III DEFFINITIONS OF LAND USE TERMS

In the absence of a term definition in the Tea Farm PD, the definitions included in the Standard Ordinance as defined below shall apply.

A. Community Recreation

This designation allows for the recreational amenity to serve the Tea Farm PD. Land uses may consist of private indoor and outdoor lighted and unlighted recreation facilities, establishments, and services which include active and passive sports, and entertainment facilities. The community recreation site shall be a minimum of four (4) acres. Permitted uses include:

1. Outdoor recreational facilities may include:
 - Swimming pools, pool bath houses and gazebos/pavilions
 - Playgrounds
 - Lawn Games
 - Sports Courts
 - Leisure trails and bike trails 8-foot min. width
 - Other recreational uses
2. Accessory Structures

B. Standard Ordinance

The Standard Ordinance shall be the Town of Ravenel Zoning Ordinance, as amended, the current version of which (August 2020) is included herein as **Appendix 1**. Should this PD not specifically address certain zoning or development standards, then the applicable terms of the Standard Ordinance shall apply; provided, however, no zoning or development standards that would be more restrictive than the terms contained in the Standard Ordinance as of the date that this PD is enacted shall apply to the Property subject to the PD. In the event of a conflict between the Standard Ordinance and this PD, the terms of this PD shall control.

C. Green Space

"Green Space" shall include the following uses:

- a. Wetlands
- b. Wetland Buffers
- c. Natural areas
- d. Landscape areas
- e. Usable Open Space

Usable Open Space includes:

- a. Parks, active and passive
- b. Community Recreation
- c. Trails and paths (Calculated as a 25-foot-wide corridor)
- d. Community gardens

- e. Playgrounds
- f. Dog parks
- g. Sports fields
- h. Stormwater Ponds greater than one acre that has access by a trail and a designated park/fishing space.
- i. Other recreational uses

D. Model Home/Sales Center

This designation allows for the model homes and office/administrative facilities associated with the primary sale of residential lots and homes. The facility(s) may be permanent in nature with the model homes or sales office being sold as dwelling in the future or a temporary structure (whether mobile, modular, or not) that may relocate from time to time during the period of development to meet the needs of development phasing. Model Homes/Sales Center may be located anywhere within the PD.

E. Residential, Attached.

- Townhouse, one of a series of attached one-family dwelling units which:
 - May or may not have a common roof, and
 - Share at least one common wall, and
 - Sold as individual fee simple lots (or condominium units based on geometry like fee simple lots.)
- Duplex, an attached, detached, or semi-detached dwelling designed for or occupied exclusively by two families living independently of each other.

F. Silviculture

Silviculture includes forestry, commercial timber operations and silviculture uses, all of which involve the practice of planting, culture, and harvesting of trees for the purpose of producing wood fiber and timber. Generally accepted methods of forest management are permitted, including without limitation wildlife management, construction and use of forest roads, and practices to promote the health and growth of trees. Silviculture is permitted in all areas of the Team Farm PD, but silviculture shall be discontinued in subdivided, developed areas once a subdivision plat is recorded unless such subdivision plat designates a certain area as reserved for silviculture.

G. Municipal Site

Two (2) acres of usable upland acres may be used by the Town of Ravenel for any of the following uses: Government Offices/Facilities; Public Order and Safety, Police and Fire Protection Services.

H. Neighborhood Commercial Center

This designation allows certain service type businesses, office and specified public purposes. The uses allowed in the Neighborhood Commercial Center in the Tea Farm PD shall be the uses designated with the letter "A" in the Table

of Permitted Uses for the "NC" district (the Neighborhood Commercial District) in the Standard Ordinance, which Table of Permitted Uses is Appendix B to the Standard Ordinance and is incorporated herein by reference.

I. Residential, Single Family

Detached dwelling other than a mobile home designed for or occupied exclusively by one family.

J. Setbacks and Buffers

Setbacks and buffers shall meet the minimum requirements established herein.

Buffers shall only apply to the perimeter of the Property, and certain Residential and Neighborhood Commercial Center areas, as set forth below; provided, however, that any required wetlands buffers shall apply according to applicable state or federal law throughout the Property. Buffers shall include:

- Neighborhood Commercial Center and Municipal Site to US Highway 17 30' Min.
- Residential to US Highway 17 50' Min.
- Neighborhood Commercial Center and Municipal Site to Old Jacksonboro Road 30' Min
- Residential to Old Jacksonboro Road 50' Min
- Neighborhood Commercial Center to E.B. Ellington School 50' Min
- Residential to E.B. Ellington School 50' Min
- Access street behind E.B. Ellington School NA
- All other Perimeters 30' Min
- A thirty (30) foot minimum buffer shall be provided between Residential and Neighborhood Commercial Center and Municipal Site

Wetland buffers shall allow selective clearing and tree pruning as allowed by the South Carolina Department of Health and Environmental Control and The Army Corps of Engineers and the Ravenel Tree Regulations included in the Standard Ordinance otherwise noted herein.

The location of perimeter setbacks and buffers are indicated on the Conceptual Land Use Master Plan (Exhibit E):

Allowed uses within perimeter setback and buffer zones shall include:

1. Selective clearing and tree pruning
2. Landscape Development
3. Earth berming
4. Bike/leisure trails/sidewalks
5. Utilities
6. Road crossings
7. Signage and entry monuments

K. Signage Control

Signage for the Tea Farm PD shall comply with Section 4.3 Sign regulations of the Standard Ordinance with the following conditions.

- Neighbor Center and Municipal Site shall Comply with the Neighborhood Commercial Signage standards listed on Table 2.3.7T of the Standard Ordinance.
- Residential, Single Family; In lieu of the Residential Agricultural signage allowance of one 8-foot sign per entrance with a maximum of 24 square feet per sign face on Table 4.3.7T the Tea Farm PD shall limit the Residential signage to One Monument sign at the primary neighborhood entry off Old Jacksonboro Road. The Monument Shall be a maximum of 12 feet. The sign area (area of geometric shape surrounding the neighborhood logo and lettering) shall be a maximum of 36 square Feet and be allowed on both sides of the monument.
- Sub-neighborhoods within the development shall be allowed one marker no higher than 8 feet with a sign area of 8 feet.

L. Upland Preserve

Upland Preserves on the site shall be those lands that shall be left in their natural state and preserved as open space. Upland preserves may consist of:

- Natural Areas
- Wetland Buffers
- Perimeter Buffers

M. Wetlands

Freshwater and Saltwater Wetlands on the property shall be those areas over which the US Army Corps of Engineers (USACOE) claims 404 Jurisdiction for freshwater wetlands and South Carolina Department of Health and Environmental Control and Coastal Resource Management (OCRM) claims Jurisdiction for Saltwater Wetlands. The use of these lands is regulated by the USACOE and the OCRM, and unless restricted via a future Memorandum of Agreement (MOA), the following are permitted uses.

- Open space and buffers
- Conservation areas
- Activities in areas permitted by the USACOE and OCRM.
- Disposal of reclaimed water as permitted by OCRM.
- Storm water control and management
- Boardwalks, trails, bridges, and other uses as permitted by USACOE and OCRM.
- Game Management

IV. DEVELOPMENT CRITERIA

The Following development criteria shall apply to the Tea Farm PD.

**TABLE 2
Development Criteria
Tea Farm PD**

Lot Type	Min. Lot Size	Min. Lot Width	Min. Front Yd. Setback (ft.)	Min. Side Yd. Setback (ft.)	Min. Rear Yd. Setback (ft.)	Accessory Structure Setback		Max. Impervious Coverage (%)	Max. ht (ft.)
						Side	Rear		
Residential, Single Family	6,000 SF	50	20 (a)(c)	5(c)	20(c)	5(c)	5(c)	70	35(d)
Residential, Attached (Duplex)	No minimum	30	20(a)(c)	5 (b)(c)	20(c)	5(c)	5(c)	80	35(d)
Residential, Attached. (Townhouse)	No minimum	20	20 (a)(c)	10 (b)(c)	10(c)	5(c)	5(c)	80	35(d)
Municipal Site	No Minimum	50	0	10 (b)(c)	10(c)	5(c)	5(c)	80	No maximum
Commercial	No minimum	50	0	10 (b)(c)	10(c)	5(c)	5(c)	80	No maximum

FOOTNOTES:

- (a) A minimum front yard setback of 10 feet is allowed when parking is provided in the rear. Parking in the rear may be accessed from the front street, side street, or by an alley with a minimum 20 foot right of way. Required parking shall be contained within the residential lot and no on-street parking shall be permitted in residential areas unless otherwise approved by the Town.
- (b) Zero setback if buildings are adjoining.
- (c) Steps, hardscaping, eaves, and chimneys may encroach into setback areas but not into easements. Front porches shall be allowed to project up to a maximum of 10 feet into the front setback if the garage is setback a minimum of 20 feet from the front road right-of-way.
- (d) Building heights are measured to the eve of structure.
- (e) Flag lots are not permitted unless approved in accordance with Section 5.13(C) of the Standard Ordinance.

GENERAL NOTES

1. Minimum distance between buildings shall be determined based on Fire Code requirements at the time the building permit application is submitted.
2. Setbacks are measured to the face of proposed structures, including face of porches.
3. Accessory structures are permitted in the rear and side yards only with indicated minimum setbacks from the side and rear property lines.
4. Corner lots shall comply with development criteria listed in this chart and be considered to have one front, two sides and a rear.

V. GREEN SPACE

Green Space shall not be confined to one area but shall be blended throughout the development; however, the minimum acreage requirements for Green Space shall be calculated based on the aggregate acreage of all the Property subject to the PD, rather than on a site-specific basis. The minimum Green Space acreage provided,

inclusive of Usable Open Space, shall be no less than 60% of the total gross acreage. Not less than 5% (10.5 ac.) of the total upland acres (209 ac.) shall be Usable Open Space, which shall include at least one approximately 4-acre community recreation area and three one-third (1/3) acre minimum pocket parks.

VI. STORMWATER MANAGEMENT

The Property Owner or his successors will prepare a Stormwater Management Plan for each phase of the Tea Farm PD in accordance with the current stormwater management standards of the Town. The plan will address site hydrological characteristics, pre-development conditions, post-development runoff, and stormwater management facilities for flood control and treatment. The stormwater management plan will consider future construction, and it will detail the ability of the drainage system to treat runoff and control release rates during storm events as required. A preliminary Drainage Map is included as **Exhibit F - Preliminary Drainage Map**.

VII. WETLANDS

A Depiction of Aquatic Resources Map (Wetland's) has been prepared by Terracom and is included on **Exhibit B**. Final wetland delineation shall be completed prior to submittal of development plans to the town of Ravenel. No wetlands shall be impacted without a wetland permit issued by the USACOE and OCRM.

Wetlands may count as part of the minimum Green Space requirement for the Tea Farm PD.

VIII. WATER AND SEWER SERVICE/UTILITY SERVICES/STREETLIGHTS

Water shall be provided by Charleston Water System (CWS) to development within the Property. A coordination letter from CWS is included in **Exhibit G – Coordination Letters**.

Sanitary Sewer will be provided by the Town of Ravenel. A Planned Development LOI/Sewer Request checklist is included as **Exhibit H**. 120,000 gallons per day ("**GPD**") of sewer capacity will be required for the residential portions of the Tea Farm PD and 24,000 GPD of sewer capacity will be required for the Neighborhood Commercial Center.

Electrical service shall be provided by Dominion Energy of South Carolina. A coordination letter from Dominion Energy of South Carolina is included in **Exhibit G – Coordination Letters**.

Developers within the property shall coordinate the placement of proposed streetlights with the street tree planting required in, X. TREE REGULATIONS below to avoid conflict between the two streetscape elements.

IX. SITE ACCESS AND TRAFFIC

Access to the Property is currently off Old Jacksonboro Road. The Tea Farm PD proposes a minimum of 2 and a maximum of 3 points of access off Old Jacksonboro

Road, and 1 point of access off US Highway 17, as indicated on the Conceptual Land Use Plan. Additionally, McLeod Lumber Co., Inc. owns other property adjacent to the Property that is not part of the Property being subjected to the PD (the "Adjacent McLeod Lumber Property"), and vehicular access from Old Jacksonboro Road to the Adjacent McLeod Lumber Property shall be retained or provided through the Property subject to the PD.

The central access point off Old Jacksonboro Road aligns with Landover Road and would provide linkage of the bulk of the Tea Farm PD to US Highway 17. Providing the Landover access alignment will require wetland impact approval from the USACOE and cannot be guaranteed.

An additional access may be pursued off US Highway 17 to access the Neighborhood Commercial Center. This access point will require coordination and approval from the SCDOT.

An access street is proposed on the north side of E.B. Ellington Elementary School. This access street will follow the general alignment of an existing woodland road and provide linkage of the eastern portion of the PD to the west. Construction of this street will require wetland impact approval from the USACOE.

Streets within the property shall be interconnected, as site and environmental conditions allow. Street sections are included as **Exhibit D – Street Sections**. Street construction shall comply with the regulations of the Standard Ordinance and include 5-foot sidewalks on both sides of the street.

The Tea Farm PD shall commit to a traffic study performed by a traffic engineer. The Traffic study and its mitigation requirement shall be completed prior to submittal for the development permit. The Tea Farm PD shall comply with the improvements recommended by the study and the conditions of the Tea Farm Development Agreement for Traffic Considerations.

X. TREE REGULATIONS

The Tea Farm PD shall be subject to the requirements of Section 5.15 Tree regulations of the Standard Ordinance with the following exceptions.

A. Street Trees

Street trees shall be planted in regular patterns and should be no more than approximately 50 feet on center. If the street trees are planted in a landscape planter strip between the back of curb and the sidewalk, the planter strip shall be a minimum of six (6) feet wide. Each tree planted shall include a 12-month guaranty period. If the street tree fails to survive in the 12-month guaranty period, another street tree shall be replanted with another 12-month guaranty period. Street trees shall be allowed to meet tree mitigation requirements provided the trees are planted adjacent to the mitigation area.

Exact location for planting of mitigation trees shall be approved by Town staff prior to installation. Suitable areas may include public green spaces, buffers, passive recreational areas, and the like.

The Property Owner or its designee shall be responsible for monitoring and implementation of the street tree planting requirement. If the Property Owner designates its obligations hereunder to another entity, the Property Owner must provide the Director of Planning written notification of same. A written schedule and detailed planting plan for the street tree planting requirement shall be submitted to the Town on a yearly basis. The schedule and planting plan shall correspond to implementation of the work no later than the last quarter of the year following the completion of the buildings within a project phase. Following the completion of the work the Property Owner or designee shall request Town inspection for compliance and approval.

Developers within the property shall coordinate the placement of proposed streetlights with the street tree planting required to avoid conflict between the two streetscape elements.

Street Trees shall be a minimum of 2-1/2-inch caliper and of a variety from the following approved street tree list or as approved by the Town Arborist:

- Quercus lyrata 'Highbeam' Highbeam Overcup Oak
- Quercus nuttallii 'Highpoint' Highpoint Nuttall Oak
- Quercus phellos 'Hightower' Hightower Willow Oak
- Quercus virginiana 'highrise' Highrise Live Oak
- Ulmus parvifolia 'Emerll' Allee Allee Elem

B. Tree Survey Requirements

Tree surveys, if required will be completed prior to development plan permit.

C. Tree Clearing

Mass grading and removal of trees is allowed for construction if the following conditions are met:

- Clearing and mass grading shall only occur one phase of development at a time per each residential neighborhood or commercial area within the Project.
- Where clearing and grading the lots to final design elevations is required to positively drain the roads and lots or the final pad elevations of the proposed lots will exceed 24 inches of elevation change from existing grades.
- Every effort should be made to design around Significant Trees that are graded A or B by a certified arborist. If this is not feasible, they shall be mitigated at 100%. Canopy trees on lots and streets trees may count toward any required mitigation.
- There shall be 1 street tree and 1 Canopy tree per single-family home and/or 1 tree per 2 townhome or duplex units planted in a location approved by the Director of Planning.
- Trees shall be planted at least 10' from any structure including drainage structures.

- Significant trees 24 inches diameter at breast height or greater shall be surveyed if requested by the Town.
- The following tree species shall not be considered significant:
 - Pine, Sweet Gum, Chinese Tallow, and any other invasive species as identified by the State of South Carolina.
- Mitigation shall be based on the Standard Ordinance.
- Clearing associated with Stormwater Management and Erosion Control and Maintenance shall be exempt from any mass clearing restrictions.

XI. LANDSCAPE REGULATIONS

Except as otherwise provided in the PD, including but not limited to Section X(C) above, the Tea Farm PD shall be subject to the landscape requirements included in Section 4.2 – Screening, Buffer yards, and Landscape Requirements of the Standard Ordinance.

XII. SIGNAGE REGULATIONS

Signage for the Tea Farm PD shall comply with Section 4.3 Sign Regulations of the Standard Ordinance with the following conditions.

- Neighbor Center shall Comply with the Neighborhood Commercial Signage standards listed on Table 2.3.7T of the Standard Ordinance.
- Residential, Single Family; In lieu of the Residential Agricultural signage allowance of one 8-foot sign per entrance with a maximum of 24 square feet per sign face on Table 4.3.7T the Tea Farm PD shall limit the Residential signage to One Monument sign at the primary neighborhood entry off Old Jacksonboro Road. The Monument Shall be a maximum of 12 feet. The sign area (area of geometric shape surrounding the neighborhood logo and lettering) shall be a maximum of 36 square Feet and be allowed on both sides of the monument.
- Sub-neighborhoods within the development shall be allowed one marker no higher than 8 feet with a sign area of 8 feet.

XIII. STREET LIGHTING

The streets within the Tea Farm PD shall include Streetlights. Streetlights shall be selected from the decorative fixtures offered by Dominion Energy of South Carolina. Light pole spacing shall be based on the photometric design standards recommended by Dominion Energy of South Carolina Final light pole locations shall be coordinated with the street tree plantings to avoid conflict.

XIV. RESIDENTIAL ARCHITECTURAL STANDARDS

Any residential architectural standards shall comply with Chapter 4 – Land Development Regulations of the Standard Ordinance. Residential architectural standards shall be established by recorded declarations of restrictive covenants (“CCRs”) for the residential communities.

XV. PROPERTY OWNERS ASSOCIATIONS

One or more Property Owners Associations (POAs) shall be established for residential neighborhoods in the PD. Membership in the applicable residential POAs will be

mandatory for residential property owners. The POAs will be funded by assessments to be established in recorded restrictive covenants. The POAs' responsibility will be to manage the affairs of the POAs including the enforcement of the restrictive covenants and the maintenance of common areas. Common areas may include, among other items, passive park space, landscape areas, and stormwater detention facilities.

Neighborhood Commercial Centers may or may not have POAs. If a Neighborhood Commercial Center does not have a POA, any common areas, cross easements, or other similar shared use rights will be established and governed by applicable recorded declarations.

XVI. DESIGN REVIEW PROCESS

Architectural design review for residential dwellings shall be the responsibility of the Developers and/or the applicable Property Owners' Associations and based on the design guidelines pursuant to CCRs as referenced in Section XIV.

XVII. DEVELOPMENT SCHEDULE

Following is an approximate development schedule. Actual start dates, rates of home construction and sales, and timing of commercial acreage sales and construction may vary based on market conditions.

1. 2021-2023: Land planning, site civil design, permitting and commencement of construction of phase one of residential development.
2. 2022-2025: Homes sales and continued construction of phase one of residential development. Land planning, site civil design, permitting and commencement of construction of phase two of residential development.
3. 2024-2027: Homes sales of phase one of residential development. Homes sales and continued construction of phase two of residential development
4. 2025-2031: Neighborhood Commercial Center land planning, site civil design, permitting and construction.



REZONING APPLICATION

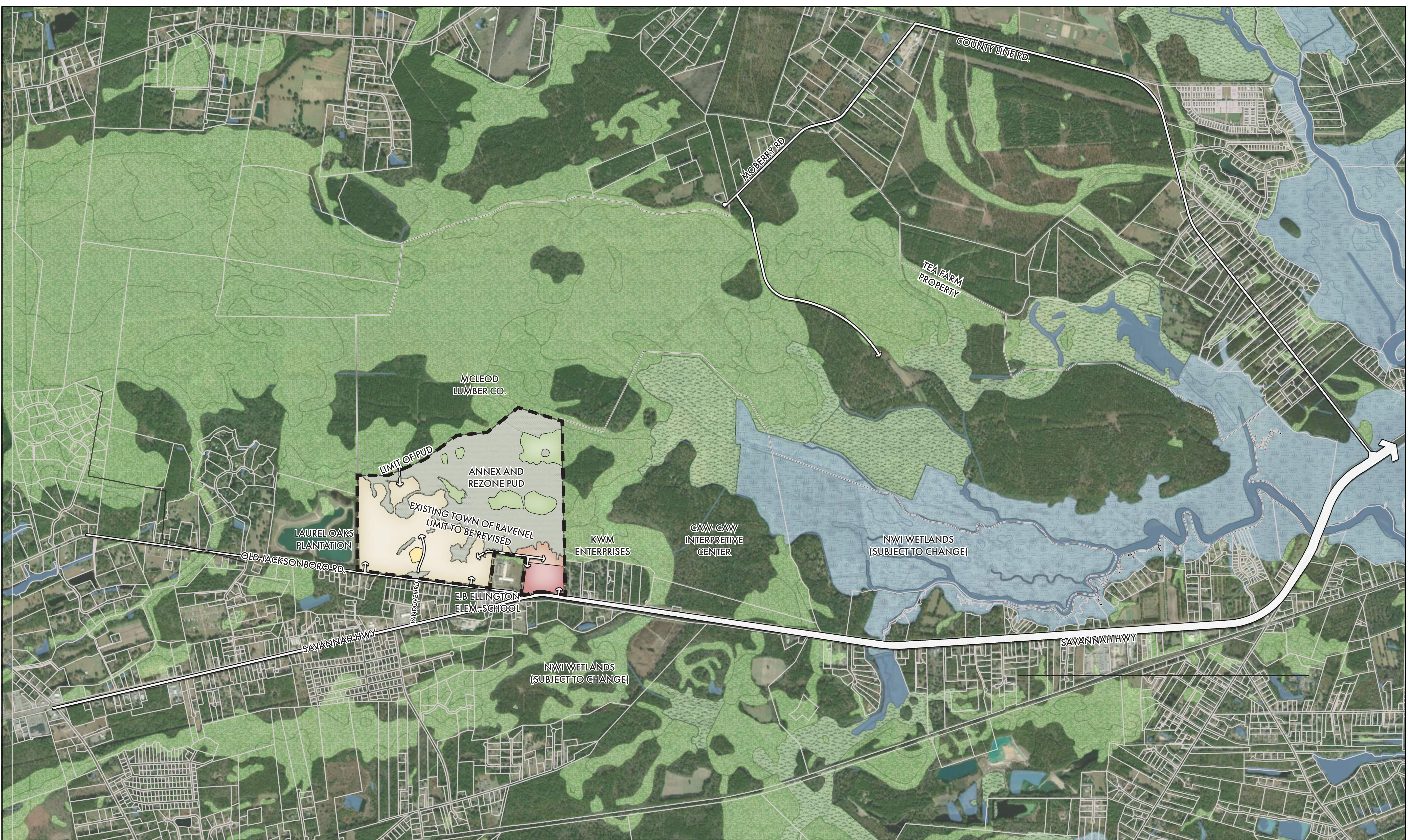
TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT A Context Map

J – 28397

August 2021

28397.0000



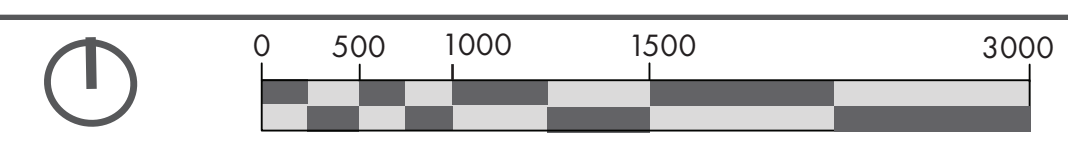
McLeod Lumber Co.

THOMAS & HUTTON
This map illustrates a general plan of the development which is for discussion purposes only. It does not bind or limit the owner/developer, and is subject to change and revision without prior written notice to the local government. Dimensions, boundaries, and position locations are for illustrative purposes only and are subject to an accurate survey and property description.

Tea Farm Planned Development District

Context Map - Exhibit A
RAVENEL, SC

AUGUST 2020





THOMAS
&
HUTTON

REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT B **Boundary and Wetland Map**

J – 28397

August 2021



DEPARTMENT OF THE ARMY
CHARLESTON DISTRICT, CORPS OF ENGINEERS
69A HAGOOD AVENUE
CHARLESTON, SC 29403-5107

April 15, 2021

Regulatory Division

Mr. Ted Melchers
Terracon
1450 Fifth Street West
North Charleston, South Carolina 29405
ted.melchers@terracon.com

Dear Mr. Melchers:

This is in response to your request for a preliminary jurisdictional determination (PJD). Based on information submitted to the U.S. Army Corps of Engineers (Corps) we have determined there may be waters of the United States, including wetlands on your parcel located at the following:

Project Number:	SAC-2020-01628
County:	Charleston County
Project/Site Size:	396.42 Acres
Latitude:	32.7902°
Longitude:	-80.21449°
Project/Site Location:	On portions of TMS# 301-00-00-015 and 301-00-00-010 off of Old Jacksonboro Road in Ravenel
Waters (Acreage/Linear Feet):	Wetlands= 187.54 Acres Non-Wetland Waters= 2,532 Linear feet

A copy of the PJD form and the depiction dated August 13, 2020, and titled "Depiction of Aquatic Resources Map Tea Farm Old Jacksonboro Road Ravenel, Charleston County, South Carolina", is enclosed. Please carefully read this form, then sign and return a copy to the project manager at the following Chelsea.B.Fannin@usace.army.mil within 30 days from the date of this notification.

Please be advised a Department of the Army permit will be required for regulated work in all areas which may be waters of the United States, as indicated in this PJD. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a PJD will treat all waters and wetlands, which would be affected in any way by the permitted activity on the site, as if they are jurisdictional waters of the United States. Should you desire an approved Corps determination, one will be issued upon request.

You are cautioned that work performed in areas which may be waters of the United States, as indicated in the PJD, without a Department of the Army permit could subject you to enforcement action.

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

If you submit a permit application as a result of this PJD, include a copy of this letter and the depiction as part of the application. Not submitting the letter and depiction will cause a delay while we confirm a PJD was performed for the proposed permit project area. Note that some or all of these areas may be regulated by other state or local government entities, and you should contact the South Carolina Department of Health and Environmental Control, Bureau of Water and/or Office of Ocean and Coastal Resource Management, to determine the limits of their jurisdiction.

In all future correspondence, please refer to file number SAC-2020-01628. A copy of this letter is forwarded to State and/or Federal agencies for their information. If you have any questions, please contact me at (843) 329-8038, or by email at Chelsea.B.Fannin@usace.army.mil.

Sincerely,



Chelsea B. Fannin
Project Manager

Enclosures:

Preliminary Jurisdictional Determination Form
"Depiction of Aquatic Resources Map Tea Farm Old Jacksonboro Road Ravenel, Charleston County, South Carolina"
Notification of Appeal Options

Copies Furnished:

Mr. Mac Rhodes
MacLeod Lumber Co., Inc.
1820 Savannah Hwy
Charleston, South Carolina 29407
mac@mcleodrhodes.com

SC DHEC - Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201
WQCWetlands@dhec.sc.gov

SC DHEC - OCRM
1362 McMillan Avenue, Suite 400
North Charleston, South Carolina 29405
OCRMPermitting@dhec.sc.gov

BACKGROUND INFORMATION

A. **REPORT COMPLETION DATE FOR PJD:** April 15, 2021

B. **NAME AND ADDRESS OF PERSON REQUESTING PJD:**

Mr. Mac Rhodes
 Macleod Lumber Co., Inc.
 1820 Savannah Hwy
 Charleston, SC 29407

C. **DISTRICT OFFICE, FILE NAME, AND NUMBER:** SAC, Tea Farm, SAC-2020-01628

D. **PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

State: SC County/parish/borough: Charleston County City: Ravenel
 Center coordinates of site (lat/long in degree decimal format):
 Lat.: 32.790204° Long.: -80.21449°
 Universal Transverse Mercator: 17
 Name of nearest waterbody: Wallace Creek

E. **REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

- Office (Desk) Determination. Date: April 15, 2021
- Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Tea Farm Non-Wetland Water 1	32.788035	-80.213318	635 feet	Non-wetland waters	Section 404
Tea Farm Non-Wetland Water 2	32.786105	-80.215872	670 feet	Non-wetland waters	Section 404
Tea Farm Non-Wetland Water 3	32.788168	-80.216948	1227 feet	Non-wetland waters	Section 404
Tea Farm Wetland 1	32.791622	-80.212568	165.75 acres	Wetland	Section 404
Tea Farm Wetland 2	32.785154	-80.218056	1.28 acres	Wetland	Section 404
Tea Farm Wetland 3	32.788204	-80.216893	0.08 acres	Wetland	Section 404
Tea Farm Wetland 4	32.787228	-80.219105	0.49 acres	Wetland	Section 404
Tea Farm Wetland 5	32.792056	-80.221122	5.18 acres	Wetland	Section 404
Tea Farm Wetland 6	32.796236	-80.209627	14.11 acres	Wetland	Section 404
Tea Farm Wetland 7	32.793387	-80.207976	0.65 acres	Wetland	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: McLeod Lumber Co, Inc. Map: "Depiction of Aquatic Resources Map Tea Farm Old Jacksonboro Road Ravenel, Charleston County, South Carolina".
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale: _____.
- Data sheets prepared by the Corps: _____.
- Corps navigable waters' study: _____.
- U.S. Geological Survey Hydrologic Atlas: _____.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Exhibit No. 2 1971 Ravenel, SC-USGS Topographic Map.

