TOWN OF BLYTHEWOOD
PLANNING COMMISSION AGENDA
MARCH 2, 2020 – 6:00 PM
DOKO MANOR
100 ALVINA HAGOOD CIRCLE
BLYTHEWOOD, SOUTH CAROLINA

RICH MCKENRICK • MALCOLM GORDGE • MARCUS TAYLOR • DERREK PUGH •
ERICA PAGE • ED KESSER • ERNESTINE MIDDLETON

I. CALL TO ORDER AND DECLARATION OF A QUORUM

A. NOTIFICATION AND POSTING OF THE AGENDA

B. ADOPTION OF THE AGENDA

C. PLEDGE OF ALLEGIANCE

D. APPROVAL OF MINUTES – (November 4, 2019)

E. ELECTION

II. CITIZENS TESTIMONY REGARDING ACTION ITEM

III. ACTION ITEM

A. ABNEY HILLS S/D PHASE 4 (SKETCH PLAN) – Richland County, TMS# 12400-02-04

IV. DISCUSSION ITEM

A. COMPREHENSIVE PLAN

V. OPEN CITIZEN COMMENT

VI. ADJOURNMENT

BLYTHEWOOD PLANNING COMMISSION
THE MANOR
100 ALVINA HAGOOD CIRCLE
BLYTHEWOOD, SOUTH CAROLINA
MONDAY, NOVEMBER 4, 2019
6:00 PM

MINUTES

Members Present
Donald Brock – Chair
Rich McKenrick
Ed Kesser
Sloan Jarvis Griffin III

Staff Present
Brian Cook, Town Admin
Melissa Cowan, Town Clerk
Saralyn Yarborough, Admin

Members Absent
Ernestine Middleton
Derrek Pugh
Erica Page

I. CALL TO ORDER

The meeting was called to order by Chairman Brock at 6:02 PM.

A. DECLARATION OF A QUORUM

Four Commissioners were present, constituting a quorum.

B. NOTIFICATION AND POSTING OF MEETING AGENDA

The Town Clerk confirmed the agenda was properly posted and the media notified.

C. ADOPTION OF THE AGENDA

Sloan Griffin made a Motion to approve the agenda. The Motion was seconded by Ed Kesser **All in favor; 4-0**

D. PLEDGE OF ALLEGIANCE

E. APPROVAL OF MINUTES

Sloan Griffin made a Motion to approve the minutes of October 7, 2019. The Motion was seconded by Rich McKenrick. **All in favor; 4-0**

II. ACTION ITEMS

A. OAKHURST PLACE PHASE III EXTENSION (SKETCH PLAN) – Richland County, TMS# 15200-03-07 (portion of) (8.38 acres) (R-8)

Chairman Brock recused himself from this item.

Sloan Griffin made a Motion to conditionally approve the preliminary plat with the removal of lots 69, 70, 74 and 75. The Motion was seconded by Rich McKenrick. **A roll call vote was taken. Ed Kesser – No, Sloan Griffin – Yes, Rich McKenrick – Yes. The Motion passed with a vote of 2-1**

B. TEXT AMENDMENT – Amend Blythewood Code of Ordinance §155.373 RECREATIONAL FACILITIES ADJACENT TO RESIDENTIAL USES

Administrator Cook explained that this will insure consistency across zoning districts and to codify an interpretation of the zoning administrator relative to neighborhood amenities, this amendment would make certain amenities a permitted use outright regardless of the underlying zoning district subject to specific standards.

Rich McKenrick made a Motion to approve text amendment as presented. The Motion was seconded by Sloan Griffin. **All in favor; 4-0**

III. OPEN CITIZEN COMMENT

No citizens signed in to speak.

IV. ADJOURNMENT

Sloan Griffin made a Motion to adjourn the meeting at 7:06 PM. The Motion was seconded by Ed Kesser. **All in favor; 4-0**

Respectfully submitted,

_____

Melissa Cowan, Town Clerk

BLYTHEWOOD
• SOUTH CAROLINA •

Planning Commission

Meeting Date:	March 2, 2020
Case:	Abney Hills S/D Phase 4 **(Sketch Plan)**
Applicant:	David Parr (Power Engineering Company) Essex Homes Southeast, Inc.
Location:	Richland County TMS# 12400-02-04
Zoning:	R-12 (Single Family Residential District)
Site:	Total PH. 4 Area = +/- 131.94 acres Total Lots = 174 Average Lot Size = 18,097 sq. ft.
Setback:	Front = 30' Secondary Front = 30' Rear = 25' Side = 15'
Water:	City of Columbia
Sewer:	Palmetto Utilities, Inc.

The applicant has requested sketch plan approval for Abney Hills Phase 4 Subdivision.

Preliminary plat approval was granted by the Planning Commission for Abney Hills Phase 3 on 10-7-19.

Secondary access onto Valley Estates Dr. from Mount Valley Road will continue to be an "Emergency Only" access point.

Phase 1 = 90 lots Phase 2 = 52 lots Phase 3 = 31 lots Phase 4 = 174 lots

Access to Phase 4 will be from Fulmer Road via Abney Estates Drive through the existing Abney Hills subdivision.

The sketch plan serves as a basis for the development of a preliminary plat. This phase of the subdivision process precedes the preparation of the preliminary plat or plan. A sketch plan constitutes a Site Specific Development Plan as contemplated by the South Carolina Vested Rights Act 287 of 2004.

The Blythewood Code of Ordinances requires that a traffic impact study be prepared for those subdivisions designed for 90 or more dwelling units. A traffic impact study is required to assess the impact that the proposed development would have upon local road systems. A traffic impact study was provided.

Upon sketch approval and moving to creation of preliminary plat/construction plans, a pre-application meeting shall be required with the development staff of Richland County, the applicant, and the Town of Blythewood to discuss the project. Minimum street, curbs, surfacing, storm drainage, wetlands, flood, etc. specifications shall be designed/reviewed to the satisfaction of Richland County.

No portion of a subdivision shall be approved for construction which is in a designated wetland without prior approval from, and subject to the restrictions of, the U.S. Army Corps of Engineers.

Approval of a sketch plan does not authorize the commencement of land clearing or any other construction activity on the subdivision site. Approval shall be contingent on compliance with all relevant sections of the Blythewood Code of Ordinances and other regulatory authorities as applicable. Approval of outside agencies, as applicable, shall be the responsibility of the applicant/developer.

SCDOT was advised of the project. A final SCDOT determination will have to be made on the necessity of auxiliary lanes.

Richland County Fire Marshall, Sheriff's Department, Richland County District 2, new construction/engineering, and addressing have all been advised of the project.

The Planning Commission may wish to consider discussing open space reserved for active or passive recreation and provisions for maintenance. The Planning Commission may also wish to consider location of sidewalks and general description of street trees and lighting that will be provided.

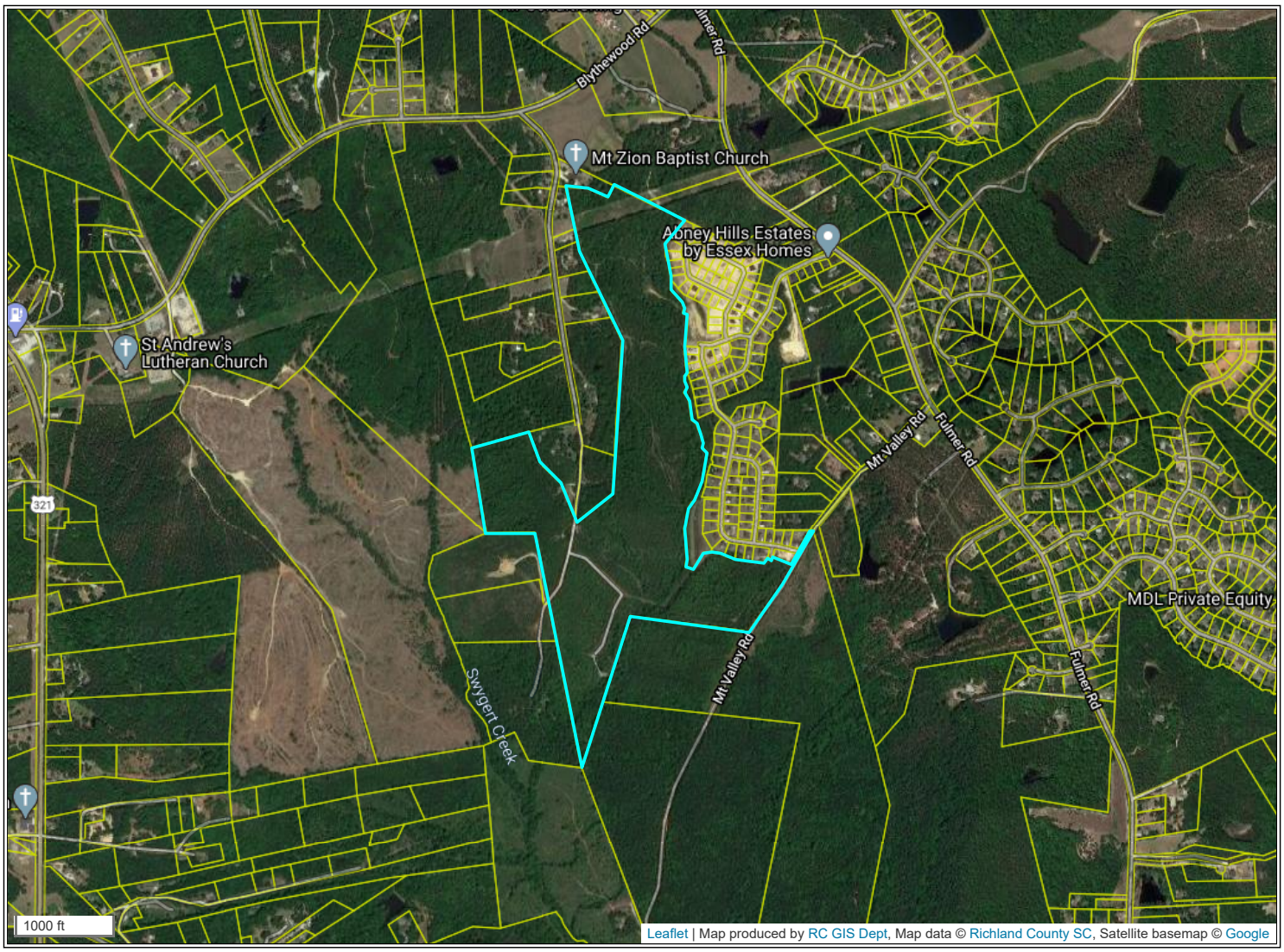
Staff requests maximum lot coverage and accessory setbacks be provided with submittal of preliminary plats.