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

- Natural Resources Conservation Service Soil Survey. Citation: Exhibit No. 6 2006 Infrared Aerial/ USGS NHD/ USFWS NWI Map.
- National wetlands inventory map(s). Cite name: Exhibit No. 7 2006 Infrared Aerial/ USDA Soils Map.
State/local wetland inventory map(s): _____.
- ____ FEMA/FIRM maps: _____
- ____ 100-year Floodplain Elevation is: _____. (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): GoogleEarth January 2019.
____ or Other (Name & Date): Site Photographs taken June 17-18, July 23, & August 12, 2020.
- ____ Previous determination(s). File no. and date of response letter: _____.
- ____ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Chelsea Fannin

4/15/2021

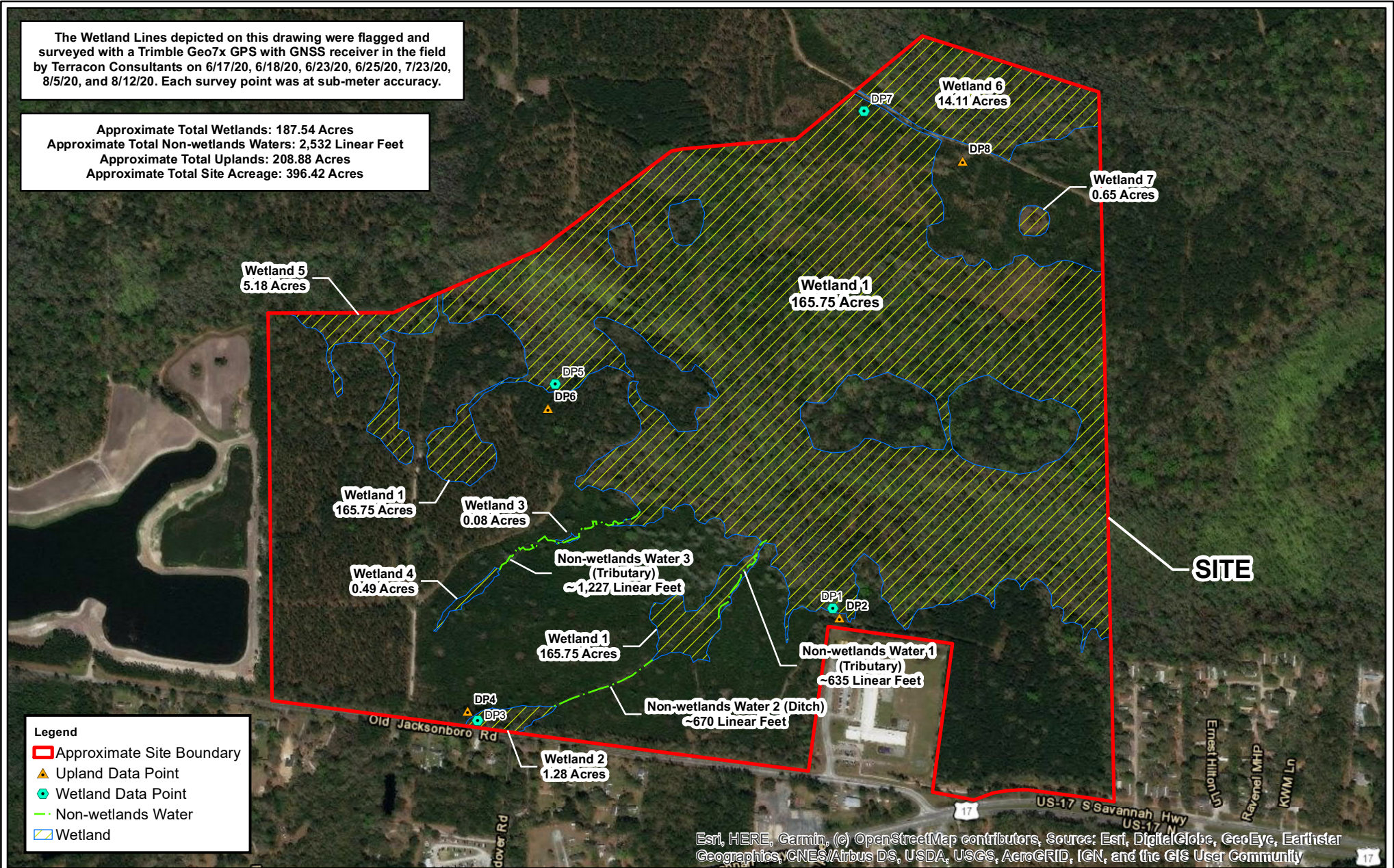
Chelsea B. Fannin
Signature and date of Regulatory staff
member completing PJD

Signature and date of person requesting
PJD (REQUIRED, unless obtaining the
signature is impracticable)¹

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

The Wetland Lines depicted on this drawing were flagged and surveyed with a Trimble Geo7x GPS with GNSS receiver in the field by Terracon Consultants on 6/17/20, 6/18/20, 6/23/20, 6/25/20, 7/23/20, 8/5/20, and 8/12/20. Each survey point was at sub-meter accuracy.

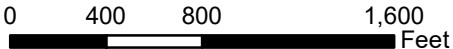
Approximate Total Wetlands: 187.54 Acres
 Approximate Total Non-wetlands Waters: 2,532 Linear Feet
 Approximate Total Uplands: 208.88 Acres
 Approximate Total Site Acreage: 396.42 Acres



Legend

- ▭ Approximate Site Boundary
- ▲ Upland Data Point
- Wetland Data Point
- Non-wetlands Water
- ▨ Wetland

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project No.	EN207216
PM:	JTM
Drawn By:	JTM
Date:	8/13/2020

Terracon

1450 Fifth Street West N.Charleston, SC 29405
 Phone: 843.884.1234 Fax: 843.884.9234

Depiction of Aquatic Resources Map	
Tea Farm Old Jacksonboro Road Ravenel, Charleston County, South Carolina	

EXHIBIT NO.	A
-------------	---

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant:	File Number:	Date:
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer, South Atlantic Division, 60 Forsyth St, SW, Atlanta, GA 30308-8801. This form must be received by the Division Engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD **is not appealable**. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact the Corps biologist who signed the letter to which this notification is attached. The name and telephone number of this person is given at the end of the letter.

If you only have questions regarding the appeal process you may also contact: Mr. Philip A. Shannin
Administrative Appeal Review Officer
CESAD-PDS-O
60 Forsyth Street Southwest, Floor M9
Atlanta, Georgia 30303-8803

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:



THOMAS
&
HUTTON

REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT C Consent Letter

J – 28397

August 2021

McLeod Lumber Co., Inc.
1820 Savannah Highway
Charleston, South Carolina 29407

December 8, 2020

Mr. Michael D. Hemmer
Planning and Zoning Administrator
Town of Ravenel
5962 Highway 165, Suite 100
Ravenel, SC 29470

Re: Tea Farm Planned Development
TMS No. 301-00-00-10 & 301-00-00-15
Charleston County, South Carolina
T&H Project No. 28397.0000

Dear Mr. Hemmer:

Please be advised that representatives of Thomas & Hutton ("T&H") and Nelson Mullins are authorized to represent McLeod Lumber Co., Inc., owner of the above-referenced property, with regard to annexation, rezoning and development agreement applications associated with the property.

Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

MCLEOD LUMBER CO., INC.



Mac Rhodes

McLeod Lumber Co., Inc.
1820 Savannah Highway, #1F
Charleston, SC 29407

PH. (843) 776-9134



THOMAS
&
HUTTON

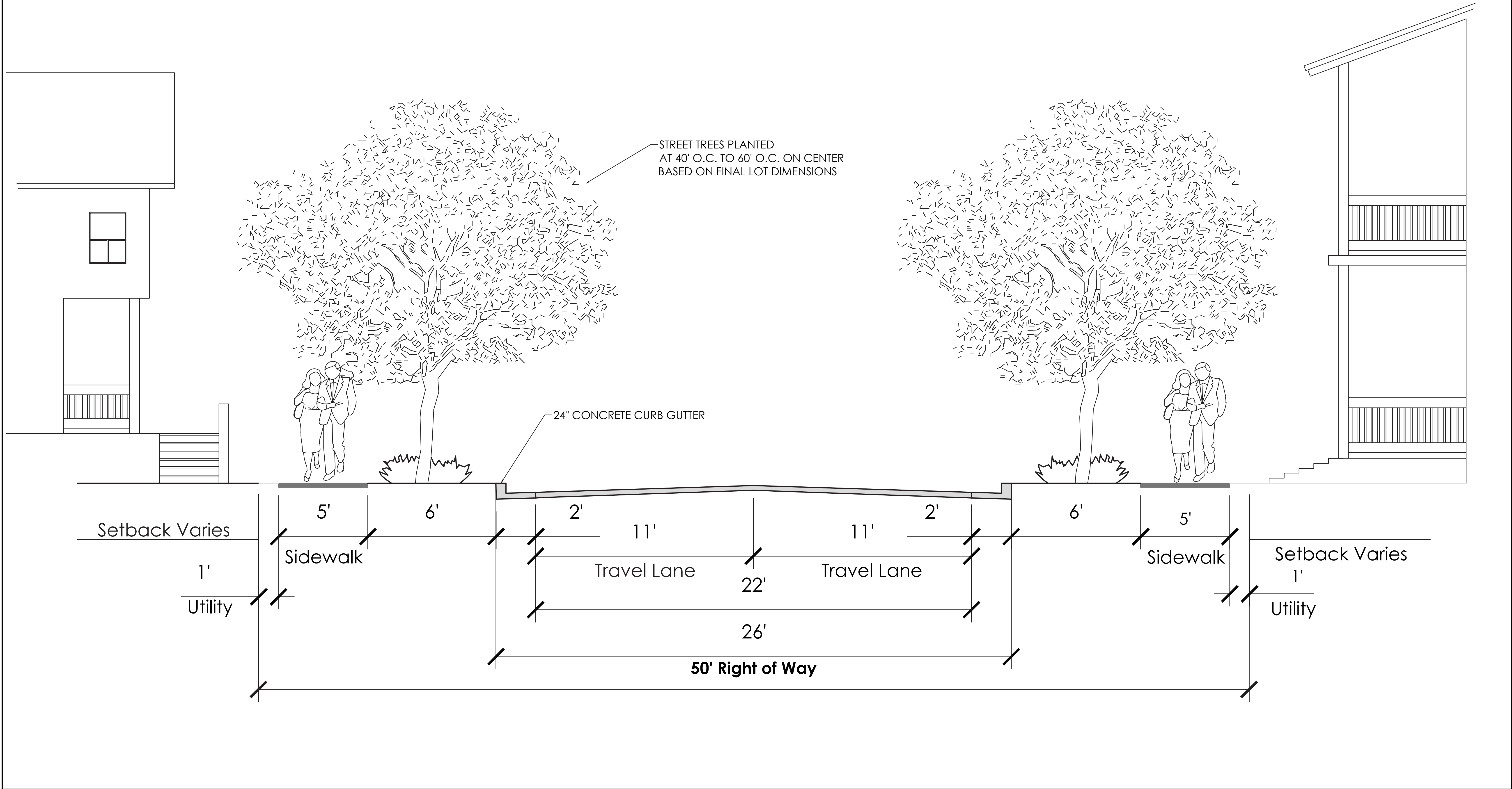
REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT D Street Sections

J – 28397

August 2021





13.1313

THOMAS
&
HUTTON

REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT E **Conceptual Land Use Master Plan**

J – 28397

August 2021

28397.0000

ALLOWED LAND USE AND DEVELOPMENT STANDARDS

LAND USE GROUPS OF THE TEA FARM PUD ARE GRAPHICALLY DEPICTED AND SUMMARIZED ON THE CONCEPTUAL LAND USE MASTER PLAN. THE FOLLOWING LAND USE GROUPS SHALL BE ALLOWED IN THE TEA FARM PUD.

- RESIDENTIAL, SINGLE FAMILY
- RESIDENTIAL, ATTACHED SINGLE FAMILY
- COMMUNITY RECREATION
- NEIGHBORHOOD COMMERCIAL CENTER
 - BUSINESS, CONVENIENCE RETAIL
 - BUSINESS, PERSONAL SERVICES
 - PROFESSIONAL OFFICE
- WETLANDS
- UPLAND PRESERVE

ALLOWING A LAND USE GROUP DOES NOT OBLIGATE THE LAND OWNER TO PROVIDE THE USE OR FACILITY PROVIDED THE MINIMUM OPEN SPACE, MINIMUM NEIGHBORHOOD COMMERCIAL CENTER AND OTHER PARAMETERS OF THE PUD DOCUMENT ARE ADHERED TO.

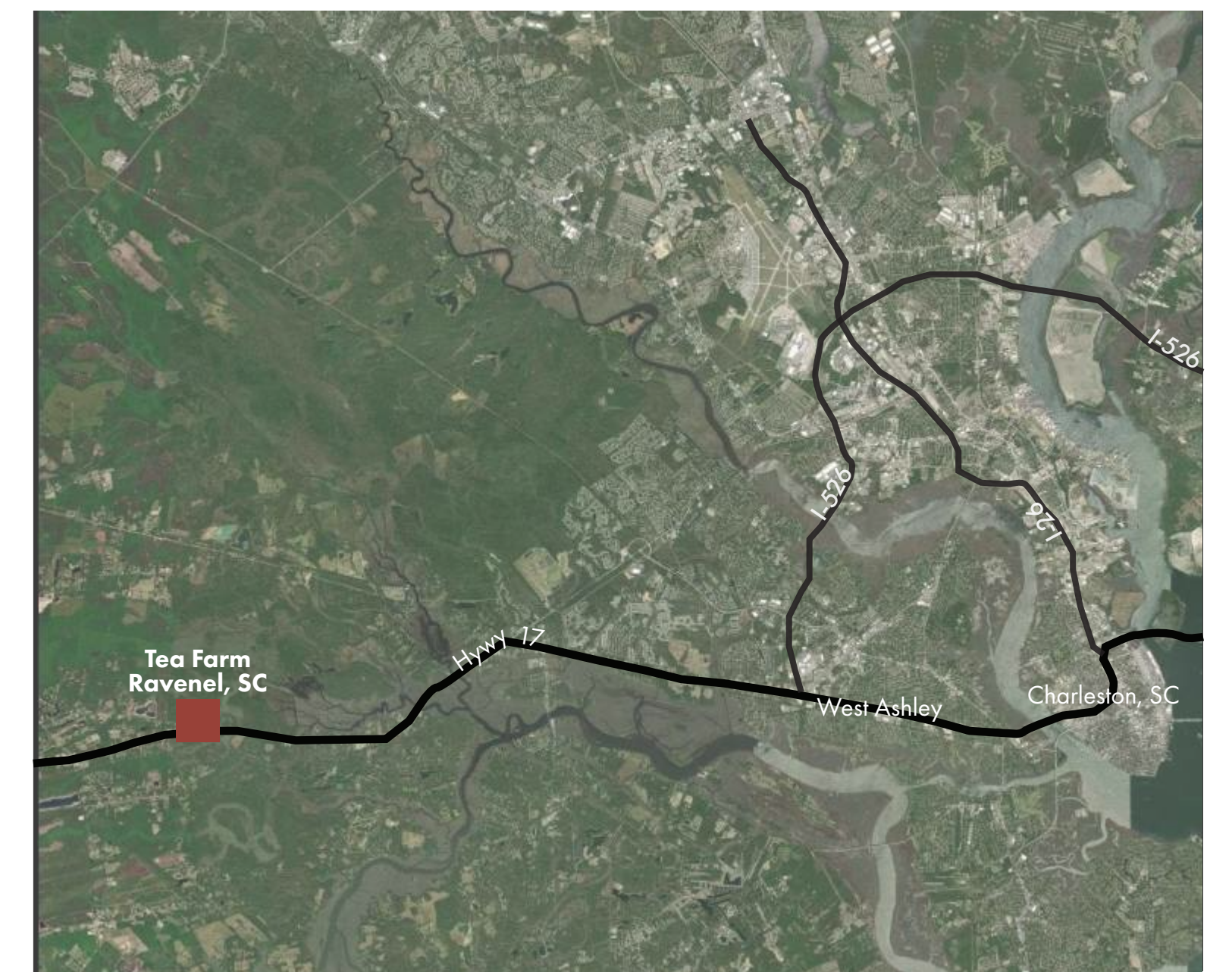
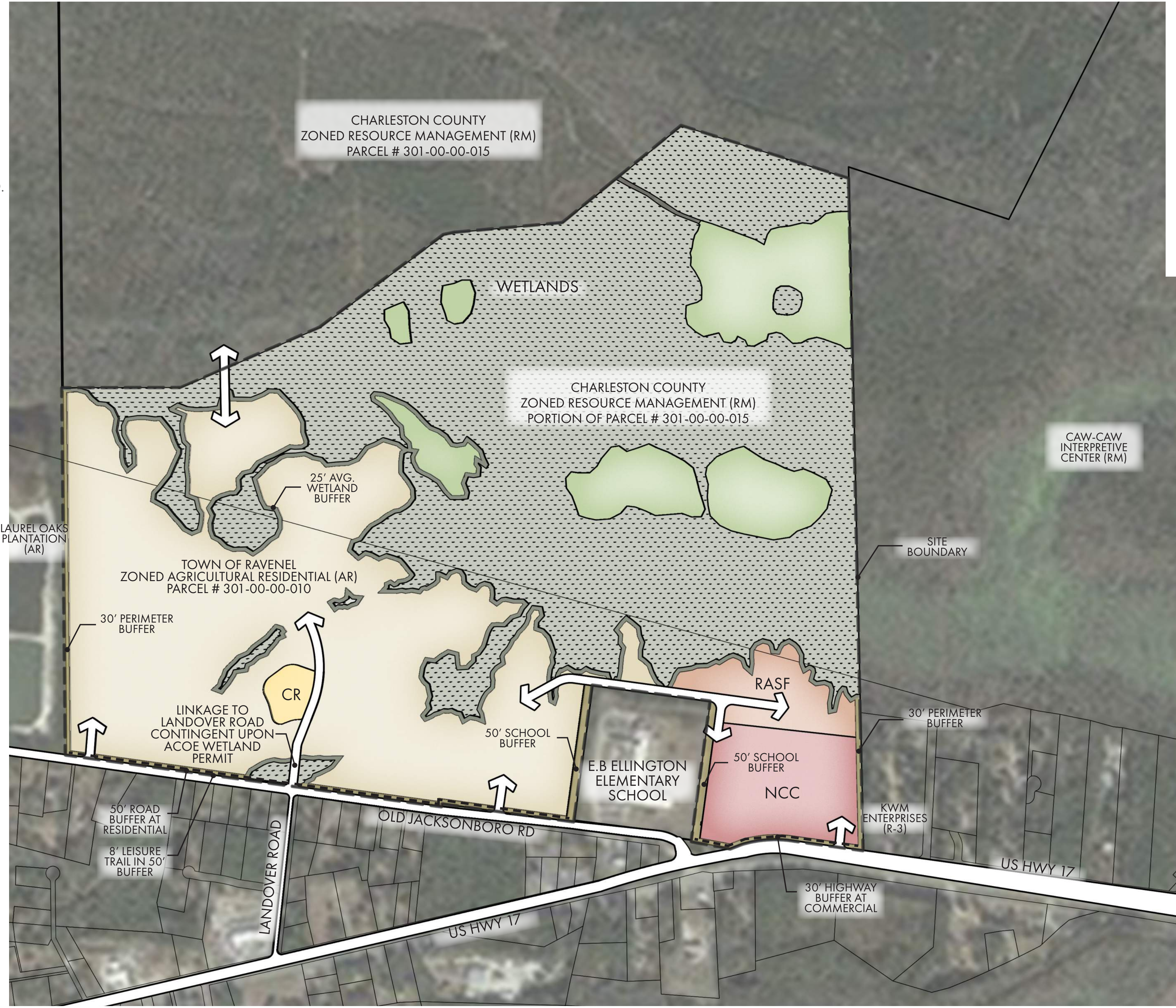
- ACREAGE SUMMARY
 - UPLAND ACRES +/- 209
 - WETLAND ACRES +/- 187
 - TOTAL ACRES +/- 396
- ALLOWED LAND USES SHALL INCLUDE: (PER UPLAND ACRE)
 - RESIDENTIAL SINGLE FAMILY +/- 128 AC / 61%
 - RESIDENTIAL ATTACHED SINGLE FAMILY +/- 9 AC / 4%
 - OPEN SPACES +/- 52 AC / 27%
 - NEIGHBORHOOD COMMERCIAL CENTER +/- 16 AC / 8%*

* 2 ACRES OF USABLE UPLAND ACRES MAY BE USED BY THE TOWN OF RAVENEL FOR ANY OF THE FOLLOWING: GOVERNMENT OFFICES/ FACILITIES; PUBLIC ORDER AND SAFETY, POLICE AND FIRE PROTECTION SERVICES.

- MAXIMUM DENSITY:
 - RESIDENTIAL 400 DETACHED SINGLE-FAMILY DWELLING UNITS +/- 1 DU/GROSS ACRE
 - NEIGHBORHOOD COMMERCIAL CENTER 128,000 SF
- IMPERVIOUS SURFACE FOR PUD:
 - MAXIMUM IMPERVIOUS 40% GROSS PUD AC.
- SINGLE FAMILY RESIDENTIAL DETACHED LOT STANDARDS:
 - LOT SIZE 50X120' MIN.
 - FRONT SETBACK - 20 FEET (TO GARAGE)
 - SIDE SETBACK - 5 FEET
 - REAR SETBACK - 20 FEET
 - MAXIMUM IMPERVIOUS PER LOT - 60%
 - BUILDING HEIGHT - 35-FOOT MAXIMUM
 - PARKING - TWO (2) OFF-STREET SPACES PER DU
 - SIDEWALKS - 5' MIN. SIDEWALK BOTH SIDES OF THE STREET
- NEIGHBORHOOD COMMERCIAL CENTER STANDARDS:
 - MIN. LOT WIDTH - 60 FEET
 - FRONT SETBACK - 10 FEET
 - SIDE SETBACK - 10 FEET
 - REAR SETBACK - 10 FEET
 - BUILDING HEIGHT - 40-FOOT MAX
 - PARKING REQUIRED - 4 SPACES/1000 SF.
 - SIDEWALKS - 5' MIN. SIDEWALK BOTH SIDES OF THE STREET

NOTES: SETBACKS SHALL BE MEASURED TO THE STRUCTURE WALL. STRUCTURE EYES MAY EXTEND INTO THE BUFFER AND SETBACK. MINIMUM LOT WIDTH SHALL BE MEASURED AT THE FRONT SETBACK LINE.

- UTILITIES
 - SHALL BE LOCATED UNDERGROUND



LEGEND

- RESIDENTIAL SINGLE FAMILY (RSF)
- RESIDENTIAL ATTACHED SINGLE FAMILY (RASf)
- COMMUNITY RECREATION (CR)
- NEIGHBORHOOD COMMERCIAL CENTER (NCC)
- WETLAND BUFFER
- WETLAND
- PRIMARY TRAFFIC CIRCULATION
- PERIMETER, SCHOOL, & ROAD BUFFERS
- UPLAND PRESERVE

THE LAND USE LIMITS INDICATED ON THE CONCEPTUAL LAND USE MASTER PLAN ARE NOT INTENDED TO BE RIDGED, EXACT, BOUNDING LINES FOR FUTURE IMPROVEMENT

THE "CONCEPTUAL LAND USE MASTER PLAN" FOR THE TEA FARM PUD SHALL MAINTAIN FLEXIBILITY TO ACCOMMODATE SPECIFIC SOIL CONDITIONS, ENVIRONMENTAL CONCERNS, PHYSICAL CONSTRAINTS, MARKET CONDITIONS, AND DESIGN PARAMETERS. ACCORDINGLY, THE EXACT LOCATION OF THE ELEMENTS OF THE CONCEPTUAL LAND USE MASTER PLAN AND PRELIMINARY DESIGN CONCEPTS DESCRIBED HEREIN SHALL BE SUBJECT TO CHANGE AS PHASES OF THE "CONCEPTUAL LAND USE MASTER PLAN" AREA ARE SUBMITTED FOR DETAILED DEVELOPMENT REVIEW OVER THE LIFE OF THE DEVELOPMENT; PROVIDED THAT THE MAXIMUM DENSITIES, PERIMETER BUFFERS, MINIMUM OPEN SPACE, AND OTHER CONDITIONS OF THE TEA FARM PUD WILL BE ADHERED TO.

THE "CONCEPTUAL LAND USE MASTER PLAN" FOR THE TEA FARM PUD TEXT INCLUDES AMENDMENTS AND EXCEPTIONS TO THE CURRENT CHARLESTON COUNTY ORDINANCES. THE PROVISIONS OF THE "CONCEPTUAL LAND USE MASTER PLAN", EXHIBITS, AND APPENDICES SHALL APPLY TO THE DEVELOPMENT OF THE TEA FARM PUD.