§ 155.093 REGULATIONS.

The following regulations apply to all uses in the R-12 Districts.

Minimum lot area	12,000 sq. ft.
Minimum land area per dwelling unit	12,000 sq. ft.
Maximum dwelling units per net acre	3 dwelling units
Minimum lot width at front building line	75 ft.
Minimum front yard depth	30 ft.
Minimum setback from second street frontage	Side street on corner lot: 30 ft.
	Rear street on double frontage lot: 30 ft.
Minimum side yard	Principal structure: 15 ft. from interior side lot line
	Accessory structure: same as principal structure
	Open carport: 7 ft. from interior side lot line
Minimum rear yard	Principal structure: 25 ft. from interior rear lot line
	Accessory structure: 5 ft. from interior rear lot line
Maximum lot coverage	Residential units and their accessory structures shall not exceed a total of 25% lot coverage; other permitted and permissible buildings and their accessory structures shall not exceed a maximum of 35% lot coverage
Maximum structure height	50 ft. to the roof line (not applicable to church spires, belfries, cupolas, domes, utility and communication towers, chimneys, flag poles and antennae)
Visibility requirements	Corner lot: no obstruction between heights of 3 ft. and 10 ft. above finished street level within 25 ft. of intersection of street rights-of-way lines
	Private drive: no obstruction over height of 30 inches within 10 ft. of street
Off-street parking area requirements	See §§ 155.410*et seq.*
Signs	See §§ 155.425*et seq.*
Supplemental regulations:	See §§ 155.370*et seq.*; §§ 155.330*et seq.*; §§ 155.355*et seq.*

(Ord. 5.202, passed 11-24-1981) Penalty, see §155.999


Blythewood Rd
Mt Zion Baptist Church
Abney Hills Estates
by Essex Homes
St Andrew's
Lutheran Church
321
Mt Valley Rd
Fulmer Rd
MDL Private Equity
Swygert Creek
1000 ft
Leaflet | Map produced by RC GIS Dept, Map data © Richland County SC, Satellite basemap © Google

MAGNETIC

TAX MAP AND ZONING INFORMATION

TMS# R12400-02-04
ZONING = R-12

SITE INFORMATION

TOTAL AREA = 131.94 ACRES
TOTAL LOTS = 174
AVERAGE LOT SIZE = 18,097 SQ. FT.

SETBACK REQUIREMENTS

FRONT = 30'
SECONDARY FRONT = 30'
REAR = 25'
SIDE = 15'

ROAD LENGTHS

ROAD ONE = 2,443 LF
ROAD TWO = 4,504 LF
ROAD THREE = 591 LF
ROAD FOUR = 237 LF
ROAD FIVE = 392 LF
ROAD SIX = 2,609 LF
ROAD SEVEN = 213 LF
ROAD EIGHT = 327 LF

TOTAL LENGTH = 11,316 LF (2.14 MILES)

BUFFER ADJUSTMENT CHART

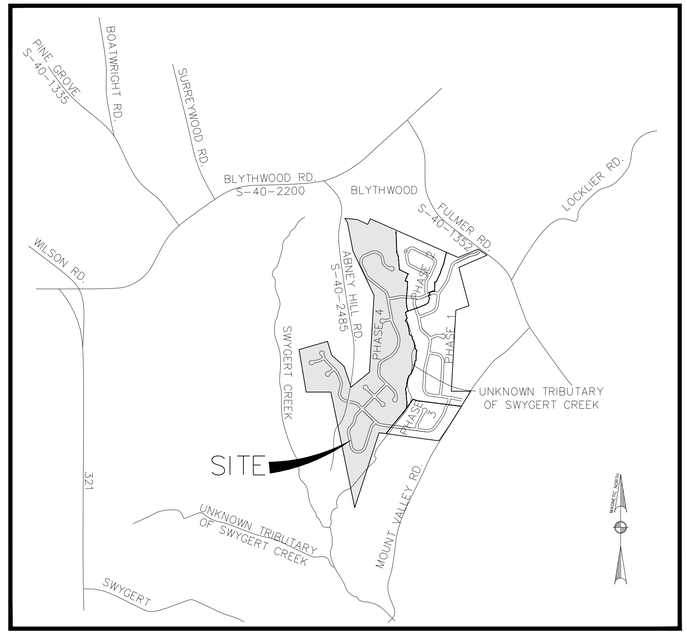
BUFFER (DO NOT DISTURB)

ADJUSTED AREA #1 = -545 SF
ADJUSTED AREA #2 = -1,293 SF
ADJUSTED AREA #3 = -4,449 SF
ADJUSTED AREA #4 = -3,366 SF
ADJUSTED AREA #5 = -1,557 SF
ADJUSTED AREA #6 = -14,246 SF
ADJUSTED AREA #7 = -11,686 SF
ADJUSTED AREA #8 = +23,771
ADJUSTED AREA #9 = +3,634
ADJUSTED AREA #10 = +4,620
ADJUSTED AREA #11 = +9,061
ADJUSTED AREA #12 = +4,975
ADJUSTED AREA #13 = +15,529
ADJUSTED AREA #14 = +34,248

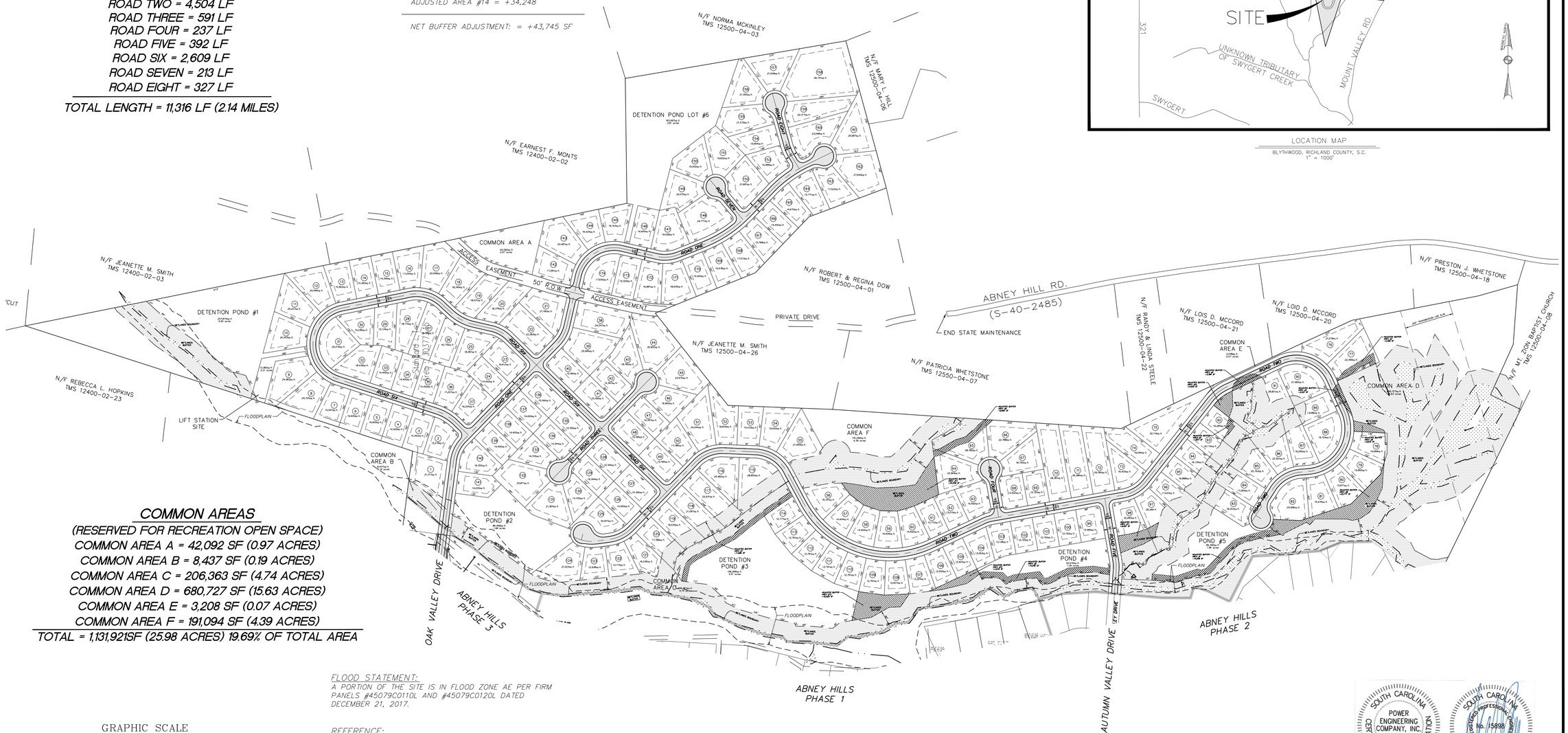
NET BUFFER ADJUSTMENT: = +43,745 SF

LEGEND

PROPERTY LINE
EXIST. CONTOURS 465
CENTER OF ROAD
PROP. CURB AND GUTTER
PROP. ASPHALT
PROP. PHASE LINE
PROP. WETLANDS BUFFER