THOMAS
&
HUTTON

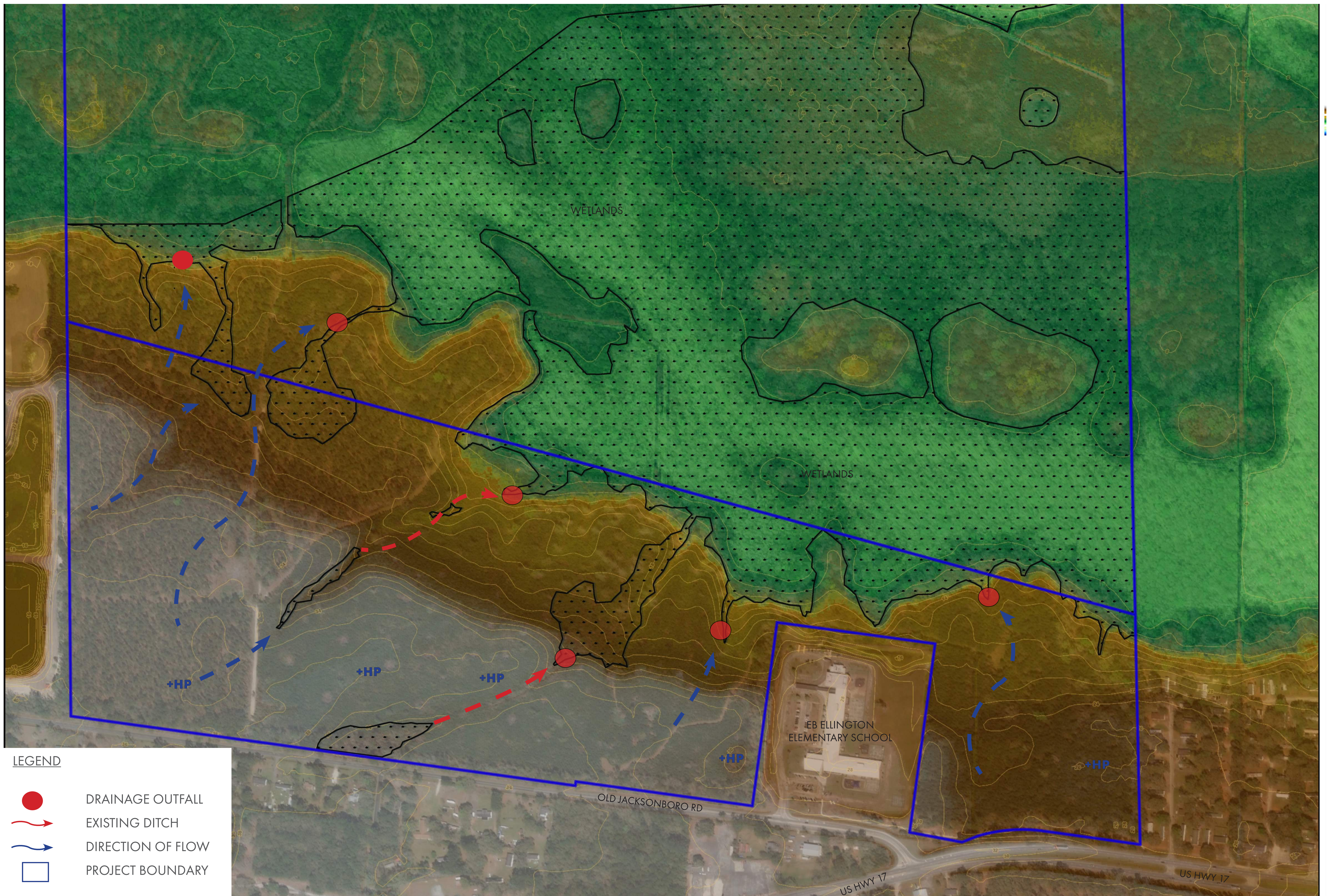
REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT(PD)

EXHIBIT F **Preliminary Drainage Map**

J – 28397

August 2021



LEGEND

- DRAINAGE OUTFALL
- EXISTING DITCH
- DIRECTION OF FLOW
- PROJECT BOUNDARY



THOMAS
&
HUTTON

REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT G Coordination Letters

J – 28397

August 2021



PO Box B
Charleston, SC 29402
103 St. Philip Street (29403)

(843) 727-6800
www.charlestonwater.com

Board of Commissioners
Thomas B. Pritchard, Chairman
David E. Rivers, Vice Chairman
William E. Koopman, Jr., Commissioner
Mayor John J. Tecklenburg (Ex-Officio)
Councilmember Perry K. Waring (Ex-Officio)

Officers
Kin Hill, P.E., Chief Executive Officer
Mark Cline, P.E., Assistant Chief Executive Officer
Dorothy Harrison, Chief Administrative Officer
Wesley Ropp, CMA, Chief Financial Officer
Russell Huggins, P.E., Capital Projects Officer

February 5, 2021

Tony Woody
Thomas and Hutton Engineering
Woody.t@tandh.com

Water Availability to TMS: 301-00-00-010
400 Single Family residential units and 80,000 square feet of commercial space

This letter is to certify our willingness and ability to provide water service to the above referenced site in Charleston County, South Carolina. CWS currently has a 16" water main in the right of way of Savannah Hwy and Old Jacksonboro Road which may serve the site. Please investigate any opportunity to loop new mains with the main with the existing 6" water main on the school site, parcel 301-00-00-488.

It will of course be a developer responsibility to ensure there are adequate pressures and quantities on the existing mains to serve this site with domestic water/fire flow and not negatively impact the existing developments. Please be advised any extensions or modifications to the infrastructure as well as any additional fire protection will be a developer's expense. All fees and cost associated with providing service to this site will be a developer expense and will be due prior to connection of any Charleston Water System's water system. This letter does not reserve capacity in the Charleston Water System infrastructure and it is incumbent upon the developer or his agent to confirm the availability herein granted past 12 months of this correspondence.

The Charleston Water System certifies the availability of service only insofar as its rights allow. Should access to our existing main/mains be denied by appropriate governing authorities, the Charleston Water System will have no other option than to deny service. This letter is not to be construed as a letter of acceptance for operation and maintenance from the Department of Health and Environmental Control.

If there are any questions pertaining to this letter, please do not hesitate to call on me at (843) 727-6869.

Sincerely,

A handwritten signature in blue ink that reads "Lydia Owens". The signature is written in a cursive style and is positioned above a faint, light blue rectangular stamp.

Lydia Owens
Charleston Water System



Residential Letter of Availability

August 31, 2021

Tony Woody, PE
Thomas & Hutton
682 Johnnie Dodds Boulevard, Suite 100
Mount Pleasant, SC 29464
Email: woody.t@tandh.com

Re: TMS # 301-00-00-010

Dear Mr. Woody,

I am pleased to inform you that Dominion Energy will be able to provide electric service to the above referenced project. Electric service will be provided in accordance with Dominion Energy General Terms and Conditions, other documents on file with the South Carolina Public Service Commission, and the company's standard operating policies and procedures. To begin engineering work for the project, the following information will need to be provided:

- 1.) Detailed utility site plan (AutoCAD format preferred) showing water, sewer, and storm drainage as well as requested service point/transformer location.
- 2.) Additional drawings that indicate wetlands boundaries, tree survey with barricade plan and buffer zones (if required), as well as any existing or additional easements will also be needed.
- 3.) Electric load breakdown by type with riser diagrams.

Dominion Energy construction standards and specifications are available upon request. For more information or questions, contact me by phone at (843) 576-8652 or at hubert.gibbs@dominionenergy.com.

Sincerely,

A handwritten signature in blue ink that reads "H. Antonio Gibbs".

H. Antonio Gibbs
Account Manager



THOMAS
&
HUTTON

REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT H **Planned Development LOI/Sewer Request**

J – 28397

August 2021

Planned Development LOI/Sewer Request Checklist

Exhibit H

Submitted: 12-2020

Tea Farm Planned Development
 Intersection of SC 17 and Old Jacksonboro Rd.
 Ravenel, SC

Property Owner: McLeod Lumber Company
 1820 Savannah Hwy. #1F
 Charleston, SC 29407
 Ph. 843-776-9134
 Email: Mac Rhodes mac@mcleodrhodes.com

Mr. Mac Rhodes

TMS#s: 301-00-00-010 (+/- 163 acres)
 Portion of 301-00-00-015 (+/- 233 acres)

Total Acreage: +/- 396 acres

Wetland Acreage: +/- 187 acres

Sewer Req. (GPD): 400 Residential Taps at 300 GPD = 120,000 GPD
 Maximum of 80 Taps for Commercial Uses at 300 GPD + 24,000 GPD

Name of Applicant: Bruce H. Boysen PLA, Agent for the owner

Contact Information: Bruce H Boysen

Thomas and Hutton
 682 Johnnie Dodd's Blvd.
 Mt Pleasant, SC 29464
 Ph. 843-338-9015
 Email: boysen.b@tandh.com

Description of Development: Mixed -Use planned Development Specific submittal requirements shall be submitted with the formal PUD submittal

(Incl. Build Phasing, completion, etc.)

		<u>Density</u>
Est. Max ALL Units: 400 DU	Developable Acreage: 396 ac.	1 DU/AC
Est. Max ALL Residential Units: 400 DU	ALL Residential Acreage: +/- 209 Upland AC	2 DU/Upland AC
Est. Max Single-Family Units: 400 DU	Single-Family Acreage: +/- 209 Upland AC	2 DU/Upland AC
Est. Max Multi-Family Units: NA	Multi-Family Acreage: NA	NA
Description of Res. Uses: See the Tea Farm PD Text (Including types, lot sizes, etc.)		
Est. Max Commercial Units: 10,000 sf Min/ 128,000 sf Max.	Commercial Acreage: 2 Acre Min./ 16 Acre Max.	
Est. Max Multi-Family Units: NA	Industrial Acreage: NA	
Description of Comm/Ind Uses: V (Including list of specific allowed uses, lot sizes, etc.)		
Green Space Acreage/Desc: See Section V. Green Space (May be wetlands)		
Open Space Acreage/Desc: See Section V. Green Space (NOT wetlands, maybe parks, etc.)		

REQUIREMENTS:

Exhibit H

Title/TMS #'s on Conceptual Plan:	Refer to The Tea Farm PD Conceptual Land Use Master Plan Exhibit E
Date of Conceptual Plan Drawing:	Refer to The Tea Farm PD Conceptual Land Use Master Plan Exhibit E
Property Owner Info:	(See note 1)
Preparer Info and Signature:	(See note 2)
Address of Property:	See Section I. General Description of the PD
Applicant/Developer Info:	(See notes 1 and 2)
Exact Boundaries of Site:	See Tea Farm PD Boundary and Wetland Map Exhibit B)
North Arrow:	Refer to The Tea Farm PD Conceptual Land Use Master Plan Exhibit E
Annexation Required?	Yes
Graphic & Numeric Scale:	Refer to The Tea Farm PD Conceptual Land Use Master Plan Exhibit E
Engineer/LA/Designer Info if used:	(See note 2)
Current Zoning"	See Section I. General Description of the PD
Surrounding Property Zoning	See Tea Farm PD Context Map Exhibit A
OCRM Wetland Line (if necessary)	See Tea Farm PD Boundary and Wetland Map Exhibit B)
Existing Drives, Parking, Walks, etc.	NA
Exact location on ALL Trees 24" DBH+:	See Section X. Tree Regulations B. Tree Survey Requirements
Existing Drainage, Culverts, etc.	NA.
Water Source/s:	See Section VIII. Water and Sewer Service/Utility Services/Streetlights
Sewer Conn/Septic Field location:	See Section VIII. Water and Sewer Service/Utility Services/Streetlights
Existing Buildings, Steps, Porches, Easements, Walks, Wells, Fences, etc. (solid lines):	NA
Existing Parking and Loading Areas, Streets, Accessways, etc. (solid Lines):	NA
General areas of proposed uses, open space, roads, common areas, trails, etc. (dotted lines):	See Section V. Green Space
Descriptions of development amenities, roads, lighting, signage, landscaping, etc.	See PD Text
Descriptions of connections with surrounding areas, and buffers	See PD Text
Developer understanding that a Traffic Impact Study is required.	See IX. Site Access and Traffic
Developer statement regarding their intent to mitigate traffic.:	See IX. Site Access and Traffic See I. Services/Streetlights)
Developer statement regarding the need for flexibility from our codes.	See I. B. Intent of the Tea Farm PD

Notes

1. Property Owner:
 McLeod Lumber Company
 1820 Savannah Hwy. #1F
 Charleston, SC 29407
 Ph. 843-776-9134
 Email: Mac Rhodes mac@mcleodrhodes.com
 Mr. Mac Rhodes

2. Agent for the Applicant:
 Thomas and Hutton
 682 Johnnie Dodd's Blvd.
 Mt Pleasant, SC 29464
 Ph. 843-338-9015
 Mr. Bruce Boysen



THOMAS
&
HUTTON

REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

EXHIBIT I **Traffic Impact Study**

J – 28397

August 2021

TRAFFIC IMPACT STUDY

for the

TEA FARM DEVELOPMENT

Located in
Charleston County, South Carolina

Prepared for
Thomas and Hutton Engineering Co

Prepared by
Ramey Kemp & Associates, Inc.

Moving forward.



May 2021
RKA Project #21130

TRAFFIC IMPACT STUDY

for the

TEA FARM DEVELOPMENT

Located in

Charleston County, South Carolina

Prepared for

Thomas and Hutton Engineering Co
682 Johnnie Dodds Blvd, Suite 100
Mount Pleasant, South Carolina 29464

Prepared by

Ramey Kemp & Associates, Inc.
7301 Rivers Avenue, Suite 242
North Charleston, South Carolina 29406

Moving forward.



RAMEY KEMP ASSOCIATES

May 2021

RKA Project #21130

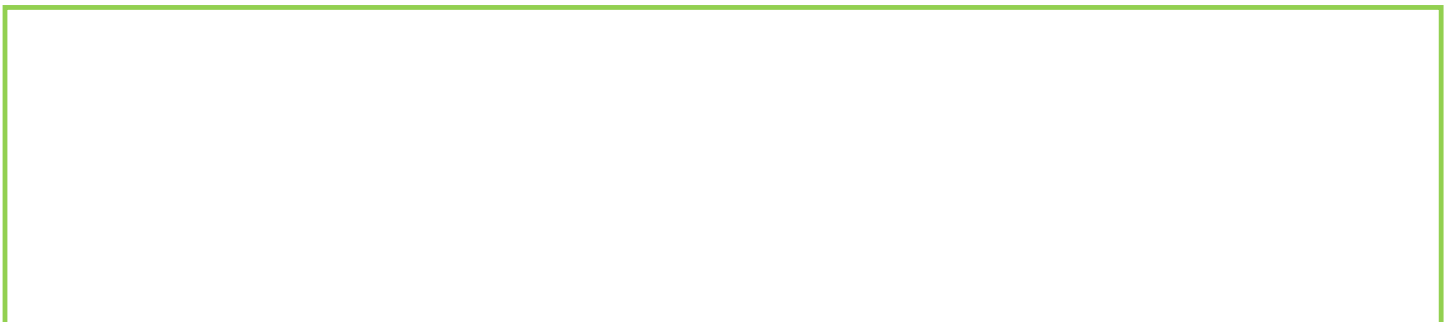


Table of Contents

EXECUTIVE SUMMARYiv

1. INTRODUCTION 1

 1.1. Project Background..... 1

 1.2. Existing Roadway Conditions..... 4

 1.3. Driveway Location 4

2. PROJECT TRAFFIC 6

 2.1. Proposed Land Uses 6

 2.2. Trip Generation Estimates 6

 2.3. Trip Distribution & Assignment..... 7

3. TRAFFIC VOLUME DEVELOPMENT 12

 3.1. Existing Traffic Volumes..... 12

 3.2. Future No-Build Traffic Volumes..... 12

 3.3. Build Out Traffic Volumes..... 12

4. TRAFFIC IMPACT ANALYSIS..... 16

 4.1. Turn Lane Analysis..... 16

 4.2. Intersection LOS Analysis..... 16

5. SUMMARY OF FINDINGS AND RECOMMENDATIONS..... 21

List of Tables

Table 1 – Street Inventory 4
Table 2 – Trip Generation Estimates 6
Table 3 – HCM 6th Edition LOS Criteria for Unsignalized & Signalized Intersections..... 17
Table 4 –Unsignalized Intersection Analysis Results 18
Table 5 –Signalized Intersection Analysis Results 19

List of Figures

Figure 1 – Project Location Map 2
Figure 2 – Conceptual Site Plan 3
Figure 3 – Existing Lane Configuration 5
Figure 4 – Residential Project Trip Distributions 8
Figure 5 – Retail Project Trip Distributions 9
Figure 6 – Residential Project Trip Assignment 10
Figure 7 – Retail Project Trip Assignment 11
Figure 8 – (2021) Peak-Hour Traffic Volumes..... 13
Figure 9 - No-Build (2031) Peak-Hour Traffic Volumes 14
Figure 10 - Build (2031) Peak-Hour Traffic Volumes 15
Figure 11 – Proposed Lane Configuration..... 20

List of Appendices

- A) Project Scoping Correspondence
- B) Trip Generation Worksheet
- C) Traffic Count Data
- D) Traffic Volume Development Worksheets
- E) Turn Lane Analysis Worksheets
- F) Synchro Analysis Worksheets (2021 – Seasonally Adjusted Existing Conditions)

G) Synchro Analysis Worksheets (2031 No-Build Conditions)

H) Synchro Analysis Worksheets (2031 Build Conditions w/o Signal)

H) Synchro Analysis Worksheets (2031 Build Conditions w/ Signal)

EXECUTIVE SUMMARY

The proposed development is located on the north side of Old Jacksonboro Road in Charleston County, South Carolina. Total build-out will include 400 single family detached residences and a commercial area. Though plans are not finalized, the commercial space is anticipated to provide roughly 120,000 square feet of retail uses and 40,000 square feet of office uses. This project is anticipated to be constructed over a period of at least 10 years, with the residential units to be completed first.

Three accesses are proposed on Old Jacksonboro Road and one access is proposed on US 17. The access point into the commercial portion of the site on US 17 will function as a right in right out.

The development accesses should function with relatively minor delays during the peak hours. Accesses one (RI-RO on US 17), three, and four should provide one ingress and one egress lanes. Access 2 should provide one ingress and two egress lanes.

Based on the anticipated build out volumes, auxiliary turn-lanes on Old Jacksonboro Road are not warranted at the access points. A right turn lane on US 17 at the right-in, right-out access is recommended. In addition, a left turn lane on US 17 is recommended at the median break immediately east of the commercial access.

The intersection of US 17 & Old Jacksonboro Road currently functions with moderate SB delays during the peak hours. Due to the longer delays in the build condition, signalization is recommended when warrants are met. A signal warrant study should be completed at an appropriate time.

1. INTRODUCTION

The purpose of this report is to document a traffic impact study for the proposed Tea Farm development in accordance with Charleston County and SCDOT guidelines. This report summarizes the procedures and findings of the traffic impact study.

1.1. Project Background

The proposed development is located on the north side of Old Jacksonboro Road in Charleston County, South Carolina. Total build-out will include 400 single family detached residences and a commercial area. Though plans are not finalized, the commercial space is anticipated to provide roughly 120,000 square feet of retail uses and 40,000 square feet of office uses. This project is anticipated to be constructed over a period of at least 10 years, with the residential units to be completed first. Three accesses are proposed on Old Jacksonboro Road and one access is proposed on US 17.

The traffic impact study considers the weekday AM peak period (between 7:00 AM and 9:00 AM) and the weekday PM peak period (between 2:00 PM and 6:00 PM) as the study time frames. The following intersections are studied:

- US 17 & Old Jacksonboro Road
- US 17 & Landover Road
- Old Jacksonboro Road & Landover Road/ Access 3
- US 17 & Access 1
- Old Jacksonboro Road & Access 2
- Old Jacksonboro Road & Access 4

Future-year analyses assume 2031 conditions as the Build scenario. Figure 1 shows the location of the project site and Figure 2 illustrates the conceptual site plan.



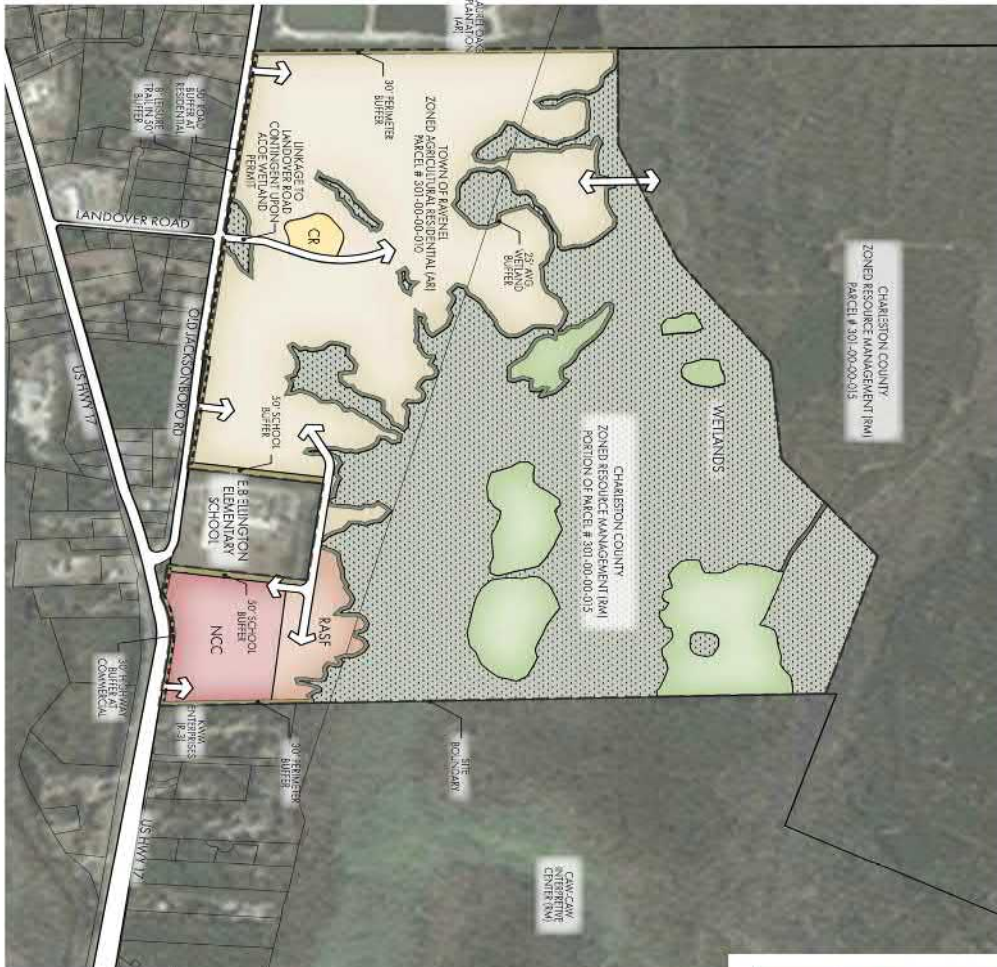
ALLOWED LAND USE AND DEVELOPMENT STANDARDS

LAND USE GROUPS OF THE TEA FARM RD ARE GRAPHICALLY DEPICTED AND SUMMARIZED ON THE CONCEPTUAL LAND USE MASTER PLAN. THE FOLLOWING LAND USE GROUPS SHALL BE ALLOWED IN THE TEA FARM RD.

- RESIDENTIAL, SINGLE FAMILY
- RESIDENTIAL ATTACHED SINGLE FAMILY
- COMMUNITY RECREATION
- RESIDENTIAL NEIGHBORHOOD CENTER
- BUSINESS, CONVENIENCE RETAIL
- BUSINESS, PERSONAL SERVICES
- PROFESSIONAL OFFICE
- WETLANDS
- UPLAND PRESERVE

ALLOWING A LAND USE GROUP DOES NOT OBLIGATE THE LAND OWNER TO PROVIDE THE USE OR FACILITY PROVIDED THE MINIMUM OPEN SPACE. MINIMUM NEIGHBORHOOD CENTER ARE AND OTHER PARAMETERS OF THE PUD DOCUMENT ARE ADHERED TO.

- **ACEPAGE SUMMARY**
 - UPLAND ACRES +/- 209
 - WETLAND ACRES +/- 187
 - TOTAL ACRES +/- 396
- **ALLOWED LAND USES SHALL INCLUDE (PER UPLAND ACRES)**
 - RESIDENTIAL SINGLE FAMILY +/- 128 AC / 61%
 - RESIDENTIAL ATTACHED SINGLE FAMILY +/- 9 AC / 4%
 - OPEN SPACES +/- 52 AC / 27%
 - NEIGHBORHOOD COMMERCIAL CENTER +/- 16 AC / 8%
- **MAXIMUM DENSITY:**
 - RESIDENTIAL 400 DEACHED SINGLE-FAMILY DWELLING UNITS +/- 1 DU/GROSS ACRE
 - NEIGHBORHOOD COMMERCIAL CENTER 8,000 SF PER ACRE
 - IMPERVIOUS SURFACE FOR PUD:
 - MAXIMUM IMPERVIOUS 40% GROSS PUD AC.
- **SINGLE FAMILY RESIDENTIAL DETACHED LOT STANDARDS:**
 - LOT SIZE 50X120' MIN.
 - FRONT SETBACK - 20 FEET (TO GARAGE)
 - SIDE SETBACK - 5 FEET
 - REAR SETBACK - 20 FEET
 - MAXIMUM IMPERVIOUS PER LOT - 60%
 - BUILDING HEIGHT - 35-FOOT MAXIMUM
 - PARKING - TWO (2) OFF-STREET SPACES PER DU
 - SIDEWALKS - 5' MIN. SIDEWALK BOTH SIDES OF THE STREET
- **NEIGHBORHOOD COMMERCIAL CENTER STANDARDS:**
 - MIN. LOT WIDTH - 60 FEET
 - FRONT SETBACK - 10 FEET
 - SIDE SETBACK - 10 FEET
 - REAR SETBACK - 10 FEET
 - BUILDING HEIGHT - 40-FOOT MAX
 - PARKING REQUIRED - 4 SPACES / 1000 SF
 - SIDEWALKS - 5' MIN. SIDEWALK BOTH SIDES OF THE STREET
- **UTILITIES**
 - SHALL BE LOCATED UNDERGROUND



THE LAND USE GROUPS INDICATED ON THE CONCEPTUAL LAND USE MASTER PLAN ARE INTENDED TO BE DELETED, EACH BOUNDARY LINE FOR THE IMPROVEMENTS.

THE CONCEPTUAL LAND USE MASTER PLAN FOR THE TEA FARM RD SHALL MAINTAIN SUBSTANTIAL TO ACCOMMODATE RESIDENTIAL DEVELOPMENT. ENVIRONMENTAL CONCERNS, PHYSICAL CONSTRAINTS, MARKET CONDITIONS, AND REGIONAL PLANNING, ACCORDING TO THE LOCATION OF THE ELEMENTS OF THE CONCEPTUAL LAND USE MASTER PLAN AND RELAYWAY DESIGN CONCEPTS DISCUSSED HEREIN SHALL BE SUBJECT TO CHANGE AS BASED ON THE REVIEW OF THE LIFE OF THE DEVELOPMENT PROJECT. THE APPROVAL OF THE CONCEPTUAL LAND USE MASTER PLAN DOES NOT GUARANTEE THAT THE APPROVAL OF THE PERIMETER BUFFERS, MAXIMUM OPEN SPACE, AND OTHER CONDITIONS OF THE TEA FARM RD WILL BE ADHERED TO.

THE CONCEPTUAL LAND USE MASTER PLAN FOR THE TEA FARM RD DOES NOT INCLUDE FAS/REGENTS TO ACCOMMODATE THE TEA FARM RD DEVELOPMENT. THE PERIMETER BUFFERS OF THE CONCEPTUAL LAND USE MASTER PLAN 1.5 MILES, AND THE SIZES SHALL BE TO THE RESPONSIBILITY OF THE TEA FARM RD.

1.2. Existing Roadway Conditions

A review of the existing roadway conditions in the study area was conducted and is summarized in Table 1. Figure 3 illustrates the existing lane geometry.

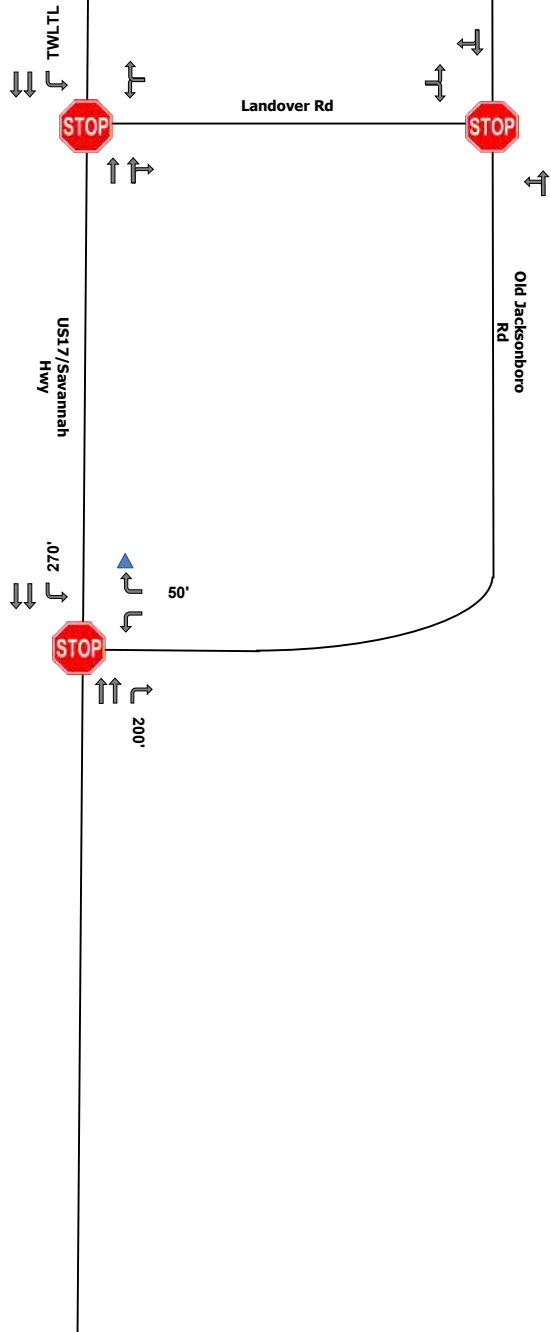
Table 1 - Street Inventory

Facility Name	Route #	Typical Cross Section	Posted Speed Limit	Maintained By	2019 AADT
Savannah Highway	US-17	4-lane divided	55 MPH	SCDOT	21,000
Old Jacksonboro Road	S-1845	2-lane undivided	45 MPH	SCDOT	700
Landover Road	S-2449	2-lane undivided	N/A	SCDOT	N/A

1.3. Driveway Location

Three access points are proposed on the north side of Old Jacksonboro Road. These accesses will primarily serve the residential trips, and some portion of the retail trips.

A single access point is proposed on the north side of US 17, to the east of the intersection of US 17 & Old Jacksonboro, to service the retail trips. This access is proposed to be a right-in right-out (RIRO), with a U-turn located downstream at an existing median break.



LEGEND	
→	Existing Lane
X'	Storage (In Feet)
▲	Channelized Movement
TWLTL	Two-Way Left Turn Lane

2. PROJECT TRAFFIC

2.1. Proposed Land Uses

The proposed development is located on the north side of Old Jacksonboro Road in Charleston County, South Carolina. Total build-out will include 400 single family detached residences and a commercial area. Though plans are not finalized, the commercial space is anticipated to provide roughly 120,000 square feet of retail uses and 40,000 square feet of office uses.

The site is currently undeveloped.

2.2. Trip Generation Estimates

The trip generation potential was estimated using information contained in ITE's *Trip Generation Manual*, 10th Edition (2017) for land use code (LUC) 210 - Single Family Detached Housing, LUC 820 - Shopping Center, & LUC 750 - Office Park. The weekday daily, the weekday AM peak-hour of the adjacent street, and the weekday PM peak-hour of the adjacent street time periods are shown in Table 2 and documented in Appendix B.

Table 2 - Trip Generation Estimates

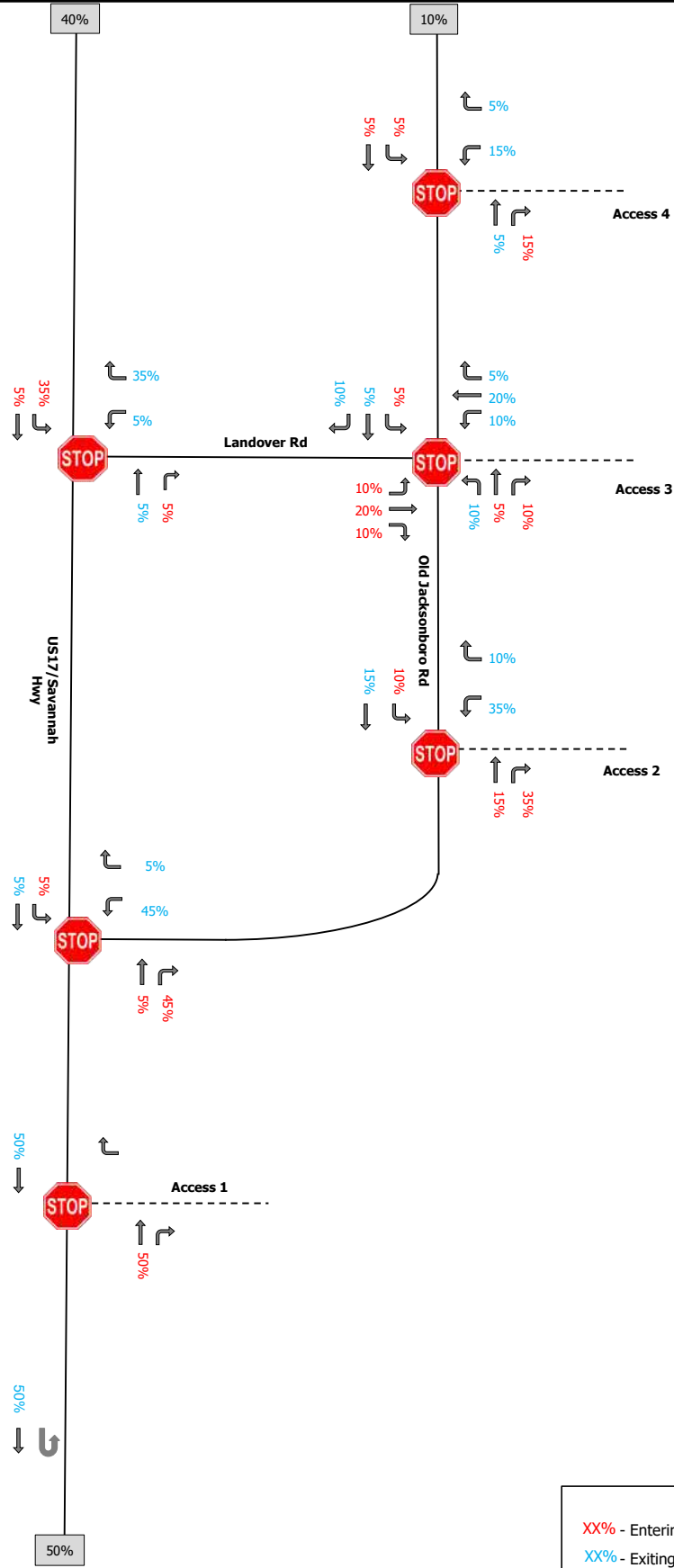
Land Use	ITE LUC	Size	Daily Traffic	AM Peak			PM Peak		
				Enter	Exit	Total	Enter	Exit	Total
Single Family Detached Housing	210	400 Dwelling Units	3,722	72	217	289	242	142	384
Shopping Center	820	120 ksf	6,806	131	81	212	299	323	622
Office Park	750	40 ksf	592	52	6	58	3	41	44
Internal Capture			-2,806	-9	-9	-18	-125	-125	-250
Pass-by Trips			-1,864	-35	-35	-70	-85	-85	-170
External Trips			6,450	211	260	471	334	296	630

2.3. Trip Distribution & Assignment

New external traffic expected to be generated was distributed and assigned to the roadway network based upon existing travel patterns. The general distribution of new external project trips was assumed to be:

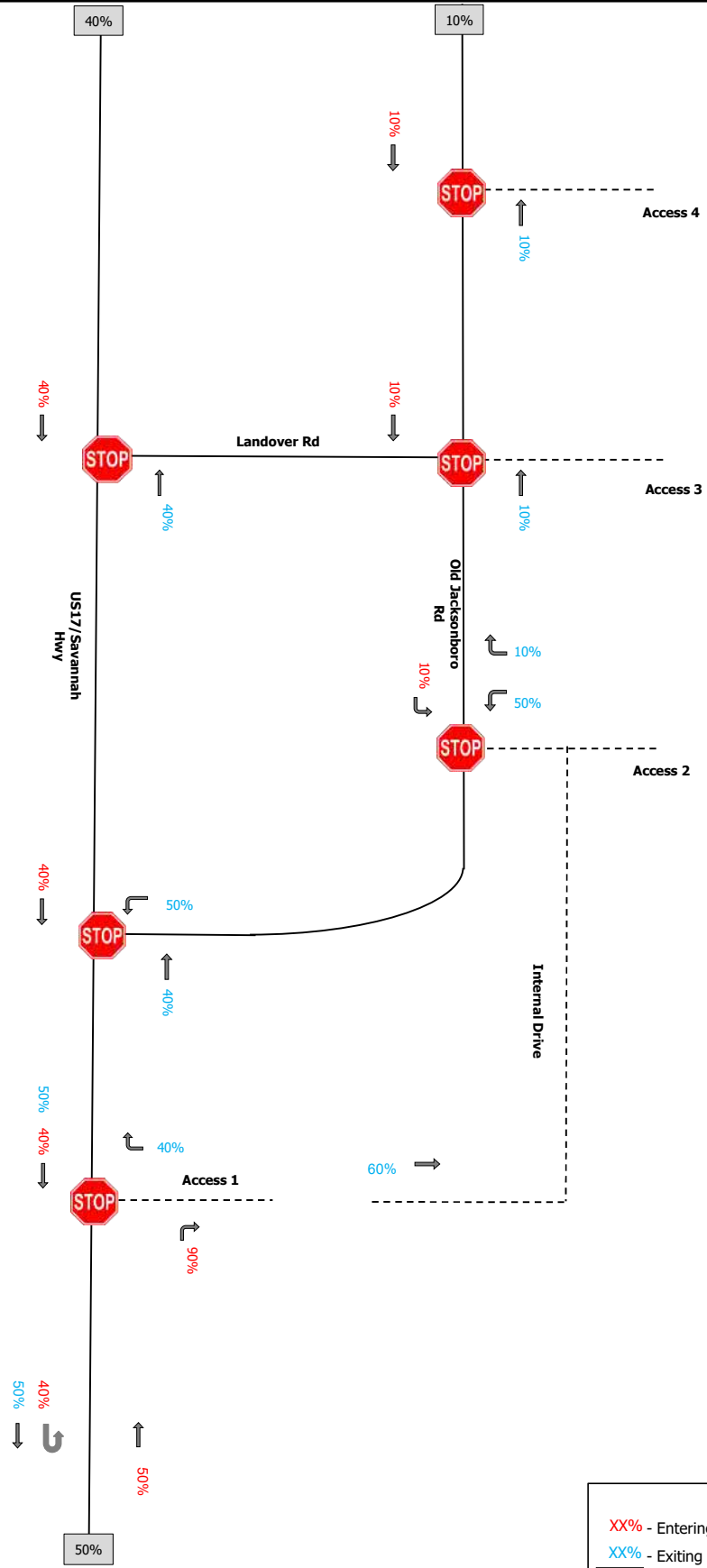
- 40% to/from the west via US 17.
- 50% to/from the east via US 17; and
- 10% to/from the west via Old Jacksonboro Road.

The directional distributions and assignments vary for the residential and the retail/office traffic. Assumptions are shown in Figures 4 & 5; the assignment of the project traffic is shown in Figures 6 & 7.



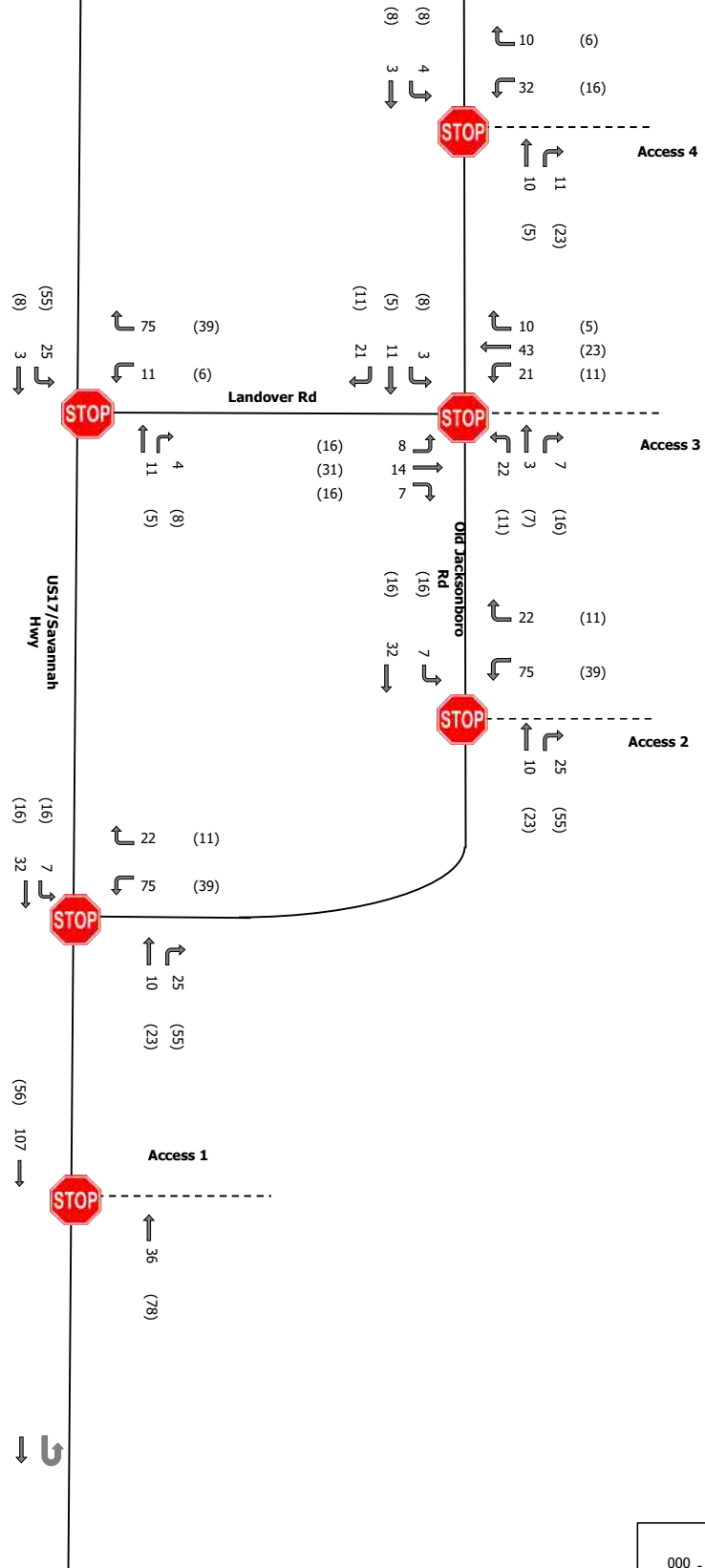
LEGEND

- XX% - Entering Peak-Hour Traffic Volumes
- XX% - Exiting Peak-Hour Traffic Volumes
- XX% - External Trip Distribution Percentage

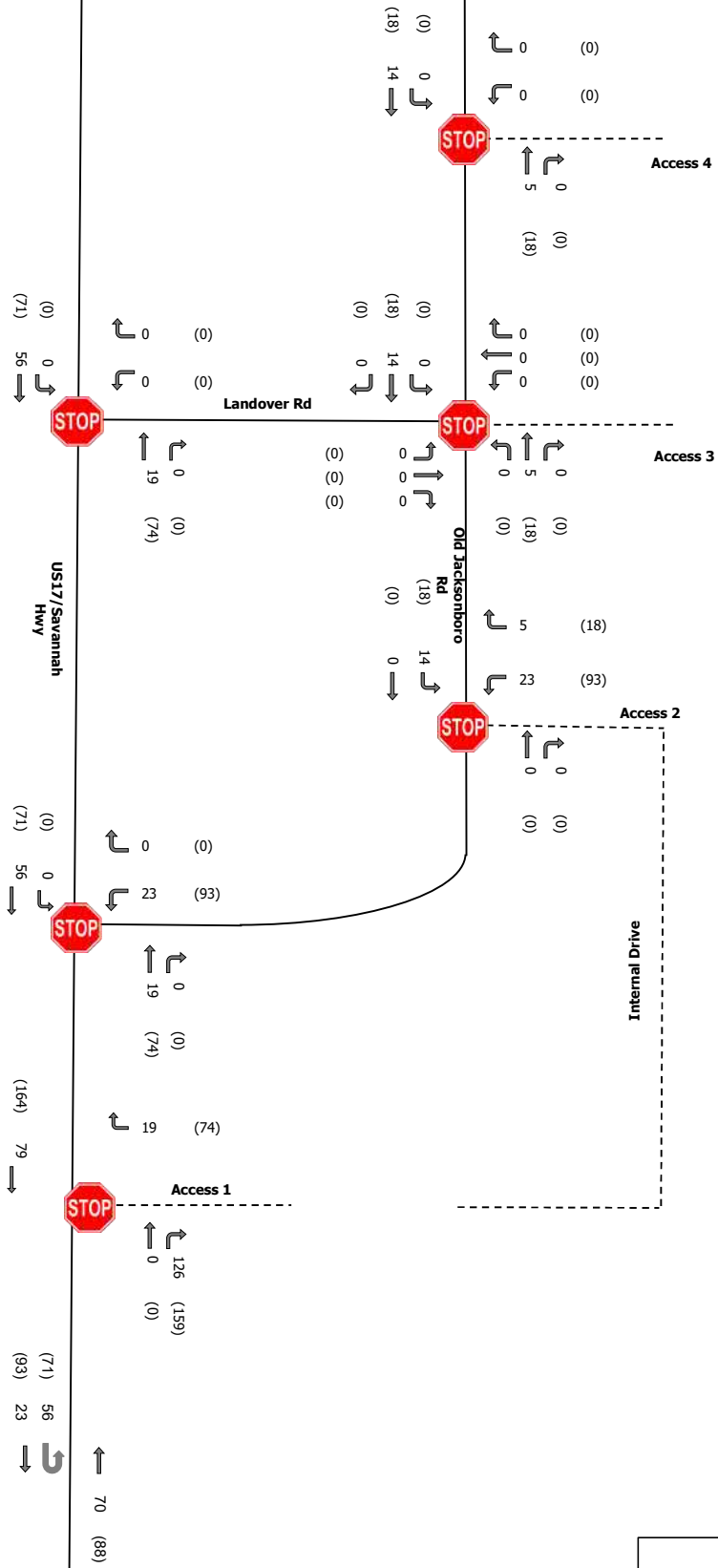


LEGEND

- XX% - Entering Peak-Hour Traffic Volumes
- XX% - Exiting Peak-Hour Traffic Volumes
- XX% - External Trip Distribution Percentage



LEGEND	
000	- AM Peak-Hour Traffic Volumes
(000)	- PM Peak-Hour Traffic Volumes



LEGEND

000 - AM Peak-Hour Traffic Volumes
 (000) - PM Peak-Hour Traffic Volumes

3. TRAFFIC VOLUME DEVELOPMENT

3.1. Existing Traffic Volumes

Vehicle turning movement counts were conducted during the weekday AM peak period (7:00 AM to 9:00 AM) and the weekday PM peak period (2:00 PM to 6:00 PM) at the following intersections:

- US 17 & Old Jacksonboro Road
- US 17 & Landover Road
- Old Jacksonboro Road & Landover Road

All counts were conducted while the local school was in session with count times starting at 2:00 PM to cover the dismissal time for the school on Old Jacksonboro Road. The PM peak hour for the three intersections occurred during the earlier time period, with the earliest start for the peak hour occurring at 2:45PM and the latest start occurring at 3:45PM. The AM peak hours were consistent at all intersections. The PM peak hours for each intersection are shown below.

- US 17 & Old Jacksonboro Road (3:30 PM - 4:30 PM)
- US 17 & Landover Road (3:45 PM - 4:45 PM)
- Old Jacksonboro Road & Landover Road (2:45 PM - 3:45 PM)

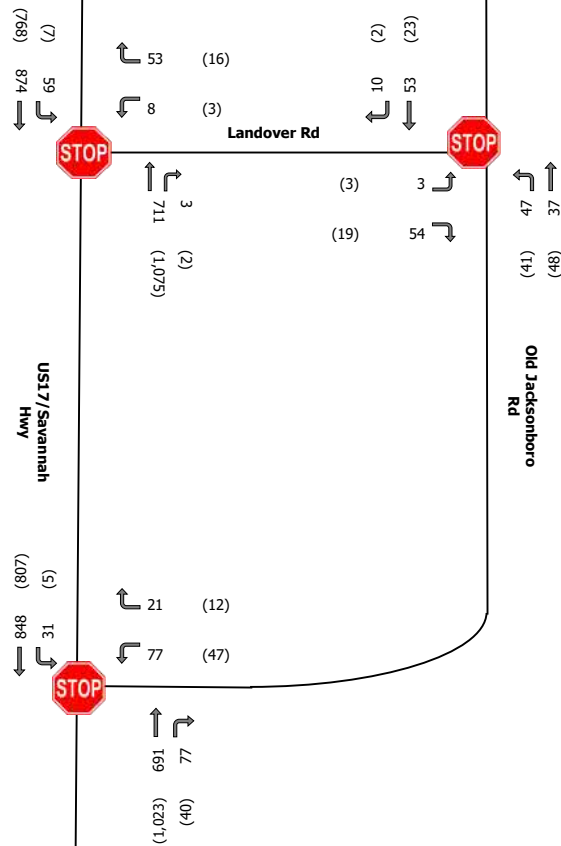
As per SCDOT, a COVID factor was applied to the raw traffic counts; volumes were raised by 15% in the AM peak hour, and 2% in the PM peak hour. The 2021 adjusted traffic volumes are illustrated in Figure 8, additional data is provided in Appendix C.

3.2. Future No-Build Traffic Volumes

To develop the no-build background volumes, an annual growth rate of 2.0% was applied to the 2021 counts. The 2031 No-Build traffic volumes are shown in Figure 9.

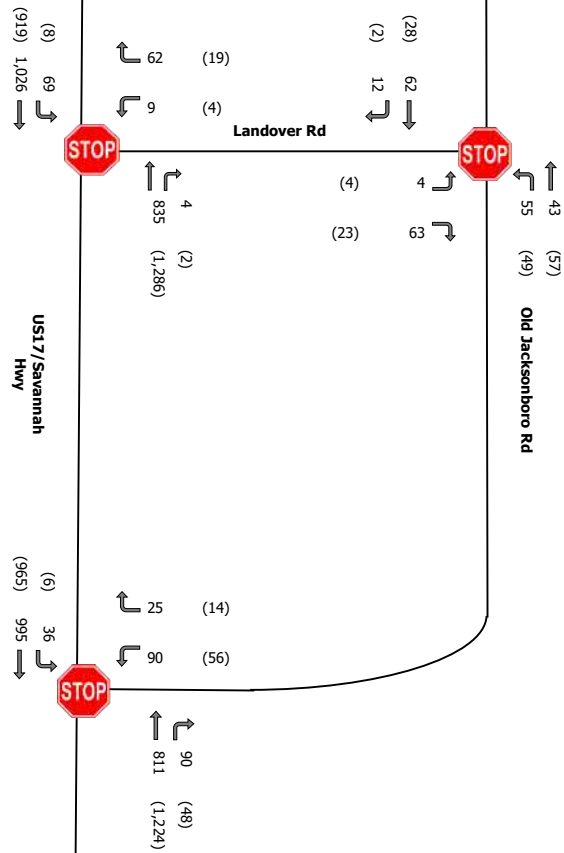
3.3. Build Out Traffic Volumes

The site generated traffic volumes were added to the 2031 No-Build traffic volumes to determine the 2031 Build volumes. The 2031 Build volumes are illustrated in Figure 10. Volume development worksheets are included in Appendix D.

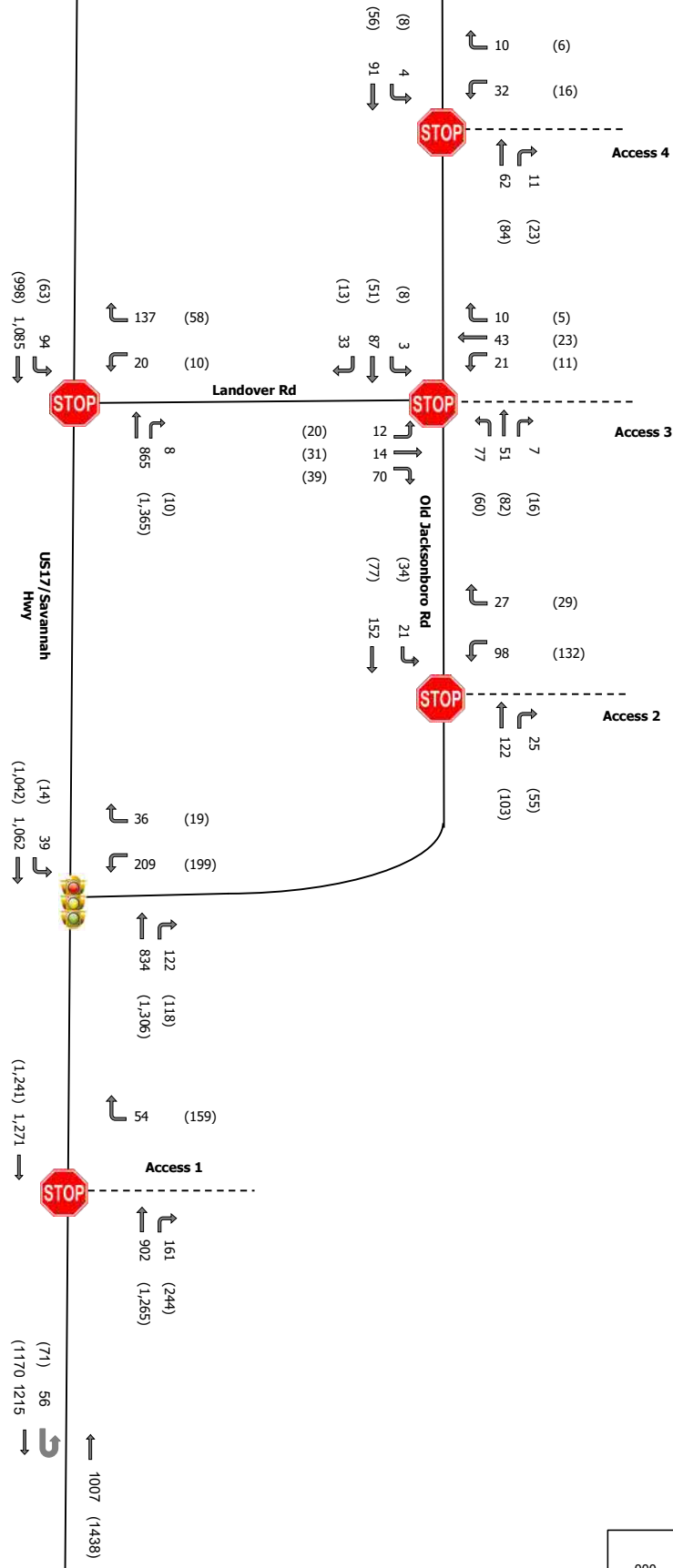


LEGEND

000 - AM Peak-Hour Traffic Volumes
 (000) - PM Peak-Hour Traffic Volumes



LEGEND
000 - AM Peak-Hour Traffic Volumes
(000) - PM Peak-Hour Traffic Volumes



LEGEND
 000 - AM Peak-Hour Traffic Volumes
 (000) - PM Peak-Hour Traffic Volumes

4. TRAFFIC IMPACT ANALYSIS

4.1. Turn Lane Analysis

Auxiliary turn-lane analyses were conducted using the 2031 Build volumes.

Based on the anticipated build out volumes, auxiliary turn-lanes on Old Jacksonboro Road are not warranted at the residential access points. The access point into the commercial portion of the site on US 17 will function as a right in right out. A right turn lane is warranted at this location.

As indicated by SCDOT in early scoping, a left turn lane on US 17 is recommended at the median break immediately east of the commercial access. SCDOT ARMS manual guidance states to “always use an exclusive left turn lane at all intersections with public roads on divided urban or rural highways with a median wide enough to accommodate a left turn lane, regardless of traffic volumes.”

Turn lane analyses are provided in Appendix E.

4.2. Intersection LOS Analysis

Using the existing and proposed traffic volumes, intersection analyses were conducted for the study and project driveway intersections considering 2021 Existing conditions, 2031 No-Build conditions, and 2031 Build conditions. This analysis was conducted using the Transportation Research Board’s *Highway Capacity Manual 6th Edition (HCM 6th Edition)* methodologies of the *Synchro*, Version 10 software.

Intersection level of service (LOS) grades range from LOS A to LOS F, which are directly related to the level of control delay at the intersection and characterize the operational conditions of the intersection traffic flow. LOS A operations typically represent ideal, free-flow conditions where vehicles experience little to no delays, and LOS F operations typically represent poor, forced-flow (bumper-to-bumper) conditions with high vehicular delays, and are generally considered undesirable. Table 3 summarizes the *HCM 6th Edition* control delay thresholds associated with each LOS grade for unsignalized & signalized intersections.

Table 3 - HCM 6th Edition LOS Criteria for Unsignalized & Signalized Intersections

Unsignalized Intersections		Signalized Intersections	
LOS	Control Delay per Vehicle (seconds)	LOS	Control Delay per Vehicle (seconds)
A	≤ 10	A	≤ 10
B	> 10 and ≤ 15	B	> 10 and ≤ 20
C	> 15 and ≤ 25	C	> 20 and ≤ 35
D	> 25 and ≤ 35	D	> 35 and ≤ 55
E	> 35 and ≤ 50	E	> 55 and ≤ 85
F	> 50	F	> 85

As part of the intersection analysis, SCDOT’s default *Synchro* parameters were utilized. A constant PHF of 0.92 was applied. Existing heavy vehicle percentages were utilized for all analysis scenarios, with a minimum percentage of 2% considered.