LOCATION MAP
BLYTHWOOD, RICHLAND COUNTY, S.C.
1" = 1000'



COMMON AREAS

(RESERVED FOR RECREATION OPEN SPACE)
COMMON AREA A = 42,092 SF (0.97 ACRES)
COMMON AREA B = 8,437 SF (0.19 ACRES)
COMMON AREA C = 206,363 SF (4.74 ACRES)
COMMON AREA D = 680,727 SF (15.63 ACRES)
COMMON AREA E = 3,208 SF (0.07 ACRES)
COMMON AREA F = 191,094 SF (4.39 ACRES)
TOTAL = 1,131,9215F (25.98 ACRES) 19.69% OF TOTAL AREA

GRAPHIC SCALE
200 0 100 200 400 800
(IN FEET)
1 inch = 200 ft.

FLOOD STATEMENT:
A PORTION OF THE SITE IS IN FLOOD ZONE AE PER FIRM PANELS #45079C0110L AND #45079C0120L DATED DECEMBER 21, 2017.

REFERENCE:
ALL BOUNDARY, TOPOGRAPHIC AND WETLAND BOUNDARY INFORMATION SUPPLIED BY OWNER. POWER ENGINEERING COMPANY ASSUMES NO RESPONSIBILITY FOR THE BOUNDARY, TOPOGRAPHIC OR WETLANDS INFORMATION ON THE SURVEY.

WATER PROVIDER: CITY OF COLUMBIA, P.O. BOX 147, COLUMBIA, SC 29217, PHONE: (803) 545-3400

SEWER PROVIDER: PALMETTO UTILITIES, 1710 WOODCREEK FARMS ROAD, ELGIN, SC SC 29045, PHONE: (803) 699-2409, FAX: (803) 699-2410

OWNER: ESSEX HOMES SOUTHEAST INC., 100 EXECUTIVE CENTER DRIVE, SUITE 100, COLUMBIA, S.C. 29210, PHONE: (803) 356-8301, FAX: (803) 356-8303

ENGINEER: POWER ENGINEERING CO., INC., 3229 SUNSET BLVD, SUITE A, WEST COLUMBIA, S.C. 29169, (803) 216-8777 (FAX) 216-8070

SOUTH CAROLINA POWER ENGINEERING COMPANY, INC. No. C00195 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 15898 DAVID B. PARR, P.E.

02-18-2020

REVISIONS	BY
ADDED COMMON AREA CHART PER TOWN COMMENTS 02-18-2020	D.H.C.

PREPARED BY
POWER ENGINEERING COMPANY, INC.
ENGINEERS - PLANNERS
COLUMBIA, SC

ESSEX HOMES SOUTHEAST, INC.
ABNEY HILL ESTATES PHASE 4
OVERALL SKETCH PLAN

RICHLAND COUNTY, BLYTHEWOOD, SOUTH CAROLINA

DRAWN	P.E.C.
CHECKED	D.B.P.
DATE	01-27-2020
SCALE	1" = 200'
JOB NO.	3621
SHEET	1

OF 4 SHEETS

MAGNETIC

BUFFER ADJUSTMENT CHART

BUFFER (DO NOT DISTURB)

ADJUSTED AREA #1 = -545 SF
ADJUSTED AREA #2 = -1,293 SF
ADJUSTED AREA #3 = -4,449 SF
ADJUSTED AREA #4 = -3,366 SF
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ADJUSTED AREA #7 = -11,686 SF

BUFFER ADJUSTMENT CHART

ADJUSTED AREA #8 = +23,771
ADJUSTED AREA #9 = +3,634
ADJUSTED AREA #10 = +4,620
ADJUSTED AREA #11 = +9,061
ADJUSTED AREA #12 = +4,975
ADJUSTED AREA #13 = +15,529
ADJUSTED AREA #14 = +34,248

NET BUFFER ADJUSTMENT: = +43,745 SF

LEGEND

PROPERTY LINE
EXIST. CONTOURS 465
CENTER OF ROAD
PROP. CURB AND GUTTER
PROP. ASPHALT
PROP. WETLANDS BUFFER

TMS 12500-04-01
ABNEY HILL RD. (S-40-2485)
END STATE MAINTENANCE
PRIVATE DRIVE
N/F PATRICIA WHETSTONE TMS 12550-04-07
N/F RANDY & LINDA STEELE TMS 12500-04-22
N/F LOIS D. MCCORD TMS 12500-04-21
N/F LOID D. MCCORD TMS 12500-04-20
N/F MT. ZION BAPTIST TMS 12500-04-
N/F GLADYS B. SM TMS 12500-04-1
COMMON AREA E 3,208sq.ft. 0.07 acres
COMMON AREA F 191,094sq.ft. 4.39 acres
COMMON AREA D 460,727sq.ft. 10.63 acres
200' TRANSMISSION LINE R/W
ROAD TWO
ROAD FOUR
ROAD FIVE
DETENTION POND #4 60,416sq.ft. 1.39 acres
DETENTION POND #5 85,590sq.ft. 1.96 acres
WETLANDS BOUNDARY
WETLANDS BUFFER
FLOODPLAIN
ABNEY HILLS PHASE 1
ABNEY HILLS PHASE 2
AUTUMN VALLEY DRIVE
MATCHLINE SHEET 3
MATCHLINE SHEET 2