Using the *Synchro* software, intersection analyses were conducted for 2021 Existing conditions, 2031 No-Build conditions, and 2031 Build conditions for the weekday AM peak-hour and weekday PM peak-hour time periods. The results of the intersection analyses are summarized in Table 4. An additional table is included to cover the analysis of the Old Jacksonboro Road & US 17 intersection as a signalized intersection. These results can be seen in Table 5.

Table 4 -Unsignalized Intersection Analysis Results

Intersection	Approach	LOS/Delay (seconds)					
		2021 Existing Conditions		2031 No-Build Conditions		2031 Build Conditions	
		AM	PM	AM	PM	AM	PM
US 17 & Old Jacksonboro Road	EB	A/0.3	A/0.1	A/0.4	A/0.1	A/0.4	A/0.2
	WB	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0
	SB	C/20.4	C/23	D/27.4	E/36.1	F/129.6	F/358.8
US 17 & Landover Road	EB	A/0.6	A/0.1	A/0.7	A/0.1	A/0.9	A/0.9
	WB	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0
	SB	B/13.0	C/15.1	B/14.5	C/18.1	C/18.7	C/23.3
Old Jacksonboro Road & Landover Road/ Access 3	EB	A/0.0	A/0.0	A/0.0	A/0.0	A/0.2	A/0.8
	WB	A/4.2	A/3.4	A/4.2	A/3.4	A/4.4	A/2.8
	NB	A/8.9	A/8.7	A/9.0	A/8.8	B/10.4	B/10.9
	SB	--	--	--	--	B/12.7	B/11.6
US 17 & Access 1	EB	--	--	--	--	A/0.0	A/0.0
	WB	--	--	--	--	A/0.0	A/0.0
	SB	--	--	--	--	B/12.7	C/21.4
Old Jacksonboro Road and Access 2	EB	--	--	--	--	A/0.9	A/2.3
	WB	--	--	--	--	A/0.0	A/0.0
	SB	--	--	--	--	B/11.3	B/11.3
Old Jacksonboro Road and Access 4	EB	--	--	--	--	A/0.3	A/0.9
	WB	--	--	--	--	A/0.0	A/0.0
	SB	--	--	--	--	A/9.5	A/9.4

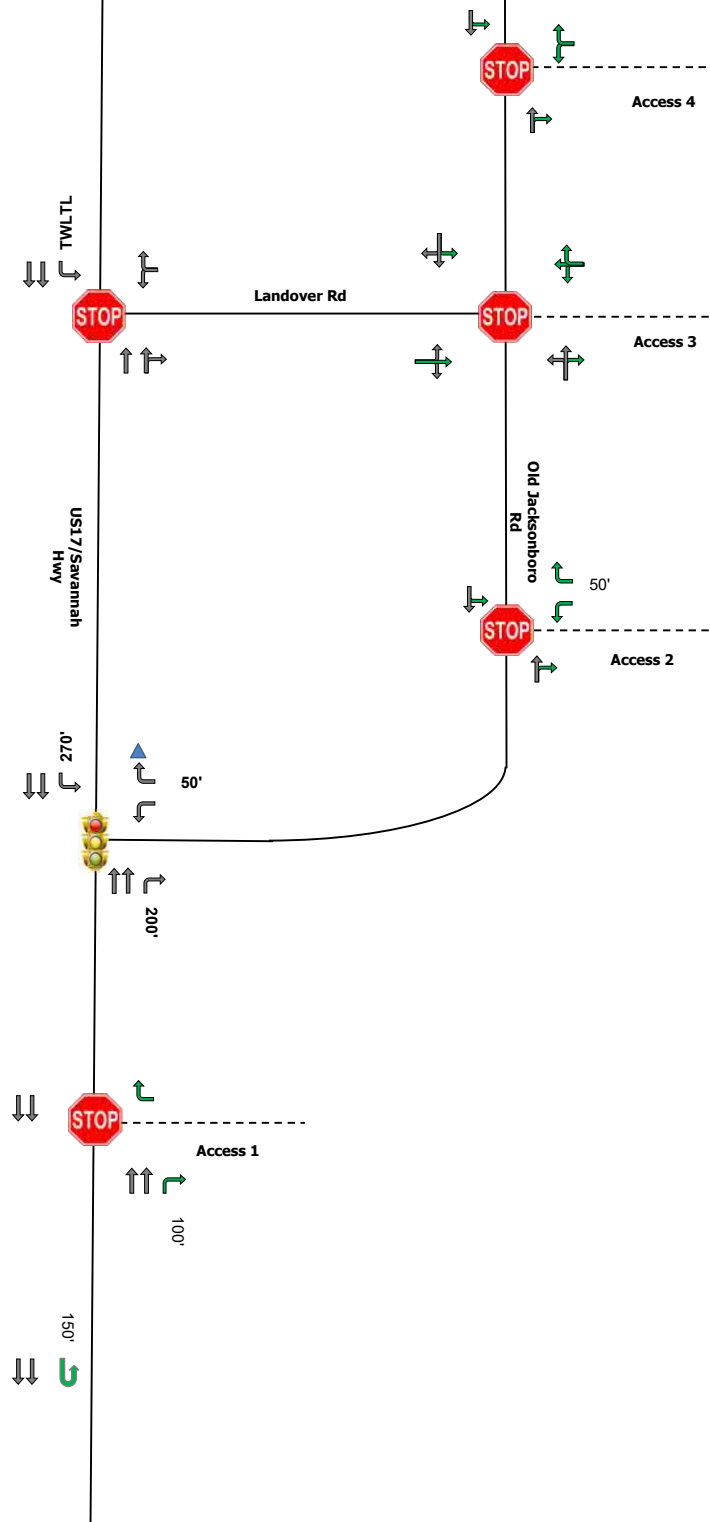
The development accesses should function with relatively minor delays during the peak hours. Accesses 3 & 4 should provide one ingress and egress lane. Access 2 should provide one ingress and two egress lanes. Access 1 as an RIRO should provide one ingress and egress lane.

Table 5 -Signalized Intersection Analysis Results

Intersection	Approach	LOS/Delay (seconds)	
		2025 Build Conditions (w/ Signal)	
		AM	PM
US 17 and Old Jacksonboro Road	EB	A/8.5	A/7.6
	WB	A/7.1	A/9.5
	SB	B/16.6	B/18.0
	Overall	A/8.8	A/9.4

The intersection of US 17 & Old Jacksonboro Road currently functions with moderate SB delays during the peak hours. Due to the longer delays in the build condition, signalization is recommended when warrants are met. A signal warrant study should be completed at an appropriate time.

Figure 11 shows the proposed lane configuration for the Build (2031) conditions. Worksheets documenting the intersection analyses are provided in Appendix F for 2021 Existing conditions, Appendix G for 2031 No-Build conditions, Appendix H for 2031 Build conditions, and Appendix I for 2031 Build conditions with the signal at the given intersection.



LEGEND	
	Existing Lane
	Storage (In Feet)
	Improvement by Developer
	Channelized Movement
	Two-Way Left Turn Lane

5. SUMMARY OF FINDINGS AND RECOMMENDATIONS

The proposed development is located on the north side of Old Jacksonboro Road in Charleston County, South Carolina. Total build-out will include 400 single family detached residences and a commercial area. Though plans are not finalized, the commercial space is anticipated to provide roughly 120,000 square feet of retail uses and 40,000 square feet of office uses. This project is anticipated to be constructed over a period of at least 10 years, with the residential units to be completed first.

Three accesses are proposed on Old Jacksonboro Road and one access is proposed on US 17. The access point into the commercial portion of the site on US 17 will function as a right in right out.

The development accesses should function with relatively minor delays during the peak hours. Accesses one (RI-RO on US 17), three, and four should provide one ingress and one egress lanes. Access 2 should provide one ingress and two egress lanes.

Based on the anticipated build out volumes, auxiliary turn-lanes on Old Jacksonboro Road are not warranted at the access points. A right turn lane on US 17 at the right-in, right-out access is recommended. In addition, a left turn lane on US 17 is recommended at the median break immediately east of the commercial access.

The intersection of US 17 & Old Jacksonboro Road currently functions with moderate SB delays during the peak hours. Due to the longer delays in the build condition, signalization is recommended when warrants are met. A signal warrant study should be completed at an appropriate time.

APPENDIX A

Project Scoping Correspondence

Mitchal Johnson

From: Johnson, Joshua A. <JohnsonJA@scdot.org>
Sent: Tuesday, February 16, 2021 8:13 AM
To: Michael Dennis
Cc: Michelle Fiorello; Jeff Ingham
Subject: RE: Ravenel TIS
Attachments: 2021-02-05_TIAduringCOVID-Feb21Update.pdf

Sure. Looks like up to 400 residential units and some commercial. US 17 & Old Jacksonboro, US 17 & Landover, Old Jacksonboro & Landover, site access points. The school dismissal time period will need to be included due to the elementary school at the site. Also, it is worth mentioning that an eastbound left/U-turn lane will be required at the median break east of Old Jacksonboro to accommodate the commercial access to US 17. As a reminder, the attached is an updated TIA memo which is now in effect.

Thanks,

Josh Johnson, PE, PTOE

District Traffic Engineer | SCDOT District 6

Please wear a mask around others.

From: Michael Dennis <mdennis@rameykemp.com>
Sent: Monday, February 15, 2021 8:37 AM
To: Johnson, Joshua A. <JohnsonJA@scdot.org>
Cc: Michelle Fiorello <mfiorello@rameykemp.com>; Jeff Ingham <jingham@rameykemp.com>
Subject: Ravenel TIS

***** This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. *****

Josh,

Attach is site plan for a development in Ravenel we are in the works to undertake a TIA. Could you please review the site plan and let us know what intersections you think we need to study as part of our report.

Thanks,

Michael A. Dennis, PE

SC Public Sector Traffic Lead

D 803 234 6821 | T 803 234 6814 | C 803 606 2834

1411 Gervais Street, Suite 150

Columbia, SC 29201

rameykemp.com



APPENDIX B

Trip Generation Worksheet

Tea Farm PD TIS
TRIP GENERATION ESTIMATES

Daily Trips

Land Use	ITE LUC Code	Size	Unit	Equation Type	Equation	Directional Distribution		Gross Trips			Internal Capture			External Trips			Pass By				New External Trips			
						In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	In	Out	Total	In	Out	Total
Single Family Detached Housing	210	400	DU	Log	$\ln(T)=0.92 \ln(X) + 2.71$	50%	50%	1,861	1,861	3,722	34.3%	862	414	1,276	999	1,447	2,446	0%	0	0	0	999	1,447	2,446
Shopping Center	820	120	ksf	Log	$\ln(T)=0.68 \ln(X) + 5.57$	50%	50%	3,403	3,403	6,806	19.4%	399	924	1,323	3,004	2,479	5,483	34%	932	932	1,864	2,072	1,547	3,619
Office Park	750	40	ksf	Log	$\ln(T)=0.89 \ln(X) + 3.1$	50%	50%	296	296	592	35.0%	142	65	207	154	231	385	0%	0	0	0	154	231	385
Total:								5,560	5,560	11,120	25.2%	1,403	1,403	2,806	4,157	4,157	8,314	17%	932	932	1,864	3,225	3,225	6,450

AM Peak Hour Trips

Land Use	ITE LUC Code	Size	Unit	Equation Type	Equation	Directional Distribution		Gross Trips			Internal Capture			External Trips			Pass By				New External Trips			
						In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	In	Out	Total	In	Out	Total
Single Family Detached Housing	210	400	DU	Linear	$T=0.71(X) + 4.8$	25%	75%	72	217	289	1.7%	1	4	5	71	213	284	0%	0	0	0	71	213	284
Shopping Center	820	120	ksf	Linear	$T=0.50(X) + 151.78$	62%	38%	131	81	212	3.3%	4	3	7	127	78	205	34%	35	35	70	92	43	135
Office Park	750	40	ksf	Linear	$T=1.44(X) + 0$	89%	11%	52	6	58	10.3%	4	2	6	48	4	52	0%	0	0	0	48	4	52
Total:								255	304	559	3.2%	9	9	18	246	295	541	13%	35	35	70	211	260	471

PM Peak Hour Trips

Land Use	ITE LUC Code	Size	Unit	Equation Type	Equation	Directional Distribution		Gross Trips			Internal Capture			External Trips			Pass By				New External Trips			
						In	Out	In	Out	Total	%	In	Out	Total	In	Out	Total	%	In	Out	Total	In	Out	Total
Single Family Detached Housing	210	400	DU	Log	$\ln(T)=0.96 \ln(X) + 0.2$	63%	37%	242	142	384	30.2%	85	31	116	157	111	268	0%	0	0	0	157	111	268
Shopping Center	820	120	ksf	Log	$\ln(T)=0.74 \ln(X) + 2.89$	48%	52%	299	323	622	19.8%	38	85	123	261	238	499	34%	85	85	170	176	153	329
Office Park	750	40	ksf	Linear	$T=1.07(X) + 0$	7%	93%	3	41	44	25.0%	2	9	11	1	32	33	0%	0	0	0	1	32	33
Total:								544	506	1,050	23.8%	125	125	250	419	381	800	16%	85	85	170	334	296	630

APPENDIX C

Traffic Count Data

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : Old Jacksonboro Rd @ Landover Rd

Site Code :

Start Date : 03/11/2021

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

Start Time	Southbound				Old Jacksonboro Rd Westbound				Landover Rd Northbound				Old Jacksonboro Rd Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	0	0	0	1	1	0	0	0	0	3	0	0	6	0	0	11
07:15	0	0	0	0	0	1	0	0	0	0	3	0	0	15	1	0	20
07:30	0	0	0	0	1	5	0	0	1	0	12	0	0	13	0	0	32
07:45	0	0	0	0	10	11	0	0	0	0	17	0	0	14	0	0	52
Total	0	0	0	0	12	18	0	0	1	0	35	0	0	48	1	0	115
08:00	0	0	0	0	20	6	0	0	1	0	10	0	0	10	5	0	52
08:15	0	0	0	0	10	10	0	0	1	0	8	0	0	9	4	0	42
08:30	0	0	0	0	0	7	0	0	1	0	0	0	0	2	2	0	12
08:45	0	0	0	0	1	4	0	0	0	0	1	0	0	4	1	0	11
Total	0	0	0	0	31	27	0	0	3	0	19	0	0	25	12	0	117
14:00	0	0	0	0	2	5	0	0	3	0	2	0	0	4	1	0	17
14:15	0	0	0	0	0	4	0	0	0	0	0	0	0	4	4	0	12
14:30	0	0	0	0	1	3	0	0	2	0	10	0	0	6	0	0	22
14:45	0	0	0	0	8	6	0	0	0	0	7	0	0	9	1	0	31
Total	0	0	0	0	11	18	0	0	5	0	19	0	0	23	6	0	82
15:00	0	0	0	0	2	5	0	0	0	0	3	0	0	4	1	0	15
15:15	0	0	0	0	10	17	0	0	1	0	6	0	0	8	0	0	42
15:30	0	0	0	0	20	19	0	0	2	0	3	0	0	2	0	0	46
15:45	0	0	0	0	7	8	0	0	1	0	0	0	0	2	2	0	20
Total	0	0	0	0	39	49	0	0	4	0	12	0	0	16	3	0	123
16:00	0	0	0	0	1	3	0	0	3	0	1	0	0	5	0	0	13
16:15	0	0	0	0	1	11	0	0	1	0	0	0	0	6	0	0	19
16:30	0	0	0	0	2	6	0	0	0	0	1	0	0	6	2	0	17
16:45	0	0	0	0	1	11	0	0	1	0	0	0	0	7	2	0	22
Total	0	0	0	0	5	31	0	0	5	0	2	0	0	24	4	0	71
17:00	0	0	0	1	1	14	0	0	3	0	1	0	0	1	1	1	23
17:15	0	0	0	0	1	13	0	0	1	0	2	0	0	7	0	0	24
17:30	0	0	0	0	6	11	0	0	1	0	6	0	0	3	1	0	28
17:45	0	0	0	0	1	11	0	0	0	0	1	0	0	6	0	0	19
Total	0	0	0	1	9	49	0	0	5	0	10	0	0	17	2	1	94
Grand Total	0	0	0	1	107	192	0	0	23	0	97	0	0	153	28	1	602
Apprch %	0	0	0	100	35.8	64.2	0	0	19.2	0	80.8	0	0	84.1	15.4	0.5	
Total %	0	0	0	0.2	17.8	31.9	0	0	3.8	0	16.1	0	0	25.4	4.7	0.2	
Passenger Vehicles	0	0	0	1	104	188	0	0	20	0	97	0	0	149	26	1	586
% Passenger Vehicles	0	0	0	100	97.2	97.9	0	0	87	0	100	0	0	97.4	92.9	100	97.3
Heavy Vehicles	0	0	0	0	2	3	0	0	3	0	0	0	0	2	1	0	11
% Heavy Vehicles	0	0	0	0	1.9	1.6	0	0	13	0	0	0	0	1.3	3.6	0	1.8
Buses	0	0	0	0	1	1	0	0	0	0	0	0	0	2	1	0	5
% Buses	0	0	0	0	0.9	0.5	0	0	0	0	0	0	0	1.3	3.6	0	0.8

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

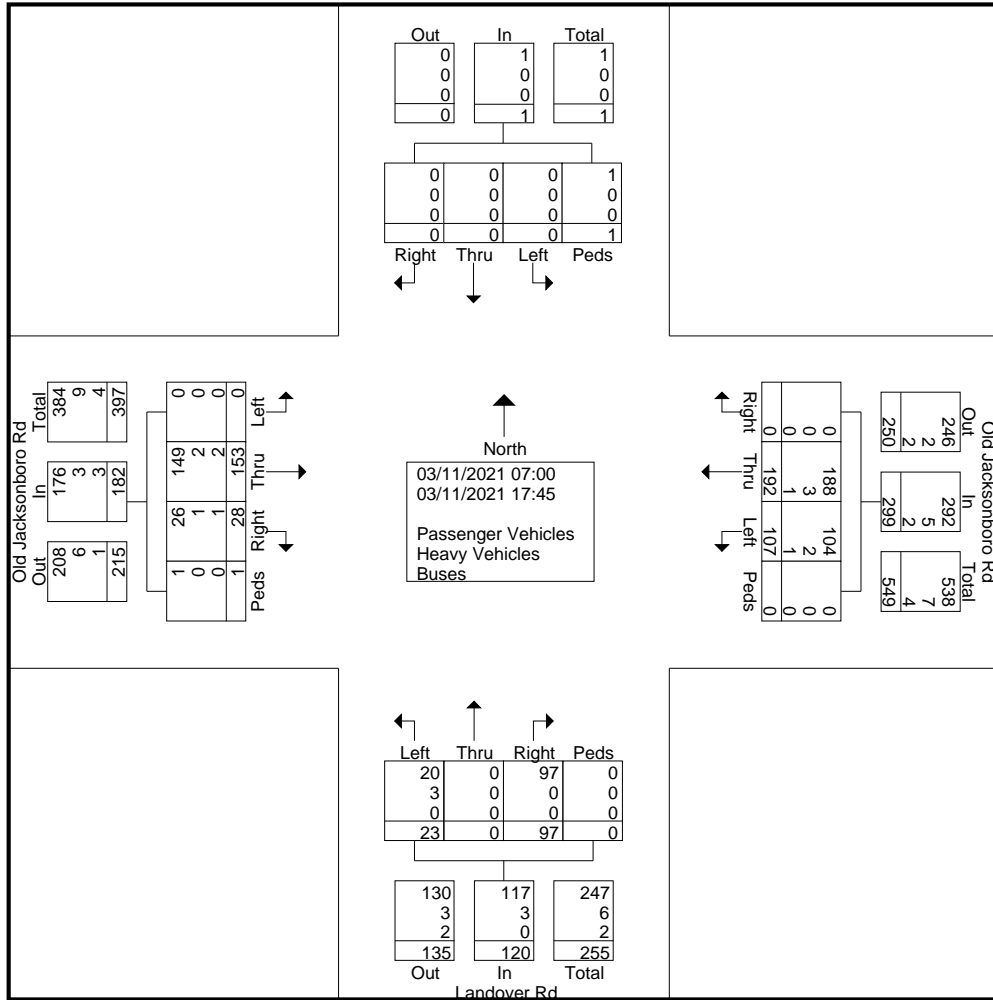
We can't say we're the Best, but you Can!

File Name : Old Jacksonboro Rd @ Landover Rd

Site Code :

Start Date : 03/11/2021

Page No : 2



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

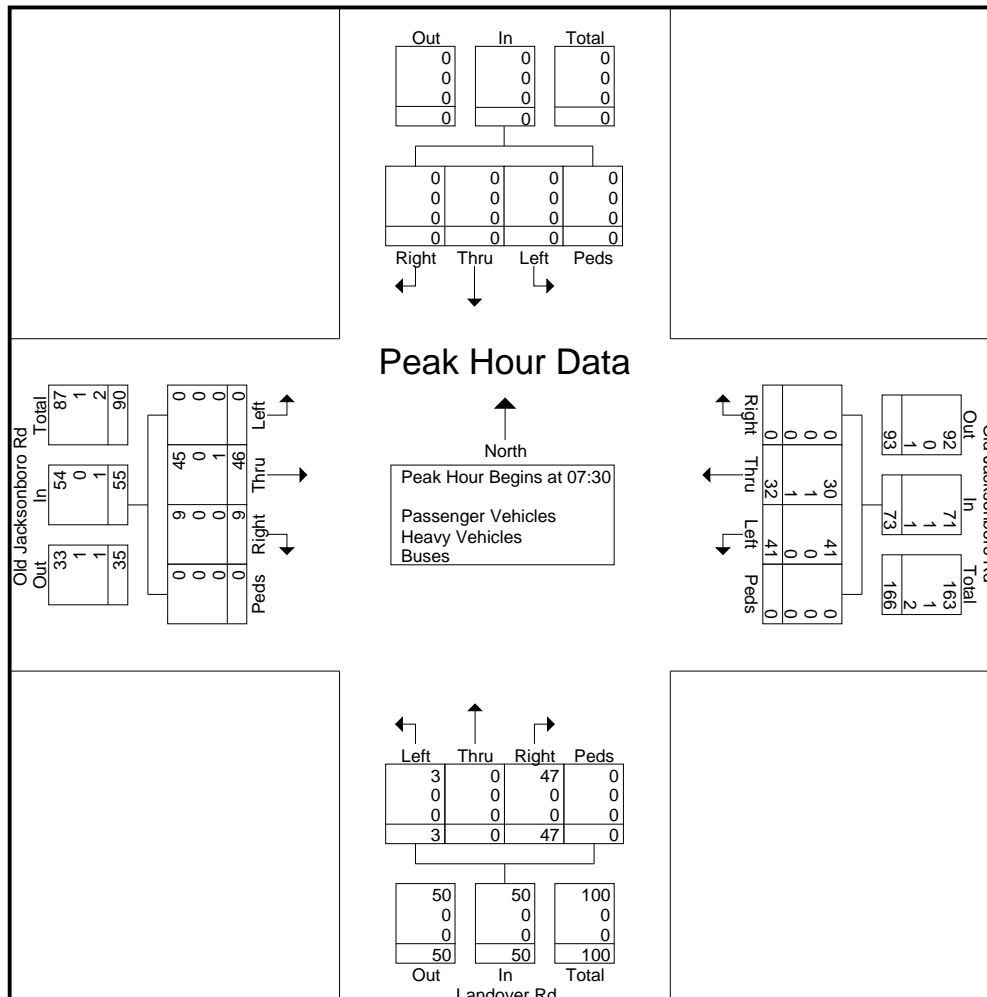
File Name : Old Jacksonboro Rd @ Landover Rd

Site Code :

Start Date : 03/11/2021

Page No : 3

Start Time	Southbound					Old Jacksonboro Rd Westbound					Landover Rd Northbound					Old Jacksonboro Rd Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	1	5	0	0	6	1	0	12	0	13	0	13	0	0	13	32
07:45	0	0	0	0	0	10	11	0	0	21	0	0	17	0	17	0	14	0	0	14	52
08:00	0	0	0	0	0	20	6	0	0	26	1	0	10	0	11	0	10	5	0	15	52
08:15	0	0	0	0	0	10	10	0	0	20	1	0	8	0	9	0	9	4	0	13	42
Total Volume	0	0	0	0	0	41	32	0	0	73	3	0	47	0	50	0	46	9	0	55	178
% App. Total	0	0	0	0	0	56.2	43.8	0	0		6	0	94	0		0	83.6	16.4	0		
PHF	.000	.000	.000	.000	.000	.513	.727	.000	.000	.702	.750	.000	.691	.000	.735	.000	.821	.450	.000	.917	.856
Passenger Vehicles	0	0	0	0	0	41	30	0	0	71	3	0	47	0	50	0	45	9	0	54	175
% Passenger Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Heavy Vehicles	0	0	0	0	0	0	3.1	0	0	1.4	0	0	0	0	0	0	0	0	0	0	0.6
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Buses	0	0	0	0	0	0	3.1	0	0	1.4	0	0	0	0	0	0	2.2	0	0	1.8	1.1



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

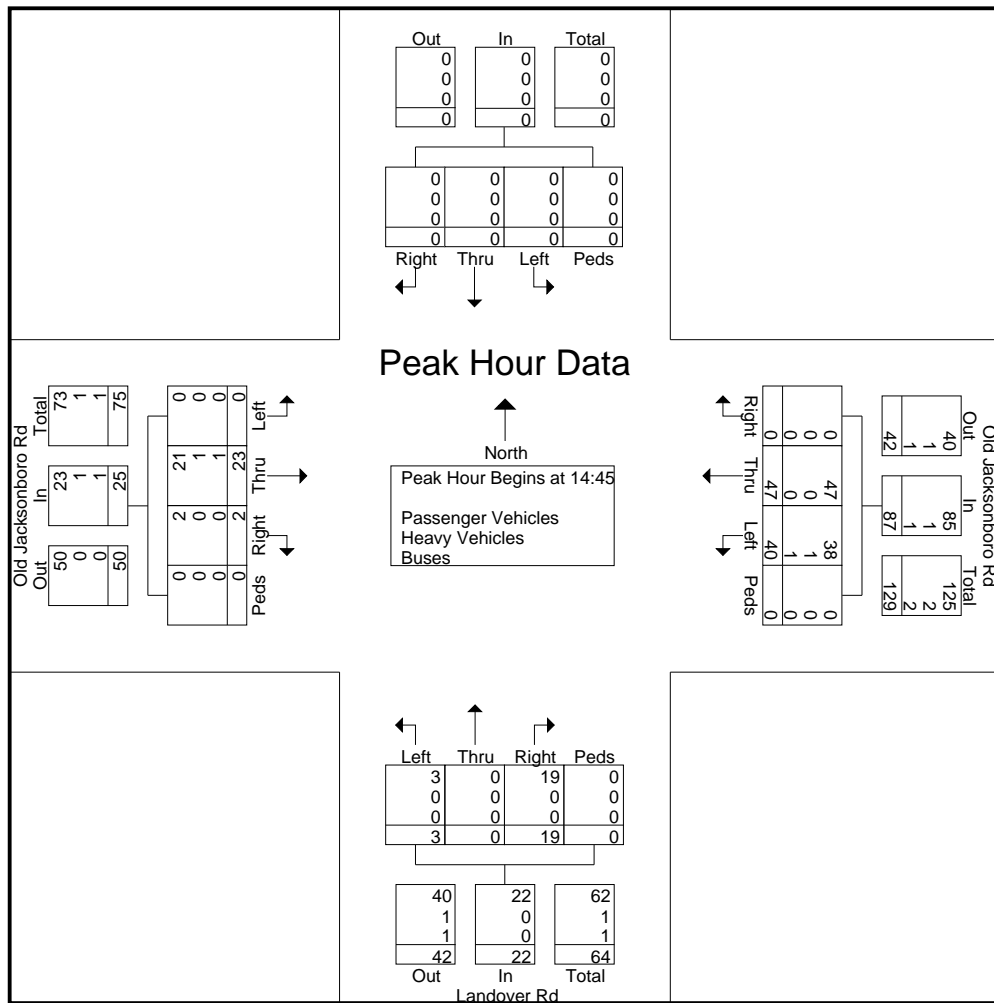
File Name : Old Jacksonboro Rd @ Landover Rd

Site Code :