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GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

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02-18-2020

REVISIONS	BY

PREPARED BY
POWER ENGINEERING COMPANY, INC.
ENGINEERS - PLANNERS
COLUMBIA, SC

ESSEX HOMES SOUTHEAST, INC.
ABNEY HILL ESTATES PHASE 4
SKETCH PLAN
RICHLAND COUNTY, BLYTHEWOOD, SOUTH CAROLINA

DRAWN	P.E.C.
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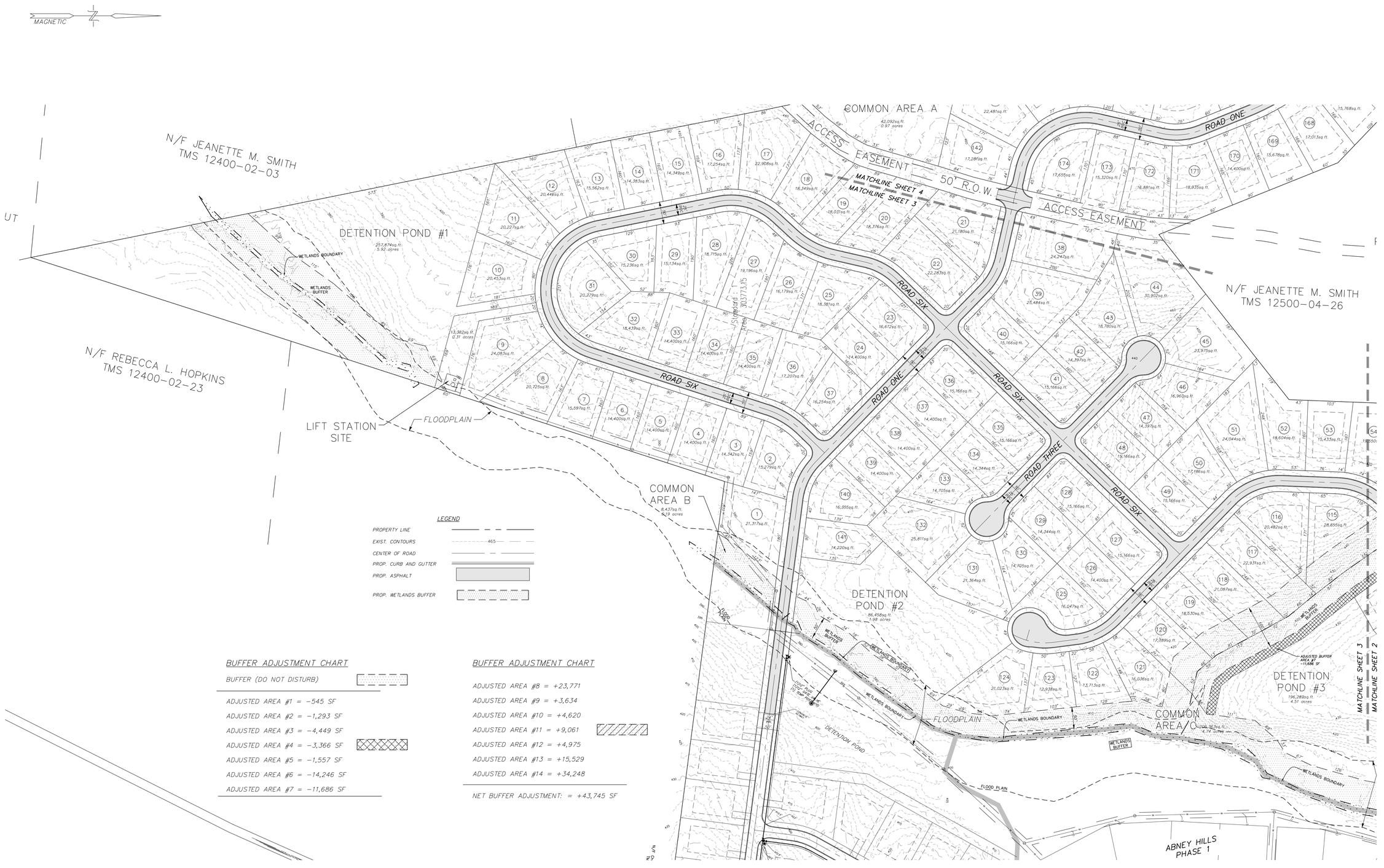
DATE	01-27-2020
SCALE	1" = 100'
JOB NO.	3621
SHEET	2
OF	4 SHEETS



LEGEND

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CENTER OF ROAD	
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02-18-2020

REVISIONS	BY

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ENGINEERS - PLANNERS
COLUMBIA, SC

ESSEX HOMES SOUTHEAST, INC.
ABNEY HILL ESTATES PHASE 4
SKETCH PLAN

RICHLAND COUNTY, BLYTHEWOOD, SOUTH CAROLINA

DRAWN	P.E.C.
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DATE	01-27-2020
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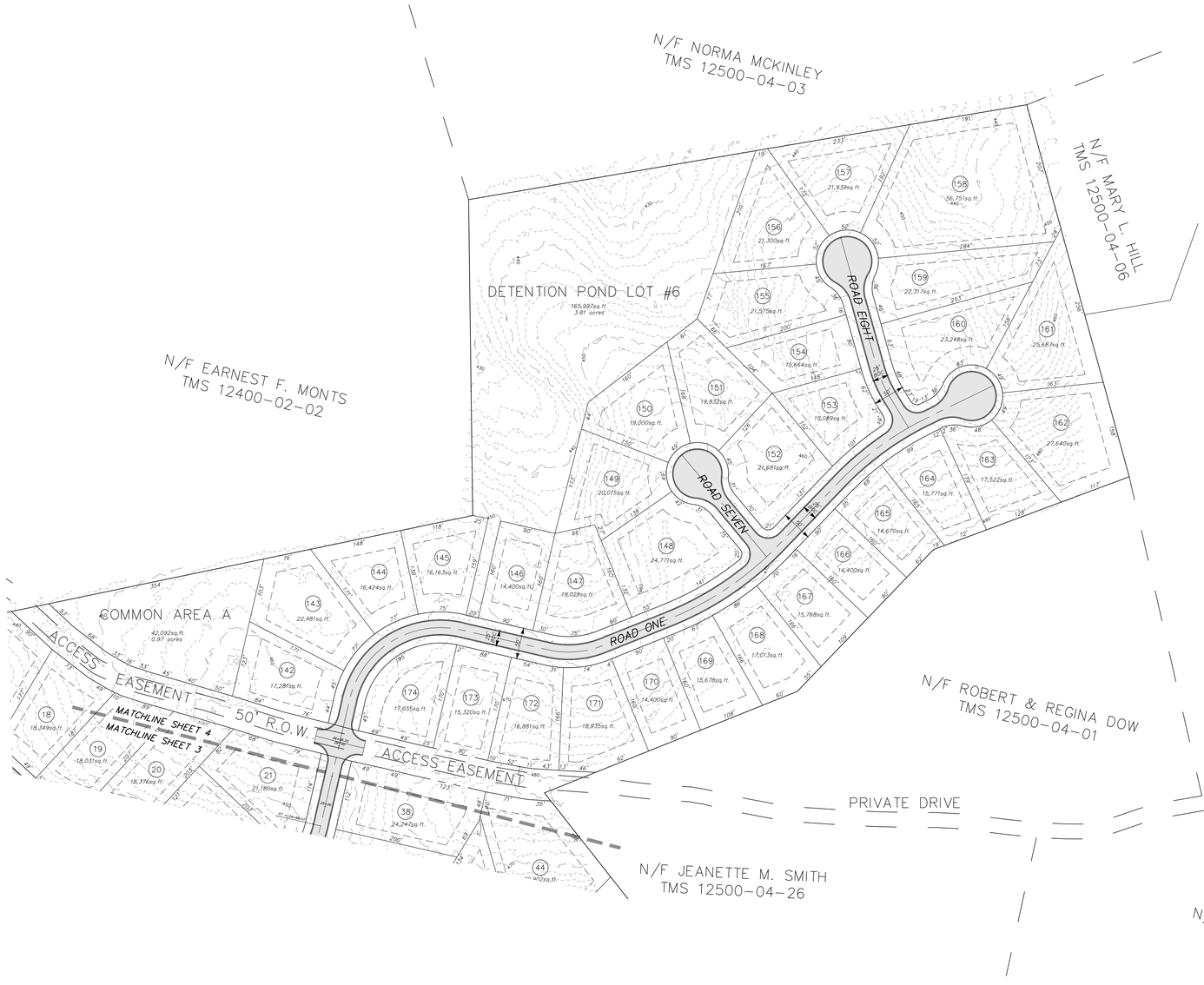
JOB NO.	3621
SHEET	3

OF 4 SHEETS

MAGNETIC



LEGEND

- PROPERTY LINE
- EXIST. CONTOURS 465
- CENTER OF ROAD
- PROP. CURB AND GUTTER
- PROP. ASPHALT
- PROP. WETLANDS BUFFER

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POWER ENGINEERING COMPANY, INC.
No. C00195
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 15898
DAVID B. PARK, JR.