Start Date : 03/11/2021

Page No : 4

Start Time	Southbound					Old Jacksonboro Rd Westbound					Landover Rd Northbound					Old Jacksonboro Rd Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:45																					
14:45	0	0	0	0	0	8	6	0	0	14	0	0	7	0	7	0	9	1	0	10	31
15:00	0	0	0	0	0	2	5	0	0	7	0	0	3	0	3	0	4	1	0	5	15
15:15	0	0	0	0	0	10	17	0	0	27	1	0	6	0	7	0	8	0	0	8	42
15:30	0	0	0	0	0	20	19	0	0	39	2	0	3	0	5	0	2	0	0	2	46
Total Volume	0	0	0	0	0	40	47	0	0	87	3	0	19	0	22	0	23	2	0	25	134
% App. Total	0	0	0	0	0	46	54	0	0		13.6	0	86.4	0		0	92	8	0		
PHF	.000	.000	.000	.000	.000	.500	.618	.000	.000	.558	.375	.000	.679	.000	.786	.000	.639	.500	.000	.625	.728
Passenger Vehicles	0	0	0	0	0	38	47	0	0	85	3	0	19	0	22	0	21	2	0	23	130
% Passenger Vehicles																					
Heavy Vehicles	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Heavy Vehicles	0	0	0	0	0	2.5	0	0	0	1.1	0	0	0	0	0	0	4.3	0	0	4.0	1.5
Buses	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Buses	0	0	0	0	0	2.5	0	0	0	1.1	0	0	0	0	0	0	4.3	0	0	4.0	1.5



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : Savannah Hwy @ Landover Rd

Site Code :

Start Date : 03/11/2021

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

Start Time	Landover Rd Southbound				Savannah Hwy Westbound				Northbound				Savannah Hwy Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	0	1	0	0	116	0	0	0	0	0	0	2	175	0	0	294
07:15	1	0	0	0	0	132	0	0	0	0	0	0	4	206	0	0	343
07:30	0	0	2	0	0	156	2	0	0	0	0	0	14	177	0	0	351
07:45	1	0	15	0	0	156	0	0	0	0	0	0	19	189	0	0	380
Total	2	0	18	0	0	560	2	0	0	0	0	0	39	747	0	0	1368
08:00	4	0	18	0	0	145	0	0	0	0	0	0	12	205	0	0	384
08:15	2	0	11	0	0	161	1	0	0	0	0	0	6	189	0	0	370
08:30	1	0	0	0	0	134	0	0	0	0	0	0	1	162	0	0	298
08:45	0	0	3	0	0	151	0	0	0	0	0	0	1	185	0	0	340
Total	7	0	32	0	0	591	1	0	0	0	0	0	20	741	0	0	1392
14:00	0	0	3	0	0	216	0	0	0	0	0	0	2	184	0	0	405
14:15	0	0	3	0	0	222	0	0	0	0	0	0	0	171	0	0	396
14:30	0	0	1	0	0	245	0	0	0	0	0	0	12	190	0	0	448
14:45	1	0	9	0	0	229	1	0	0	0	0	0	9	180	0	0	429
Total	1	0	16	0	0	912	1	0	0	0	0	0	23	725	0	0	1678
15:00	0	0	3	0	0	259	0	0	0	0	0	0	5	177	0	0	444
15:15	1	0	9	0	0	210	1	0	0	0	0	0	6	175	0	0	402
15:30	0	0	20	0	0	228	0	0	0	0	0	0	5	182	0	0	435
15:45	1	0	9	0	0	263	1	0	0	0	0	0	0	185	0	0	459
Total	2	0	41	0	0	960	2	0	0	0	0	0	16	719	0	0	1740
16:00	0	0	2	0	0	273	0	0	0	0	0	0	5	204	0	0	484
16:15	1	0	2	0	0	268	1	0	0	0	0	0	1	180	0	0	453
16:30	1	0	3	0	0	250	0	0	0	0	0	0	1	184	0	0	439
16:45	0	0	3	0	0	280	0	0	0	0	0	0	1	167	0	0	451
Total	2	0	10	0	0	1071	1	0	0	0	0	0	8	735	0	0	1827
17:00	0	0	2	0	0	283	2	1	0	0	0	0	2	196	0	0	486
17:15	0	0	2	0	0	244	1	0	0	0	0	0	3	179	0	0	429
17:30	2	0	6	0	0	253	0	0	0	0	0	0	8	173	0	0	442
17:45	0	0	1	0	0	237	0	0	0	0	0	0	0	157	0	0	395
Total	2	0	11	0	0	1017	3	1	0	0	0	0	13	705	0	0	1752
Grand Total	16	0	128	0	0	5111	10	1	0	0	0	0	119	4372	0	0	9757
Apprch %	11.1	0	88.9	0	0	99.8	0.2	0	0	0	0	0	2.6	97.4	0	0	
Total %	0.2	0	1.3	0	0	52.4	0.1	0	0	0	0	0	1.2	44.8	0	0	
Passenger Vehicles	16	0	124	0	0	4748	10	0	0	0	0	0	118	4050	0	0	9066
% Passenger Vehicles	100	0	96.9	0	0	92.9	100	0	0	0	0	0	99.2	92.6	0	0	92.9
Heavy Vehicles	0	0	3	0	0	328	0	0	0	0	0	0	1	305	0	0	637
% Heavy Vehicles	0	0	2.3	0	0	6.4	0	0	0	0	0	0	0.8	7	0	0	6.5
Buses	0	0	1	0	0	35	0	1	0	0	0	0	0	17	0	0	54
% Buses	0	0	0.8	0	0	0.7	0	100	0	0	0	0	0	0.4	0	0	0.6

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

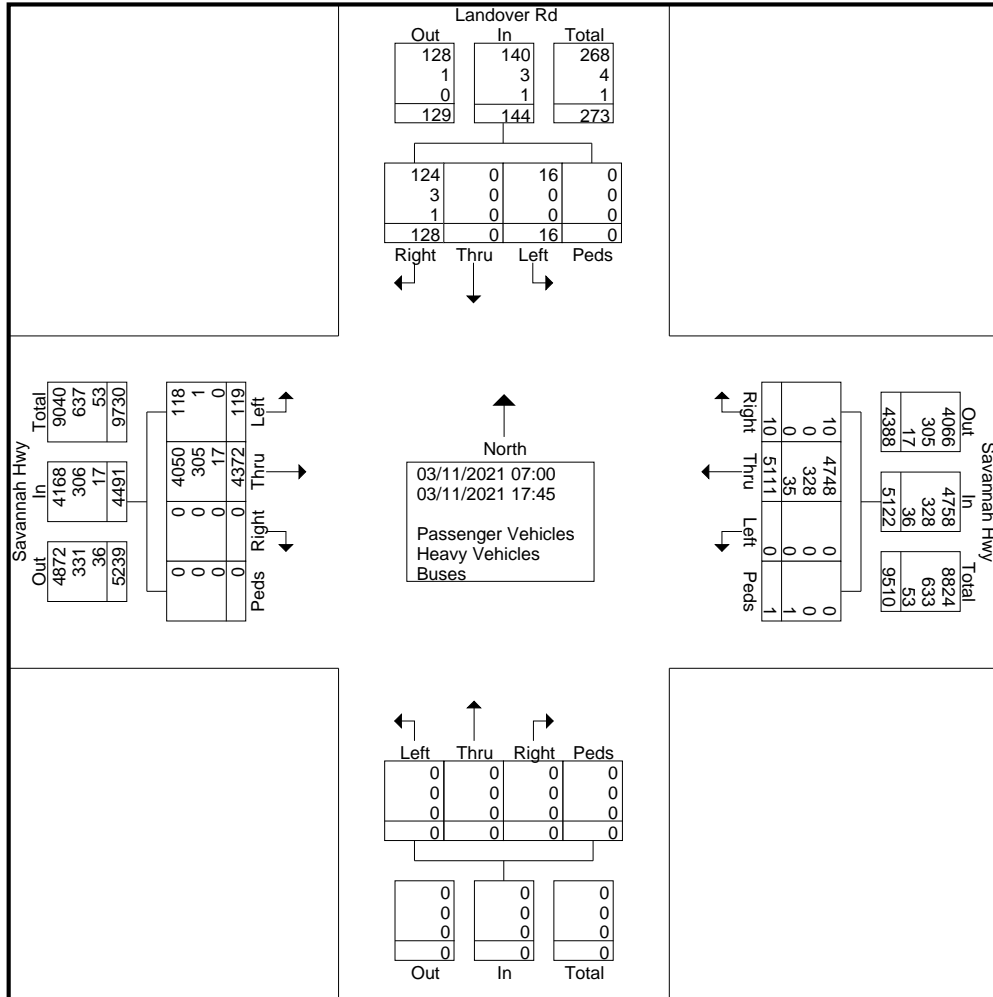
We can't say we're the Best, but you Can!

File Name : Savannah Hwy @ Landover Rd

Site Code :

Start Date : 03/11/2021

Page No : 2



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

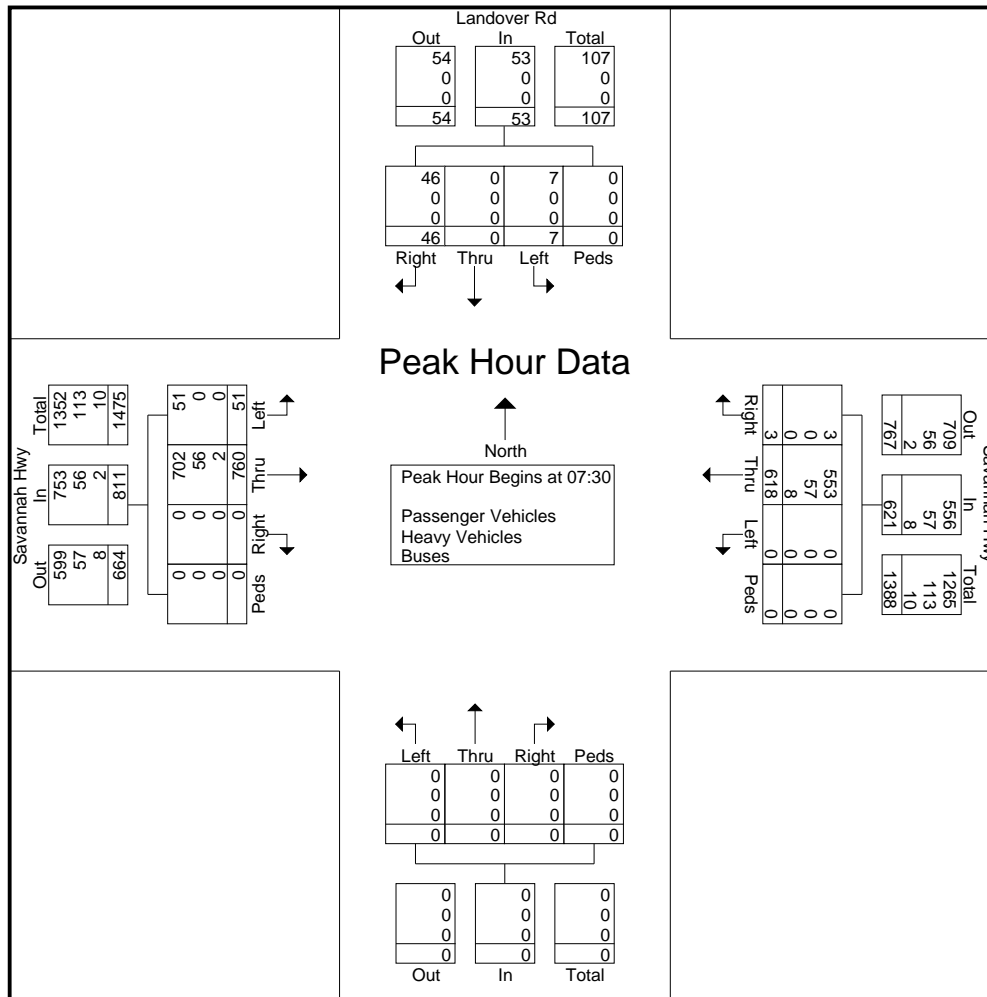
File Name : Savannah Hwy @ Landover Rd

Site Code :

Start Date : 03/11/2021

Page No : 3

Start Time	Landover Rd Southbound					Savannah Hwy Westbound					Northbound					Savannah Hwy Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	2	0	2	0	156	2	0	158	0	0	0	0	0	14	177	0	0	191	351
07:45	1	0	15	0	16	0	156	0	0	156	0	0	0	0	0	19	189	0	0	208	380
08:00	4	0	18	0	22	0	145	0	0	145	0	0	0	0	0	12	205	0	0	217	384
08:15	2	0	11	0	13	0	161	1	0	162	0	0	0	0	0	6	189	0	0	195	370
Total Volume	7	0	46	0	53	0	618	3	0	621	0	0	0	0	0	51	760	0	0	811	1485
% App. Total	13.2	0	86.8	0		0	99.5	0.5	0		0	0	0	0		6.3	93.7	0	0		
PHF	.438	.000	.639	.000	.602	.000	.960	.375	.000	.958	.000	.000	.000	.000	.000	.671	.927	.000	.000	.934	.967
Passenger Vehicles	7	0	46	0	53	0	553	3	0	556	0	0	0	0	0	51	702	0	0	753	1362
% Passenger Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	57	0	0	57	0	0	0	0	0	0	56	0	0	56	113
% Heavy Vehicles	0	0	0	0	0	0	9.2	0	0	9.2	0	0	0	0	0	0	7.4	0	0	6.9	7.6
Buses	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	10
% Buses	0	0	0	0	0	0	1.3	0	0	1.3	0	0	0	0	0	0	0.3	0	0	0.2	0.7



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

File Name : Savannah Hwy @ Old Jacksonboro Rd

Site Code :

Start Date : 03/11/2021

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - Buses

Start Time	Old Jacksonboro Rd Southbound				Savannah Hwy Westbound				Northbound				Savannah Hwy Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	9	0	2	0	0	123	8	0	0	0	0	0	1	177	0	0	320
07:15	14	0	1	0	0	126	7	0	0	0	0	0	2	207	0	0	357
07:30	10	0	1	0	0	149	16	0	0	0	0	0	4	175	0	0	355
07:45	22	0	2	0	0	140	18	0	0	0	0	0	7	174	0	0	363
Total	55	0	6	0	0	538	49	0	0	0	0	0	14	733	0	0	1395
08:00	20	0	10	0	0	145	21	0	0	0	0	0	11	209	0	0	416
08:15	15	0	5	0	0	167	12	0	0	0	0	0	5	179	0	0	383
08:30	4	0	1	0	0	143	9	0	0	0	0	0	1	171	0	0	329
08:45	6	0	1	0	0	147	4	0	0	0	0	0	1	180	0	0	339
Total	45	0	17	0	0	602	46	0	0	0	0	0	18	739	0	0	1467
14:00	10	0	1	0	0	189	2	0	0	0	0	0	2	177	0	0	381
14:15	3	0	0	0	0	236	11	0	0	0	0	0	1	166	0	0	417
14:30	6	0	1	0	0	231	13	0	0	0	0	0	4	192	0	0	447
14:45	10	0	1	0	0	233	10	0	0	0	0	0	4	176	0	0	434
Total	29	0	3	0	0	889	36	0	0	0	0	0	11	711	0	0	1679
15:00	3	0	0	0	0	254	19	0	0	0	0	0	5	180	0	0	461
15:15	18	0	3	0	0	205	16	0	0	0	0	0	4	167	0	0	413
15:30	19	0	6	0	0	241	12	0	0	0	0	0	2	197	0	0	477
15:45	13	0	1	0	0	254	11	0	0	0	0	0	1	194	0	0	474
Total	53	0	10	0	0	954	58	0	0	0	0	0	12	738	0	0	1825
16:00	7	0	3	0	0	259	5	0	0	0	0	0	1	205	0	0	480
16:15	7	0	2	0	0	249	11	0	0	0	0	0	1	195	0	0	465
16:30	11	0	1	0	0	240	7	0	0	0	0	0	0	177	0	0	436
16:45	7	0	0	1	0	281	12	0	0	0	0	0	1	171	0	0	473
Total	32	0	6	1	0	1029	35	0	0	0	0	0	3	748	0	0	1854
17:00	5	0	1	0	0	281	11	0	0	0	0	0	2	195	0	0	495
17:15	6	0	1	0	0	222	14	0	0	0	0	0	2	185	0	0	430
17:30	6	0	2	0	0	255	9	0	0	0	0	0	1	176	0	0	449
17:45	9	0	1	0	0	236	17	0	0	0	0	0	0	161	0	0	424
Total	26	0	5	0	0	994	51	0	0	0	0	0	5	717	0	0	1798
Grand Total	240	0	47	1	0	5006	275	0	0	0	0	0	63	4386	0	0	10018
Apprch %	83.3	0	16.3	0.3	0	94.8	5.2	0	0	0	0	0	1.4	98.6	0	0	
Total %	2.4	0	0.5	0	0	50	2.7	0	0	0	0	0	0.6	43.8	0	0	
Passenger Vehicles	230	0	34	1	0	4645	260	0	0	0	0	0	53	4040	0	0	9263
% Passenger Vehicles	95.8	0	72.3	100	0	92.8	94.5	0	0	0	0	0	84.1	92.1	0	0	92.5
Heavy Vehicles	3	0	2	0	0	335	6	0	0	0	0	0	1	332	0	0	679
% Heavy Vehicles	1.2	0	4.3	0	0	6.7	2.2	0	0	0	0	0	1.6	7.6	0	0	6.8
Buses	7	0	11	0	0	26	9	0	0	0	0	0	9	14	0	0	76
% Buses	2.9	0	23.4	0	0	0.5	3.3	0	0	0	0	0	14.3	0.3	0	0	0.8

SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

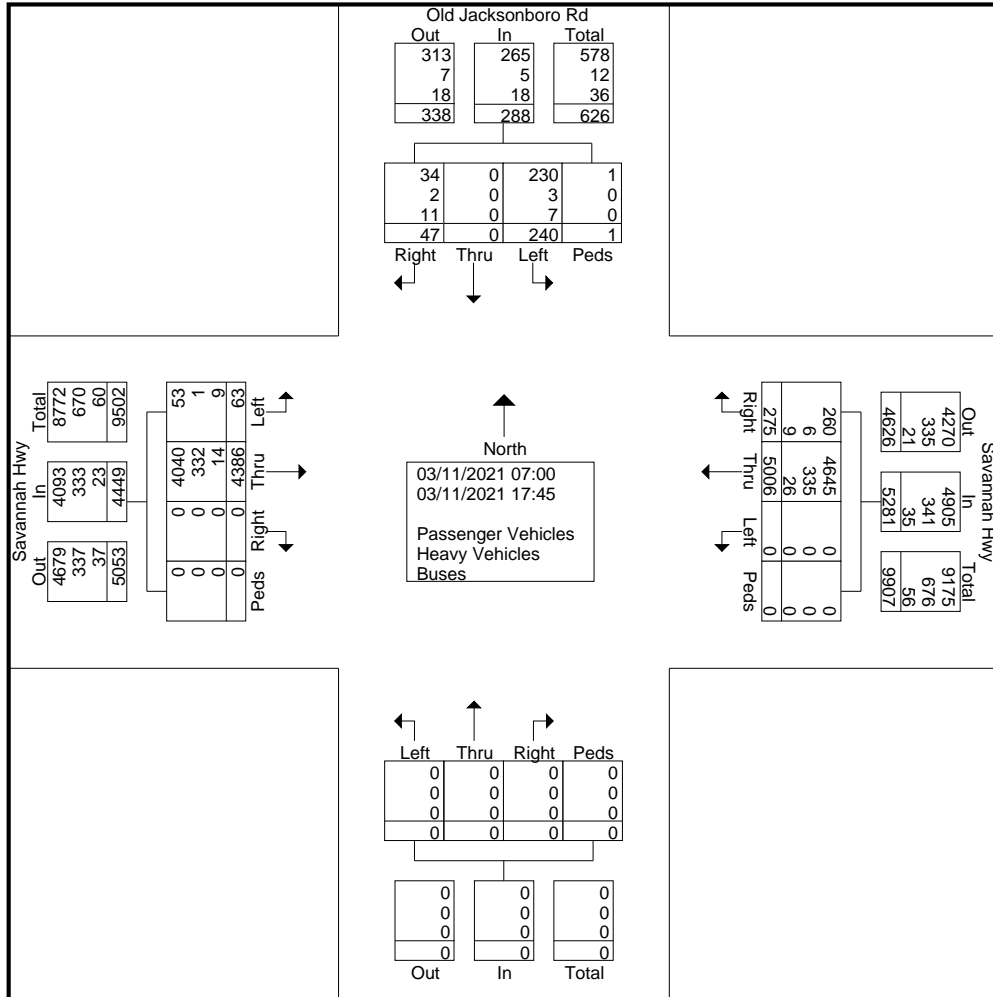
We can't say we're the Best, but you Can!

File Name : Savannah Hwy @ Old Jacksonboro Rd

Site Code :

Start Date : 03/11/2021

Page No : 2



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

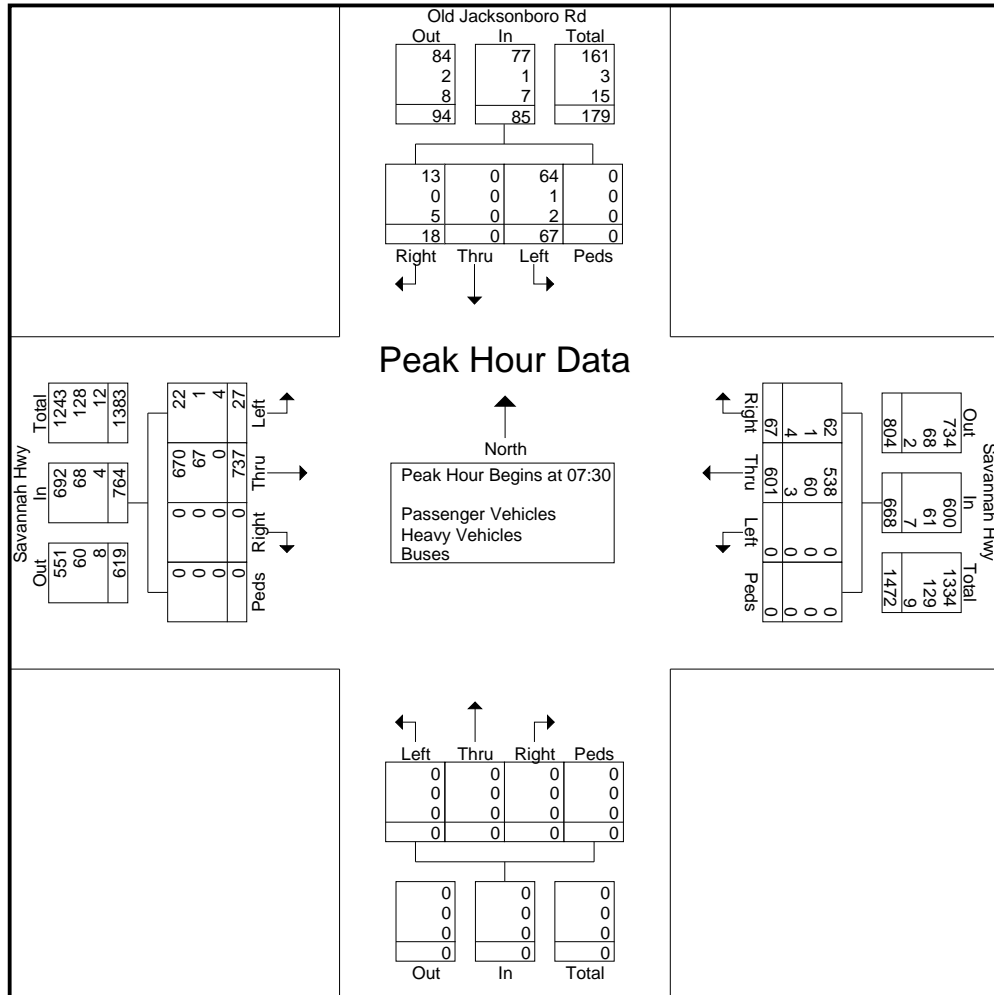
File Name : Savannah Hwy @ Old Jacksonboro Rd

Site Code :

Start Date : 03/11/2021

Page No : 3

Start Time	Old Jacksonboro Rd Southbound					Savannah Hwy Westbound					Northbound					Savannah Hwy Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	10	0	1	0	11	0	149	16	0	165	0	0	0	0	0	4	175	0	0	179	355
07:45	22	0	2	0	24	0	140	18	0	158	0	0	0	0	0	7	174	0	0	181	363
08:00	20	0	10	0	30	0	145	21	0	166	0	0	0	0	0	11	209	0	0	220	416
08:15	15	0	5	0	20	0	167	12	0	179	0	0	0	0	0	5	179	0	0	184	383
Total Volume	67	0	18	0	85	0	601	67	0	668	0	0	0	0	0	27	737	0	0	764	1517
% App. Total	78.8	0	21.2	0		0	90	10	0		0	0	0	0		3.5	96.5	0	0		
PHF	.761	.000	.450	.000	.708	.000	.900	.798	.000	.933	.000	.000	.000	.000	.000	.614	.882	.000	.000	.868	.912
Passenger Vehicles	64	0	13	0	77	0	538	62	0	600	0	0	0	0	0	22	670	0	0	692	1369
% Passenger Vehicles																					
Heavy Vehicles	1	0	0	0	1	0	60	1	0	61	0	0	0	0	0	1	67	0	0	68	130
% Heavy Vehicles	1.5	0	0	0	1.2	0	10.0	1.5	0	9.1	0	0	0	0	0	3.7	9.1	0	0	8.9	8.6
Buses	2	0	5	0	7	0	3	4	0	7	0	0	0	0	0	4	0	0	0	4	18
% Buses	3.0	0	27.8	0	8.2	0	0.5	6.0	0	1.0	0	0	0	0	0	14.8	0	0	0	0.5	1.2



SHORT COUNTS, LLC

735 Maryland St
Columbia, SC 29201

We can't say we're the Best, but you Can!

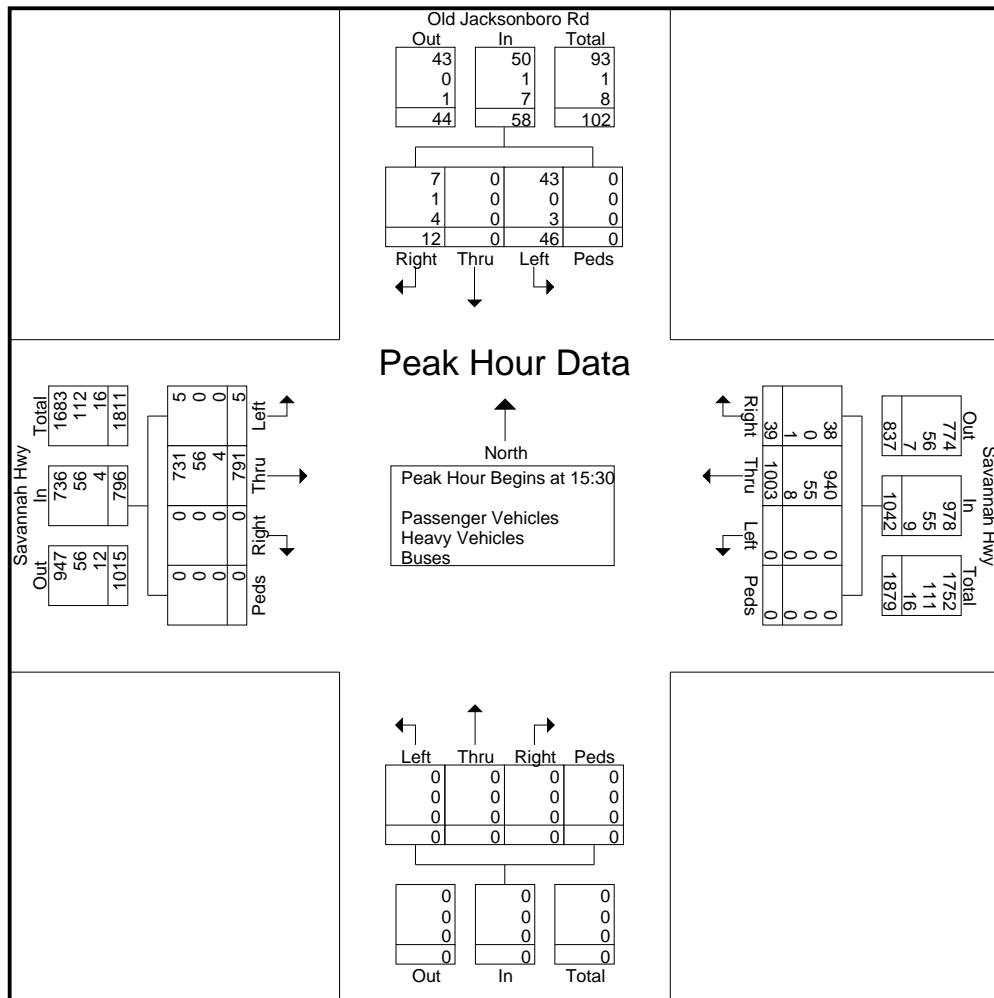
File Name : Savannah Hwy @ Old Jacksonboro Rd

Site Code :

Start Date : 03/11/2021

Page No : 4

Start Time	Old Jacksonboro Rd Southbound					Savannah Hwy Westbound					Northbound					Savannah Hwy Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 14:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 15:30																					
15:30	19	0	6	0	25	0	241	12	0	253	0	0	0	0	0	2	197	0	0	199	477
15:45	13	0	1	0	14	0	254	11	0	265	0	0	0	0	0	1	194	0	0	195	474
16:00	7	0	3	0	10	0	259	5	0	264	0	0	0	0	0	1	205	0	0	206	480
16:15	7	0	2	0	9	0	249	11	0	260	0	0	0	0	0	1	195	0	0	196	465
Total Volume	46	0	12	0	58	0	1003	39	0	1042	0	0	0	0	0	5	791	0	0	796	1896
% App. Total	79.3	0	20.7	0		0	96.3	3.7	0		0	0	0	0	0	0.6	99.4	0	0		
PHF	.605	.000	.500	.000	.580	.000	.968	.813	.000	.983	.000	.000	.000	.000	.000	.625	.965	.000	.000	.966	.988
Passenger Vehicles	43	0	7	0	50	0	940	38	0	978	0	0	0	0	0	5	731	0	0	736	1764
% Passenger Vehicles																					
Heavy Vehicles	0	0	1	0	1	0	55	0	0	55	0	0	0	0	0	0	56	0	0	56	112
% Heavy Vehicles	0	0	8.3	0	1.7	0	5.5	0	0	5.3	0	0	0	0	0	0	7.1	0	0	7.0	5.9
Buses	3	0	4	0	7	0	8	1	0	9	0	0	0	0	0	0	4	0	0	4	20
% Buses	6.5	0	33.3	0	12.1	0	0.8	2.6	0	0.9	0	0	0	0	0	0	0.5	0	0	0.5	1.1



APPENDIX D

Traffic Volume Development Worksheet

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Old Jacksonboro Road & US17 (Savannah Highway)

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: Thursday, March 11, 2021

AM PEAK HOUR (7:30-8:30 AM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2021 TRAFFIC VOLUMES	0	0	0	67	0	18	0	601	67	27	737	0
Peak Season Factor	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150
2021 PEAK SEASON TRAFFIC VOLUMES	0	0	0	77	0	21	0	691	77	31	848	0
Years To Buildout (2031)	10	10	10	10	10	10	10	10	10	10	10	10
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Background Traffic Growth	0	0	0	13	0	4	0	120	13	5	147	0
Diverted Trips												
2031 NO-BUILD TRAFFIC VOLUMES	0	0	0	90	0	25	0	811	90	36	995	0
Residential Project Traffic				96		11		4	32	3	11	
Retail Project Traffic				23				19			56	
New Project Traffic	0	0	0	119	0	11	0	23	32	3	67	0
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	209	0	36	0	834	122	39	1,062	0

PM PEAK HOUR (3:30-4:30 PM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2021 TRAFFIC VOLUMES	0	0	0	46	0	12	0	1,003	39	5	791	0
Peak Season Factor	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020
2021 PEAK SEASON TRAFFIC VOLUMES	0	0	0	47	0	12	0	1,023	40	5	807	0
Years To Buildout (2031)	10	10	10	10	10	10	10	10	10	10	10	10
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Background Traffic Growth	0	0	0	9	0	2	0	201	8	1	158	0
Diverted Trips												
2031 NO-BUILD TRAFFIC VOLUMES	0	0	0	56	0	14	0	1,224	48	6	965	0
Residential Project Traffic				50		5		8	70	8	6	
Retail Project Traffic				93				74			71	
New Project Traffic	0	0	0	143	0	5	0	82	70	8	77	0
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	199	0	19	0	1,306	118	14	1,042	0

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Old Jacksonboro Road & Landover Road/Access 3

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: Thursday, March 11, 2021

AM PEAK HOUR (7:30-8:30 AM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2021 TRAFFIC VOLUMES	3	0	47	0	0	0	41	32	0	0	46	9
Peak Season Factor	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150
2021 PEAK SEASON TRAFFIC VOLUMES	3	0	54	0	0	0	47	37	0	0	53	10
Years To Buildout (2031)	10	10	10	10	10	10	10	10	10	10	10	10
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Background Traffic Growth	1	0	9	0	0	0	8	6	0	0	9	2
Diverted Trips												
2031 NO-BUILD TRAFFIC VOLUMES	4	0	63	0	0	0	55	43	0	0	62	12
Residential Project Traffic	8	14	7	21	43	10	22	3	7	3	11	21
Retail Project Traffic								5			14	
New Project Traffic	8	14	7	21	43	10	22	8	7	3	25	21
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	12	14	70	21	43	10	77	51	7	3	87	33

PM PEAK HOUR (2:45-3:45 PM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2021 TRAFFIC VOLUMES	3	0	19	0	0	0	40	47	0	0	23	2
Peak Season Factor	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020
2021 PEAK SEASON TRAFFIC VOLUMES	3	0	19	0	0	0	41	48	0	0	23	2
Years To Buildout (2031)	10	10	10	10	10	10	10	10	10	10	10	10
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Background Traffic Growth	1	0	4	0	0	0	8	9	0	0	5	0
Diverted Trips												
2031 NO-BUILD TRAFFIC VOLUMES	4	0	23	0	0	0	49	57	0	0	28	2
Residential Project Traffic	16	31	16	11	23	5	11	7	16	8	5	11
Retail Project Traffic								18			18	
New Project Traffic	16	31	16	11	23	5	11	25	16	8	23	11
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	20	31	39	11	23	5	60	82	16	8	51	13

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

US17 & Landover Road

TRAFFIC CONTROL: Unsignalized

DATE COUNTED: Thursday, March 11, 2021

AM PEAK HOUR (7:30-8:30 AM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2021 TRAFFIC VOLUMES	0	0	0	7	0	46	0	618	3	51	760	0
Peak Season Factor	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150
2021 PEAK SEASON TRAFFIC VOLUMES	0	0	0	8	0	53	0	711	3	59	874	0
Years To Buildout (2031)	10	10	10	10	10	10	10	10	10	10	10	10
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Background Traffic Growth	0	0	0	1	0	9	0	124	1	10	152	0
Diverted Trips												
2031 NO-BUILD TRAFFIC VOLUMES	0	0	0	9	0	62	0	835	4	69	1,026	0
Residential Project Traffic				11		75		11	4	25	3	
Retail Project Traffic								19			56	
New Project Traffic	0	0	0	11	0	75	0	30	4	25	59	0
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	20	0	137	0	865	8	94	1,085	0

PM PEAK HOUR (3:45-4:45PM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2021 TRAFFIC VOLUMES	0	0	0	3	0	16	0	1,054	2	7	753	0
Peak Season Factor	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020	1.020
2021 PEAK SEASON TRAFFIC VOLUMES	0	0	0	3	0	16	0	1,075	2	7	768	0
Years To Buildout (2031)	10	10	10	10	10	10	10	10	10	10	10	10
Yearly Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Background Traffic Growth	0	0	0	1	0	3	0	211	0	1	151	0
Diverted Trips												
2031 NO-BUILD TRAFFIC VOLUMES	0	0	0	4	0	19	0	1,286	2	8	919	0
Residential Project Traffic				6		39		5	8	55	8	
Retail Project Traffic								74			71	
New Project Traffic	0	0	0	6	0	39	0	79	8	55	79	0
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	10	0	58	0	1,365	10	63	998	0

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

US17 & Access Road 1

TRAFFIC CONTROL: Unsignalized

DATE COUNTED:

AM PEAK HOUR (7:15-8:15 AM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2031 NO-BUILD TRAFFIC VOLUMES								901			1,085	
Residential Project Traffic								36			107	
Retail Project Traffic						19			126		79	
New Project Traffic	0	0	0	0	0	19	0	36	126	0	186	0
Pass-By Project Traffic						35		-35	35			
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	0	0	54	0	902	161	0	1,271	0

PM PEAK HOUR (4:00-5:00 PM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2031 NO-BUILD TRAFFIC VOLUMES								1,272			1,021	
Residential Project Traffic								78			56	
Retail Project Traffic						74			159		164	
New Project Traffic	0	0	0	0	0	74	0	78	159	0	220	0
Pass-By Project Traffic						85		-85	85			
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	0	0	159	0	1,265	244	0	1,241	0

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Old Jacksonboro & Access Road 2

TRAFFIC CONTROL: Unsignalized

DATE COUNTED:

AM PEAK HOUR (7:15-8:15 AM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2031 NO-BUILD TRAFFIC VOLUMES								112			120	
Residential Project Traffic				75		22		10	25	7	32	
Retail Project Traffic				23		5				14		
New Project Traffic	0	0	0	98	0	27	0	10	25	21	32	0
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	98	0	27	0	122	25	21	152	0

PM PEAK HOUR (4:00-5:00 PM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2031 NO-BUILD TRAFFIC VOLUMES								80			61	
Residential Project Traffic				39		11		23	55	16	16	
Retail Project Traffic				93		18				18		
New Project Traffic	0	0	0	132	0	29	0	23	55	34	16	0
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	132	0	29	0	103	55	34	77	0

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

Old Jacksonboro Road & Access Road 4

TRAFFIC CONTROL: Unsignalized

DATE COUNTED:

AM PEAK HOUR (7:15-8:15 AM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2031 NO-BUILD TRAFFIC VOLUMES								47			74	
Residential Project Traffic				32		10		10	11	4	3	
Retail Project Traffic								5			14	
New Project Traffic	0	0	0	32	0	10	0	15	11	4	17	0
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	32	0	10	0	62	11	4	91	0

PM PEAK HOUR (4:00-5:00 PM)	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
2031 NO-BUILD TRAFFIC VOLUMES								61			30	
Residential Project Traffic				16		6		5	23	8	8	
Retail Project Traffic								18			18	
New Project Traffic	0	0	0	16	0	6	0	23	23	8	26	0
Pass-By Project Traffic												
Adjusted Existing Trips												
2031 BUILD TRAFFIC VOLUMES	0	0	0	16	0	6	0	84	23	8	56	0

APPENDIX E

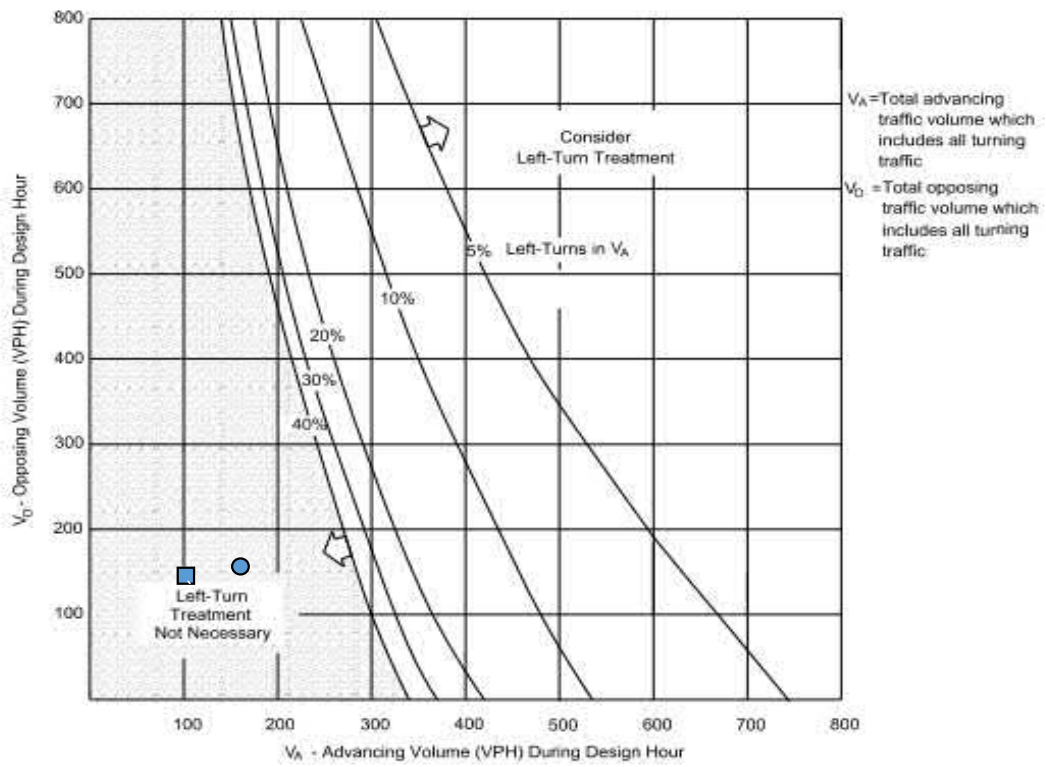
Turn Lane Analysis Worksheets

TEA FARM TIS
LEFT-TURN LANE WARRANT REVIEW

9.5-8

INTERSECTIONS

March 2017



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)

Figure 9.5-F

INTERSECTION: Old Jacksonboro Road and Access 2

MOVEMENT: Eastbound Left Turn

SCENARIO	Advancing Volume (V _a)	Eastbound Left Turn	Opposing Volume (V _o)	Left Turn % of V _a	Symbol
AM Build	173	21	147	12.1%	●
PM Build	111	34	158	30.6%	■

Moving forward.



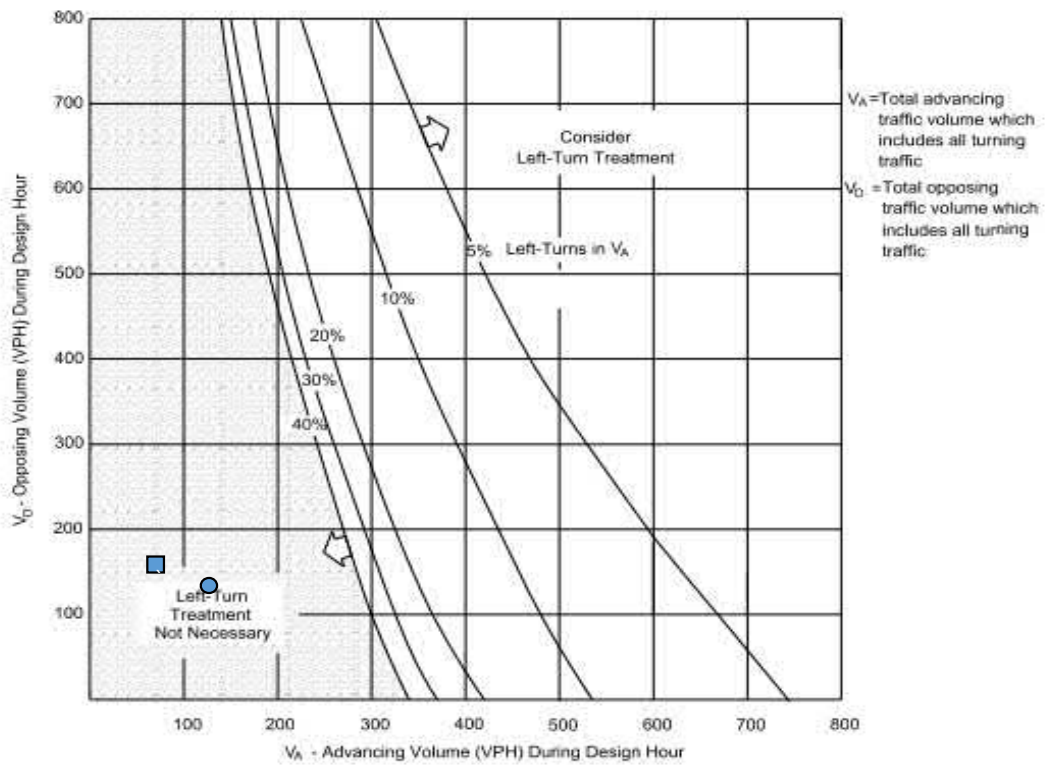
RAMEY KEMP ASSOCIATES

TEA FARM TIS
LEFT-TURN LANE WARRANT REVIEW

9.5-8

INTERSECTIONS

March 2017



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)

Figure 9.5-F

INTERSECTION: Old Jacksonboro Road and Access 3
MOVEMENT: Eastbound Left Turn

SCENARIO	Advancing Volume (V _a)	Eastbound Left Turn	Opposing Volume (V _o)	Left Turn % of V _a	Symbol
AM Build	123	3	135	2.4%	●
PM Build	72	8	158	11.1%	■

Moving forward.



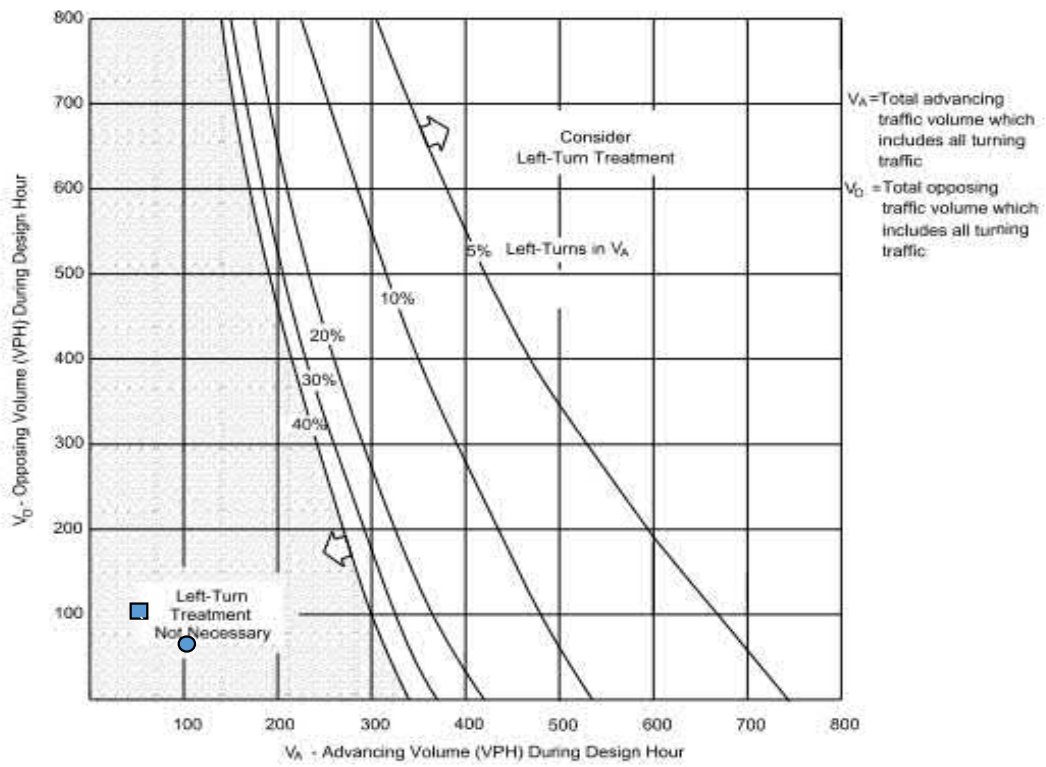
RAMEY KEMP ASSOCIATES

TEA FARM TIS
LEFT-TURN LANE WARRANT REVIEW

9.5-8

INTERSECTIONS

March 2017



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)

Figure 9.5-F

INTERSECTION: Old Jacksonboro Road and Access 4

MOVEMENT: Eastbound Left Turn

SCENARIO	Advancing Volume (V _a)	Eastbound Left Turn	Opposing Volume (V _o)	Left Turn % of V _a	Symbol
AM Build	95	4	73	4.2%	●
PM Build	64	8	107	12.5%	■

Moving forward.



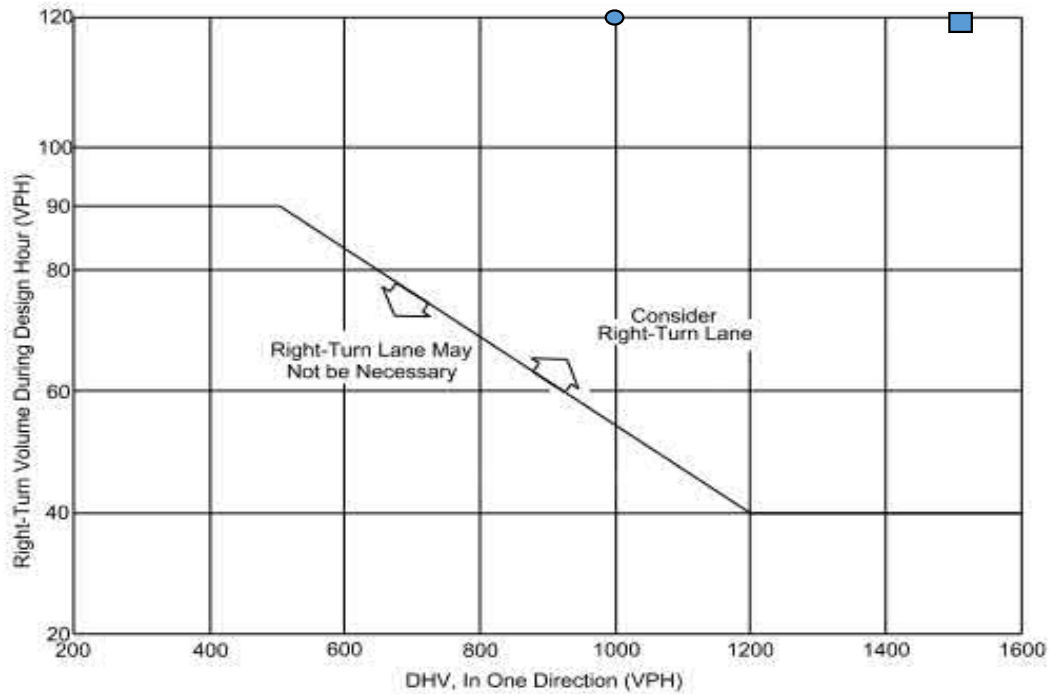
RAMEY KEMP ASSOCIATES

**TEA FARM TIS
RIGHT-TURN LANE WARRANT REVIEW**

March 2017

INTERSECTIONS

9.5-3



Note: Figure is only applicable on highways with a design speed of 50 miles per hour or greater.

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS
ON FOUR-LANE HIGHWAYS**

Figure 9.5-B

INTERSECTION: US17/Savannah Highway & Access 1

MOVEMENT: Westbound Right Turn

SCENARIO	Design Hour Volume	Right Turn Volume	Symbol
AM Build	1063	161	●
PM Build	1509	244	■

Moving forward.



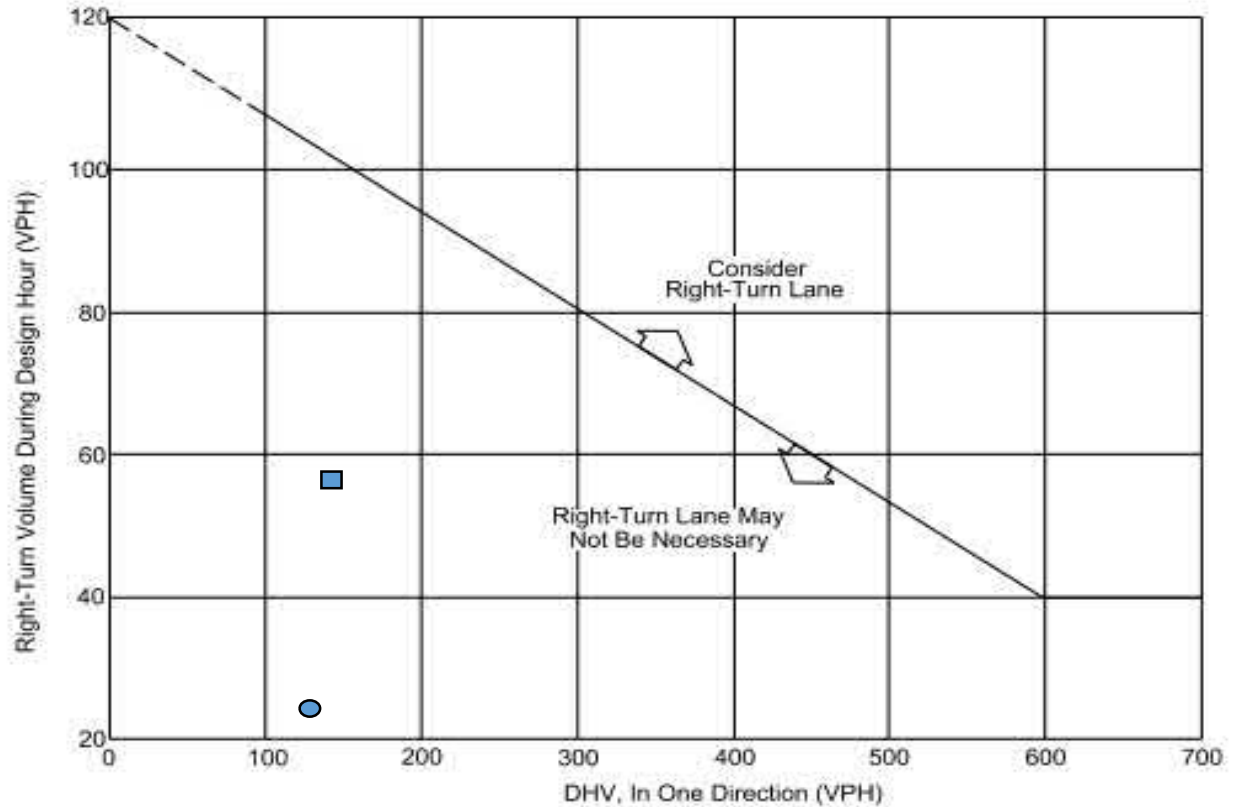
RAMEY KEMP ASSOCIATES

**TEA FARM TIS
RIGHT-TURN LANE WARRANT REVIEW**

9.5-2

INTERSECTIONS

March 2017



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS
ON TWO-LANE HIGHWAYS**

Figure 9.5-A

INTERSECTION: Old Jacksonboro Road and Access 2

MOVEMENT: Westbound Right Turn

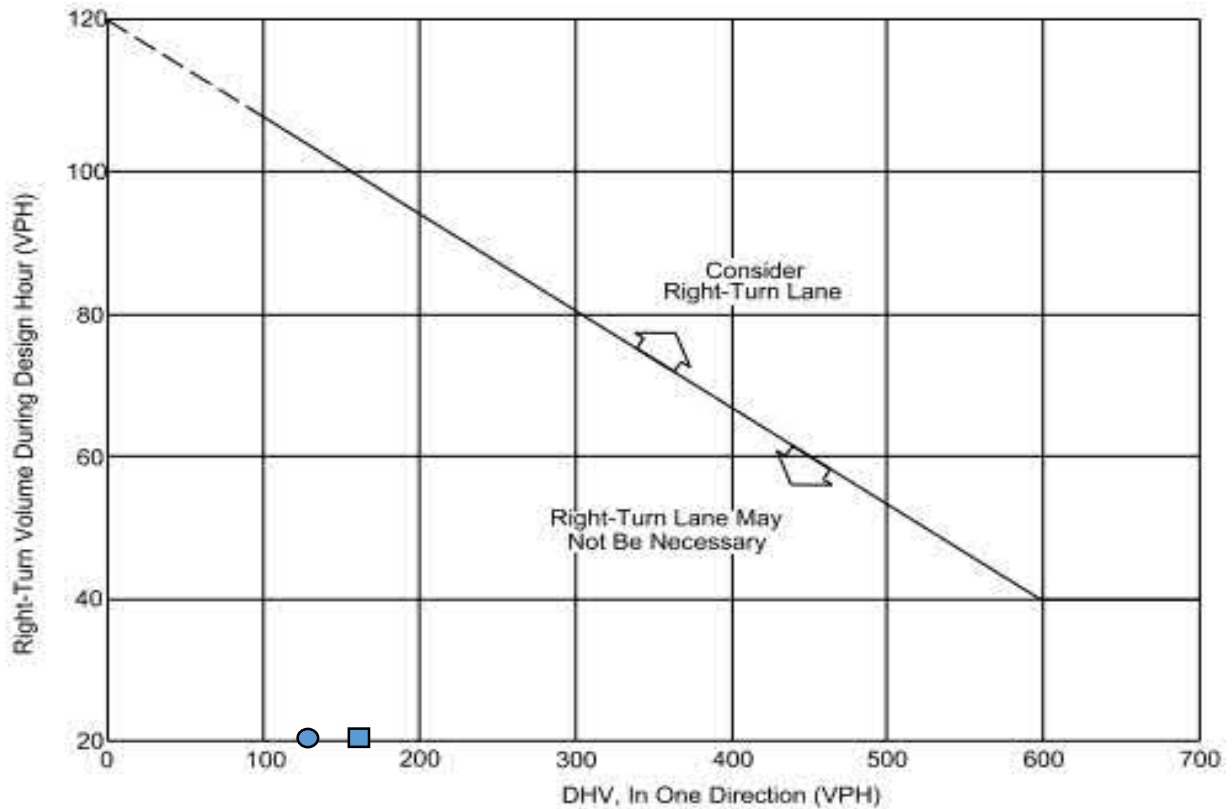
SCENARIO	Design Hour Volume	Right Turn Volume	Symbol
AM Build	147	25	●
PM Build	158	55	■

**TEA FARM TIS
RIGHT-TURN LANE WARRANT REVIEW**

9.5-2

INTERSECTIONS

March 2017



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS
ON TWO-LANE HIGHWAYS**

Figure 9.5-A

INTERSECTION: Old Jacksonboro Road and Access 3

MOVEMENT: Westbound Right Turn

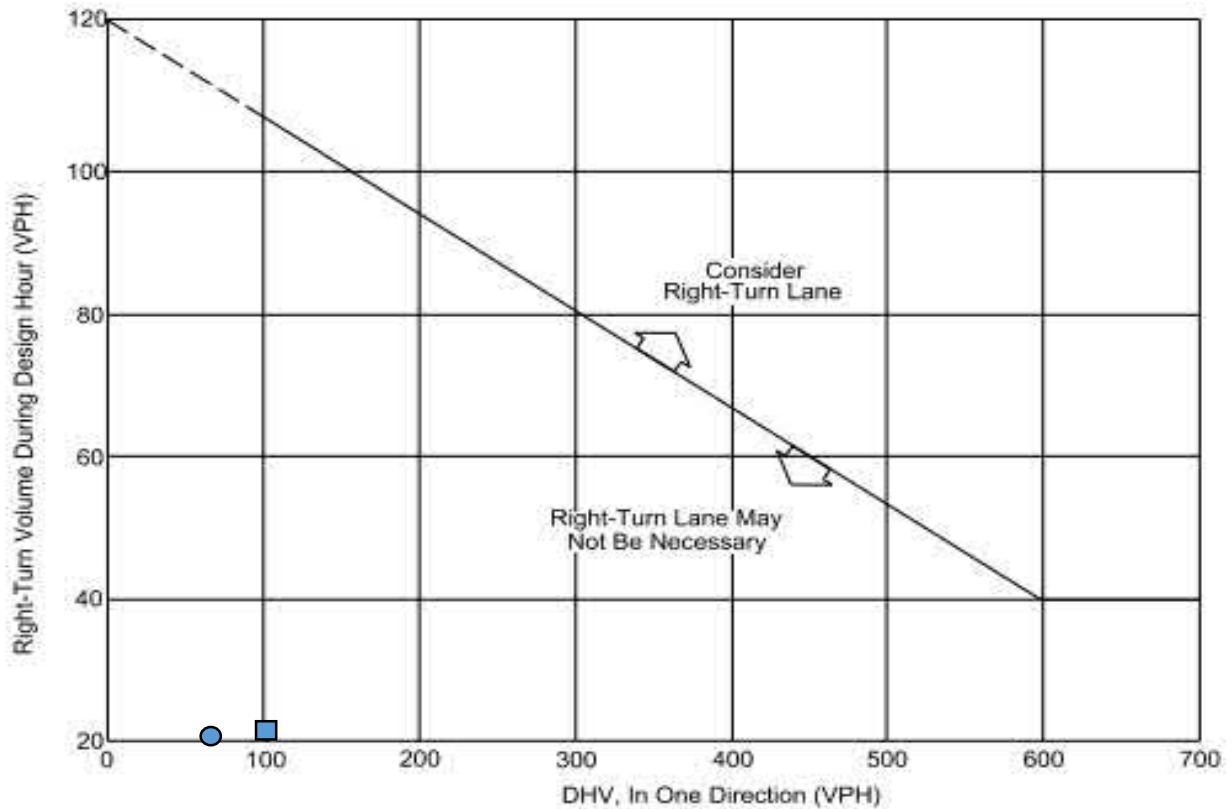
SCENARIO	Design Hour Volume	Right Turn Volume	Symbol
AM Build	135	7	●
PM Build	158	16	■

**TEA FARM TIS
RIGHT-TURN LANE WARRANT REVIEW**

9.5-2

INTERSECTIONS

March 2017



Note: For highways with a design speed below 50 miles per hour with a DHV < 300 and where right turns > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS
ON TWO-LANE HIGHWAYS**

Figure 9.5-A

INTERSECTION: Old Jacksonboro Road and Access 4

MOVEMENT: Westbound Right Turn

SCENARIO	Design Hour Volume	Right Turn Volume	Symbol
AM Build	73	11	●
PM Build	107	23	■

APPENDIX F

Synchro Analysis Worksheets (2021 – Seasonally Adjusted Existing Conditions)

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	848	691	77	77	21
Future Vol, veh/h	31	848	691	77	77	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	270	-	-	250	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	922	751	84	84	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	835	0	-	0	1280 376
Stage 1	-	-	-	-	751 -
Stage 2	-	-	-	-	529 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	794	-	-	-	158 622
Stage 1	-	-	-	-	427 -
Stage 2	-	-	-	-	555 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	794	-	-	-	151 622
Mov Cap-2 Maneuver	-	-	-	-	282 -
Stage 1	-	-	-	-	409 -
Stage 2	-	-	-	-	555 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	20.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	794	-	-	-	339
HCM Lane V/C Ratio	0.042	-	-	-	0.314
HCM Control Delay (s)	9.7	-	-	-	20.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

Intersection						
Int Delay, s/veh	4.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	53	10	47	37	3	54
Future Vol, veh/h	53	10	47	37	3	54
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	58	11	51	40	3	59

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	69	0	206 64
Stage 1	-	-	-	-	64 -
Stage 2	-	-	-	-	142 -
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	-	-	1532	-	782 1000
Stage 1	-	-	-	-	959 -
Stage 2	-	-	-	-	885 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1532	-	755 1000
Mov Cap-2 Maneuver	-	-	-	-	755 -
Stage 1	-	-	-	-	959 -
Stage 2	-	-	-	-	855 -

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	983	-	-	1532	-
HCM Lane V/C Ratio	0.063	-	-	0.033	-
HCM Control Delay (s)	8.9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	59	874	711	3	8	53
Future Vol, veh/h	59	874	711	3	8	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	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	950	773	3	9	58

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	776	0	-	0	1378 388
Stage 1	-	-	-	-	775 -
Stage 2	-	-	-	-	603 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	836	-	-	-	136 611
Stage 1	-	-	-	-	415 -
Stage 2	-	-	-	-	509 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	836	-	-	-	126 611
Mov Cap-2 Maneuver	-	-	-	-	255 -
Stage 1	-	-	-	-	383 -
Stage 2	-	-	-	-	509 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	836	-	-	-	516
HCM Lane V/C Ratio	0.077	-	-	-	0.128
HCM Control Delay (s)	9.7	-	-	-	13
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	807	1023	40	47	12
Future Vol, veh/h	5	807	1023	40	47	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	270	-	-	250	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	877	1112	43	51	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1155	0	-	0	1561 556
Stage 1	-	-	-	-	1112 -
Stage 2	-	-	-	-	449 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	601	-	-	-	103 475
Stage 1	-	-	-	-	276 -
Stage 2	-	-	-	-	610 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	601	-	-	-	102 475
Mov Cap-2 Maneuver	-	-	-	-	210 -
Stage 1	-	-	-	-	274 -
Stage 2	-	-	-	-	610 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	23
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	601	-	-	-	264
HCM Lane V/C Ratio	0.009	-	-	-	0.243
HCM Control Delay (s)	11	-	-	-	23
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection						
Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	2	41	48	3	19
Future Vol, veh/h	23	2	41	48	3	19
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	25	2	45	52	3	21

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	27	0	168 26
Stage 1	-	-	-	-	26 -
Stage 2	-	-	-	-	142 -
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	-	-	1587	-	822 1050
Stage 1	-	-	-	-	997 -
Stage 2	-	-	-	-	885 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1587	-	798 1050
Mov Cap-2 Maneuver	-	-	-	-	798 -
Stage 1	-	-	-	-	997 -
Stage 2	-	-	-	-	859 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1007	-	-	1587	-
HCM Lane V/C Ratio	0.024	-	-	0.028	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	768	1075	2	3	16
Future Vol, veh/h	7	768	1075	2	3	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	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	8	835	1168	2	3	17

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1170	0	-	0	1603 585
Stage 1	-	-	-	-	1169 -
Stage 2	-	-	-	-	434 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	593	-	-	-	96 454
Stage 1	-	-	-	-	258 -
Stage 2	-	-	-	-	621 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	593	-	-	-	95 454
Mov Cap-2 Maneuver	-	-	-	-	199 -
Stage 1	-	-	-	-	255 -
Stage 2	-	-	-	-	621 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	593	-	-	-	378
HCM Lane V/C Ratio	0.013	-	-	-	0.055
HCM Control Delay (s)	11.2	-	-	-	15.1
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

APPENDIX G

Synchro Analysis Worksheets (2031 No-Build Conditions)

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	995	811	90	90	25
Future Vol, veh/h	36	995	811	90	90	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	270	-	-	250	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	1082	882	98	98	27

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	980	0	-	0	1501 441
Stage 1	-	-	-	-	882 -
Stage 2	-	-	-	-	619 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	700	-	-	-	113 564
Stage 1	-	-	-	-	365 -
Stage 2	-	-	-	-	499 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	700	-	-	-	107 564
Mov Cap-2 Maneuver	-	-	-	-	233 -
Stage 1	-	-	-	-	345 -
Stage 2	-	-	-	-	499 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	27.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	700	-	-	-	283
HCM Lane V/C Ratio	0.056	-	-	-	0.442
HCM Control Delay (s)	10.4	-	-	-	27.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	2.1

Intersection						
Int Delay, s/veh	4.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	12	55	43	4	63
Future Vol, veh/h	62	12	55	43	4	63
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	67	13	60	47	4	68

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	80	0	241 74
Stage 1	-	-	-	-	74 -
Stage 2	-	-	-	-	167 -
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	-	-	1518	-	747 988
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	863 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1518	-	716 988
Mov Cap-2 Maneuver	-	-	-	-	716 -
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	828 -

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	966	-	-	1518	-
HCM Lane V/C Ratio	0.075	-	-	0.039	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	69	1026	835	4	9	62
Future Vol, veh/h	69	1026	835	4	9	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	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	75	1115	908	4	10	67

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	912	0	-	0	1618
Stage 1	-	-	-	-	910
Stage 2	-	-	-	-	708
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	743	-	-	-	94
Stage 1	-	-	-	-	353
Stage 2	-	-	-	-	449
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	743	-	-	-	85
Mov Cap-2 Maneuver	-	-	-	-	207
Stage 1	-	-	-	-	317
Stage 2	-	-	-	-	449

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	743	-	-	-	455
HCM Lane V/C Ratio	0.101	-	-	-	0.17
HCM Control Delay (s)	10.4	-	-	-	14.5
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.6

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	965	1224	48	56	14
Future Vol, veh/h	6	965	1224	48	56	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	270	-	-	250	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	1049	1330	52	61	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1382	0	-	0	1869 665
Stage 1	-	-	-	-	1330 -
Stage 2	-	-	-	-	539 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	492	-	-	-	64 403
Stage 1	-	-	-	-	211 -
Stage 2	-	-	-	-	549 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	492	-	-	-	63 403
Mov Cap-2 Maneuver	-	-	-	-	159 -
Stage 1	-	-	-	-	208 -
Stage 2	-	-	-	-	549 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	36.1
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	492	-	-	-	190
HCM Lane V/C Ratio	0.013	-	-	-	0.4
HCM Control Delay (s)	12.4	-	-	-	36.1
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	1.8

Intersection						
Int Delay, s/veh	3.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	28	2	49	57	4	23
Future Vol, veh/h	28	2	49	57	4	23
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	30	2	53	62	4	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	32	0	199 31
Stage 1	-	-	-	-	31 -
Stage 2	-	-	-	-	168 -
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	-	-	1580	-	790 1043
Stage 1	-	-	-	-	992 -
Stage 2	-	-	-	-	862 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1580	-	762 1043
Mov Cap-2 Maneuver	-	-	-	-	762 -
Stage 1	-	-	-	-	992 -
Stage 2	-	-	-	-	832 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	989	-	-	1580	-
HCM Lane V/C Ratio	0.03	-	-	0.034	-
HCM Control Delay (s)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	919	1286	2	4	19
Future Vol, veh/h	8	919	1286	2	4	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	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	9	999	1398	2	4	21

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1400	0	-	0	1917 700
Stage 1	-	-	-	-	1399 -
Stage 2	-	-	-	-	518 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	484	-	-	-	59 382
Stage 1	-	-	-	-	194 -
Stage 2	-	-	-	-	563 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	484	-	-	-	58 382
Mov Cap-2 Maneuver	-	-	-	-	148 -
Stage 1	-	-	-	-	190 -
Stage 2	-	-	-	-	563 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	484	-	-	-	300
HCM Lane V/C Ratio	0.018	-	-	-	0.083
HCM Control Delay (s)	12.6	-	-	-	18.1
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

APPENDIX H

Synchro Analysis Worksheets (2031 Build Conditions w/o Signal)

Intersection						
Int Delay, s/veh	14					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	1062	834	122	209	36
Future Vol, veh/h	39	1062	834	122	209	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	270	-	-	250	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	1154	907	133	227	39

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1040	0	-	0	1568
Stage 1	-	-	-	-	907
Stage 2	-	-	-	-	661
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	664	-	-	-	~ 102
Stage 1	-	-	-	-	354
Stage 2	-	-	-	-	475
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	664	-	-	-	~ 96
Mov Cap-2 Maneuver	-	-	-	-	~ 220
Stage 1	-	-	-	-	332
Stage 2	-	-	-	-	475

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	129.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	664	-	-	-	243
HCM Lane V/C Ratio	0.064	-	-	-	1.096
HCM Control Delay (s)	10.8	-	-	-	129.6
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	11.6

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

HCM 6th TWSC
6: Landover Road/Access 3 & Old Jacksonboro Road

2031 Build Conditions (No Signal)
AM Peak Hour

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	87	33	77	51	7	12	14	70	21	43	10
Future Vol, veh/h	3	87	33	77	51	7	12	14	70	21	43	10
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	95	36	84	55	8	13	15	76	23	47	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	63	0	0	131	0	0	375	350	113	392	364	59
Stage 1	-	-	-	-	-	-	119	119	-	227	227	-
Stage 2	-	-	-	-	-	-	256	231	-	165	137	-
Critical Hdwy	4.12	-	-	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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1540	-	-	1454	-	-	582	574	940	567	564	1007
Stage 1	-	-	-	-	-	-	885	797	-	776	716	-
Stage 2	-	-	-	-	-	-	749	713	-	837	783	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1540	-	-	1454	-	-	512	538	940	486	529	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	512	538	-	486	529	-
Stage 1	-	-	-	-	-	-	883	795	-	774	673	-
Stage 2	-	-	-	-	-	-	648	670	-	753	781	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			4.4			10.4			12.7		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	775	1540	-	-	1454	-	-	550
HCM Lane V/C Ratio	0.135	0.002	-	-	0.058	-	-	0.146
HCM Control Delay (s)	10.4	7.3	0	-	7.6	0	-	12.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0.5

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	94	1085	865	8	20	137
Future Vol, veh/h	94	1085	865	8	20	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	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	102	1179	940	9	22	149

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	949	0	-	0	1739 475
Stage 1	-	-	-	-	945 -
Stage 2	-	-	-	-	794 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	719	-	-	-	78 536
Stage 1	-	-	-	-	338 -
Stage 2	-	-	-	-	406 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	719	-	-	-	67 536
Mov Cap-2 Maneuver	-	-	-	-	184 -
Stage 1	-	-	-	-	290 -
Stage 2	-	-	-	-	406 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	719	-	-	-	431
HCM Lane V/C Ratio	0.142	-	-	-	0.396
HCM Control Delay (s)	10.8	-	-	-	18.7
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.5	-	-	-	1.9

Intersection							
Int Delay, s/veh	0.5						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↱		↑↑	↑↑		↘	
Traffic Vol, veh/h	56	0	1215	1007	0	0	0
Future Vol, veh/h	56	0	1215	1007	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	61	0	1321	1095	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1095	-	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	6.44	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.52	-	-
Pot Cap-1 Maneuver	288	0	-
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	288	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBU	EBT	WBT	SBLn1
Capacity (veh/h)	288	-	-	-
HCM Lane V/C Ratio	0.211	-	-	-
HCM Control Delay (s)	20.8	-	-	0
HCM Lane LOS	C	-	-	A
HCM 95th %tile Q(veh)	0.8	-	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	1271	902	161	0	54
Future Vol, veh/h	0	1271	902	161	0	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	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	0	1382	980	175	0	59

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	490
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	10	6.94
Critical Hdwy Stg 1	-	-	-	10	-
Critical Hdwy Stg 2	-	-	-	10	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	524
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	524
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	524
HCM Lane V/C Ratio	-	-	-	0.112
HCM Control Delay (s)	-	-	-	12.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1		1	
Traffic Vol, veh/h	4	91	62	11	32	10
Future Vol, veh/h	4	91	62	11	32	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	4	99	67	12	35	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	79	0	-	0	180 73
Stage 1	-	-	-	-	73 -
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	1519	-	-	-	810 989
Stage 1	-	-	-	-	950 -
Stage 2	-	-	-	-	917 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1519	-	-	-	808 989
Mov Cap-2 Maneuver	-	-	-	-	808 -
Stage 1	-	-	-	-	947 -
Stage 2	-	-	-	-	917 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1519	-	-	-	845
HCM Lane V/C Ratio	0.003	-	-	-	0.054
HCM Control Delay (s)	7.4	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	21	152	122	25	98	27
Future Vol, veh/h	21	152	122	25	98	27
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	50
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	23	165	133	27	107	29

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	160	0	-	0	358 147
Stage 1	-	-	-	-	147 -
Stage 2	-	-	-	-	211 -
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	1419	-	-	-	640 900
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	824 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1419	-	-	-	628 900
Mov Cap-2 Maneuver	-	-	-	-	628 -
Stage 1	-	-	-	-	864 -
Stage 2	-	-	-	-	824 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1419	-	-	-	628	900
HCM Lane V/C Ratio	0.016	-	-	-	0.17	0.033
HCM Control Delay (s)	7.6	0	-	-	11.9	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0.1

Intersection						
Int Delay, s/veh	29.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	1042	1306	118	199	19
Future Vol, veh/h	14	1042	1306	118	199	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	270	-	-	250	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	1133	1420	128	216	21

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1548	0	0 2017 710
Stage 1	-	-	- 1420 -
Stage 2	-	-	- 597 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	424	-	- ~ 51 376
Stage 1	-	-	- ~ 189 -
Stage 2	-	-	- 513 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	424	-	- ~ 49 376
Mov Cap-2 Maneuver	-	-	- ~ 139 -
Stage 1	-	-	- ~ 182 -
Stage 2	-	-	- 513 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	\$ 358.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	424	-	-	-	147
HCM Lane V/C Ratio	0.036	-	-	-	1.612
HCM Control Delay (s)	13.8	-	-	-	\$ 358.8
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	16.6

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

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	51	13	60	82	16	20	31	39	11	23	5
Future Vol, veh/h	8	51	13	60	82	16	20	31	39	11	23	5
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	55	14	65	89	17	22	34	42	12	25	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	106	0	0	69	0	0	323	316	62	346	315	98
Stage 1	-	-	-	-	-	-	80	80	-	228	228	-
Stage 2	-	-	-	-	-	-	243	236	-	118	87	-
Critical Hdwy	4.12	-	-	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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1485	-	-	1532	-	-	630	600	1003	608	601	958
Stage 1	-	-	-	-	-	-	929	828	-	775	715	-
Stage 2	-	-	-	-	-	-	761	710	-	887	823	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1485	-	-	1532	-	-	582	569	1003	534	570	958
Mov Cap-2 Maneuver	-	-	-	-	-	-	582	569	-	534	570	-
Stage 1	-	-	-	-	-	-	923	823	-	770	683	-
Stage 2	-	-	-	-	-	-	696	678	-	810	818	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			2.8			10.9			11.6		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	705	1485	-	-	1532	-	-	589
HCM Lane V/C Ratio	0.139	0.006	-	-	0.043	-	-	0.072
HCM Control Delay (s)	10.9	7.4	0	-	7.5	0	-	11.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.2

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	63	998	1365	10	10	58
Future Vol, veh/h	63	998	1365	10	10	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	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	68	1085	1484	11	11	63

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1495	0	-	0	2169 748
Stage 1	-	-	-	-	1490 -
Stage 2	-	-	-	-	679 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	445	-	-	-	40 355
Stage 1	-	-	-	-	173 -
Stage 2	-	-	-	-	465 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	445	-	-	-	34 355
Mov Cap-2 Maneuver	-	-	-	-	113 -
Stage 1	-	-	-	-	147 -
Stage 2	-	-	-	-	465 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	23.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	445	-	-	-	270
HCM Lane V/C Ratio	0.154	-	-	-	0.274
HCM Control Delay (s)	14.6	-	-	-	23.3
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.5	-	-	-	1.1

Intersection							
Int Delay, s/veh	1.5						
Movement	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	□		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	71	0	1170	1438	0	0	0
Future Vol, veh/h	71	0	1170	1438	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	150	-	-	-	0	-
Veh in Median Storage, #	-	-	0	0	-	0	-
Grade, %	-	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	77	0	1272	1563	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1563	-	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	6.44	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.52	-	-
Pot Cap-1 Maneuver	143	0	-
Stage 1	-	0	-
Stage 2	-	0	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	143	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBU	EBT	WBT	SBLn1
Capacity (veh/h)	143	-	-	-
HCM Lane V/C Ratio	0.54	-	-	-
HCM Control Delay (s)	56.4	-	-	0
HCM Lane LOS	F	-	-	A
HCM 95th %tile Q(veh)	2.7	-	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	1271	1265	244	0	159
Future Vol, veh/h	0	1271	1265	244	0	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	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	0	1382	1375	265	0	173

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	688
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	10	6.94
Critical Hdwy Stg 1	-	-	-	10	-
Critical Hdwy Stg 2	-	-	-	10	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	389
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	389
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	389
HCM Lane V/C Ratio	-	-	-	0.444
HCM Control Delay (s)	-	-	-	21.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	2.2

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Vol, veh/h	8	56	84	23	16	6
Future Vol, veh/h	8	56	84	23	16	6
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	9	61	91	25	17	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	116	0	-	0	183
Stage 1	-	-	-	-	104
Stage 2	-	-	-	-	79
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1473	-	-	-	806
Stage 1	-	-	-	-	920
Stage 2	-	-	-	-	944
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1473	-	-	-	801
Mov Cap-2 Maneuver	-	-	-	-	801
Stage 1	-	-	-	-	914
Stage 2	-	-	-	-	944

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1473	-	-	-	837
HCM Lane V/C Ratio	0.006	-	-	-	0.029
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	34	77	103	55	132	29
Future Vol, veh/h	34	77	103	55	132	29
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	50
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	37	84	112	60	143	32

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	172	0	-	0	300 142
Stage 1	-	-	-	-	142 -
Stage 2	-	-	-	-	158 -
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	1405	-	-	-	691 906
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	871 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1405	-	-	-	672 906
Mov Cap-2 Maneuver	-	-	-	-	672 -
Stage 1	-	-	-	-	860 -
Stage 2	-	-	-	-	871 -

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1405	-	-	-	672	906
HCM Lane V/C Ratio	0.026	-	-	-	0.214	0.035
HCM Control Delay (s)	7.6	0	-	-	11.8	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	0.1

APPENDIX I

Synchro Analysis Worksheets (2031 Build Conditions w/ Signal)

HCM 6th Signalized Intersection Summary
 4: US 17/ Savannah Highway & Old Jacksonboro Road

2031 Build Conditions
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	1062	834	122	209	36
Future Volume (veh/h)	39	1062	834	122	209	36
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	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
Adj Flow Rate, veh/h	42	1154	907	133	227	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	350	1646	1646	734	306	53
Arrive On Green	0.46	0.46	0.46	0.46	0.21	0.21
Sat Flow, veh/h	542	3647	3647	1585	1488	256
Grp Volume(v), veh/h	42	1154	907	133	267	0
Grp Sat Flow(s),veh/h/ln	542	1777	1777	1585	1750	0
Q Serve(g_s), s	2.2	9.4	6.7	1.8	5.2	0.0
Cycle Q Clear(g_c), s	8.9	9.4	6.7	1.8	5.2	0.0
Prop In Lane	1.00			1.00	0.85	0.15
Lane Grp Cap(c), veh/h	350	1646	1646	734	360	0
V/C Ratio(X)	0.12	0.70	0.55	0.18	0.74	0.00
Avail Cap(c_a), veh/h	428	2157	2157	962	531	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.2	7.7	7.0	5.7	13.5	0.0
Incr Delay (d2), s/veh	0.2	0.7	0.3	0.1	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	0.9	0.2	1.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.4	8.4	7.3	5.8	16.6	0.0
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h		1196	1040		267	
Approach Delay, s/veh		8.5	7.1		16.6	
Approach LOS		A	A		B	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				22.8	13.5	22.8
Change Period (Y+Rc), s				6.0	6.0	6.0
Max Green Setting (Gmax), s				22.0	11.0	22.0
Max Q Clear Time (g_c+I1), s				11.4	7.2	8.7
Green Ext Time (p_c), s				5.4	0.3	4.9
Intersection Summary						
HCM 6th Ctrl Delay			8.8			
HCM 6th LOS			A			

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 4: US 17/ Savannah Highway & Old Jacksonboro Road

2031 Build Condition
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	1042	1306	118	199	19
Future Volume (veh/h)	14	1042	1306	118	199	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	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
Adj Flow Rate, veh/h	15	1133	1420	128	216	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	245	1798	1798	802	296	29
Arrive On Green	0.51	0.51	0.51	0.51	0.19	0.19
Sat Flow, veh/h	334	3647	3647	1585	1599	156
Grp Volume(v), veh/h	15	1133	1420	128	238	0
Grp Sat Flow(s),veh/h/ln	334	1777	1777	1585	1762	0
Q Serve(g_s), s	1.5	9.0	12.8	1.7	4.9	0.0
Cycle Q Clear(g_c), s	14.3	9.0	12.8	1.7	4.9	0.0
Prop In Lane	1.00			1.00	0.91	0.09
Lane Grp Cap(c), veh/h	245	1798	1798	802	326	0
V/C Ratio(X)	0.06	0.63	0.79	0.16	0.73	0.00
Avail Cap(c_a), veh/h	265	2013	2013	898	499	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.8	7.0	7.9	5.2	14.9	0.0
Incr Delay (d2), s/veh	0.1	0.5	2.0	0.1	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.2	2.0	0.2	1.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.9	7.5	9.9	5.2	18.0	0.0
LnGrp LOS	B	A	A	A	B	A
Approach Vol, veh/h		1148	1548		238	
Approach Delay, s/veh		7.6	9.5		18.0	
Approach LOS		A	A		B	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				25.7	13.2	25.7
Change Period (Y+Rc), s				6.0	6.0	6.0
Max Green Setting (Gmax), s				22.0	11.0	22.0
Max Q Clear Time (g_c+I1), s				16.3	6.9	14.8
Green Ext Time (p_c), s				3.3	0.2	4.9

Intersection Summary

HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



THOMAS
&
HUTTON

REZONING APPLICATION

TEA FARM
PLANNED DEVELOPMENT DISTRICT (PD)

APPENDIX I Standard Ordinance

J – 28397

August 2021