02-18-2020

REVISIONS	BY

PREPARED BY
POWER ENGINEERING COMPANY, INC.
ENGINEERS - PLANNERS
COLUMBIA, SC

ESSEX HOMES SOUTHEAST, INC.
ABNEY HILL ESTATES PHASE 4
SKETCH PLAN

RICHLAND COUNTY, BLYTHEWOOD, SOUTH CAROLINA

DRAWN	P.E.C.
CHECKED	D.B.P.
DATE	01-27-2020
SCALE	1" = 100'
JOB NO.	3621
SHEET	4
OF	4 SHEETS

ABNEY HILLS PHASE 3
TRAFFIC IMPACT STUDY
Blythewood, South Carolina

Prepared for
Essex Land Development

Prepared by

Sprague & Sprague
Consulting Engineers

November 11, 2018

Signature Page
ABNEY HILLS TRAFFIC IMPACT STUDY
Blythewood, South Carolina
November 11, 2018

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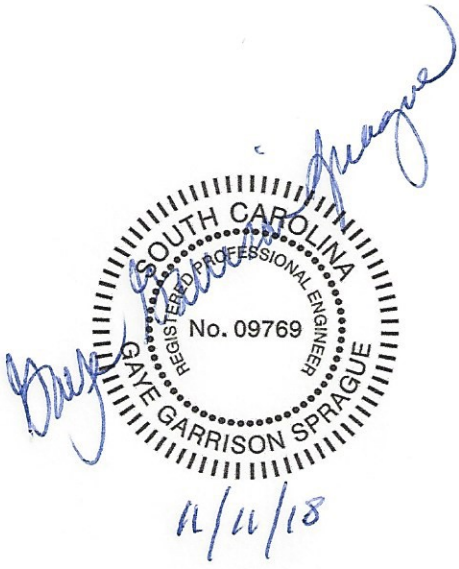
Subject **Page**



Sprague & Sprague
Consulting Engineers
Post Office Box 9192
Greenville, South Carolina 29604
864/346-3106

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ABNEY HILLS PHASE 3 TRAFFIC IMPACT STUDY
Blythewood, South Carolina
November 11, 2018

Executive Summary

Abney Hills Phase 3 is a residential development of 33 single family homes which is part of a larger development located on the west side of Fulmer Road in Blythewood. As shown in Appendix A in the Phase 3 site plan and the overall development sketch, Phase 3 will have access on Valley Estates Drive which is an existing street in Phase 1. Phase 1 has 90 lots and is complete. Phase 2 has 52 lots, and construction is underway. Future phases across the creek have the potential for 192 lots. Build out of Phase 3 is expected by 2021, and build out of the future phases (referred to as full build out) is expected by 2024. The South Carolina Department of Transportation (SCDOT) has requested that the completion of Ashley Oaks located across Fulmer Road be included in the no build volumes in this study. The remaining phases of Ashley Oaks are known as Phases 8 and 9 and include 159 lots.

The findings of this study are:

- *Blythewood Road/Fulmer Road* – SCDOT guidelines indicate that a westbound left turn lane and an eastbound right turn lane should be considered at this intersection. The volumes which indicate the consideration of the westbound left are 2022 no build. Therefore, the lane is not the responsibility of this project. The volumes which indicate the consideration of the eastbound right are 2025 build. Because there may be right of way or other issues that impede the installation of these lanes, the capacity analyses were conducted with existing geometry. The result of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes. **In summary, no improvements need to be considered for Phase 3 (2022 build). For build out of Abney Hills (2025 build) an eastbound right turn lane should be considered, but the intersection can operate at an acceptable Level of Service without the lane and 2025 build volumes.**
- *Fulmer Road/Abney Estates Drive* – SCDOT guidelines indicate that a southbound right turn lane should be considered at this intersection. The volumes which indicate the consideration of this lane are 2025 build. Because there may be right of way or other issues that impede the installation of this lane, the capacity analyses were conducted with existing geometry. The results of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes. **In summary, no improvements need to be considered for Phase 3 (2022 build). For build out of Abney Hills (2025 build) a southbound right turn lane should be considered, but the intersection can operate at an acceptable Level of Service without the lane and 2025 build volumes.**
- *Fulmer Road/Mount Valley Road* – This intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes**. In summary, no improvements need to be considered at this intersection.**
- *Fulmer Road/Turkey Farm Road* – SCDOT guidelines indicate that a southbound left turn lane should be considered at this intersection. The volumes which indicate the consideration of the southbound left are 2025 build. Because there may be right of way or other issues that impede the installation of this lane, the capacity analyses were conducted with existing geometry. The results of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes**. In summary, no improvements need to be considered for Phase 3 (2022 build). For build out of Abney Hills (2025 build) a southbound left turn lane should be considered, but the intersection can operate at an acceptable Level of Service without the lane and 2025 build volumes.**

Introduction

Abney Hills Phase 3 is a residential development of 33 single family homes which is part of a larger development located on the west side of Fulmer Road in Blythewood. As shown in Appendix A in the Phase 3 site plan and the overall development sketch, Phase 3 will have access on Valley Estates Drive which is an existing street in Phase 1. Phase 1 has 90 lots and is complete. Phase 2 has 52 lots, and construction is underway. Future phases across the creek have the potential for 192 lots. Build out of Phase 3 is expected by 2021, and build out of the future phases (referred to as full build out) is expected by 2024.

The South Carolina Department of Transportation (SCDOT) has requested that the completion of Ashley Oaks located across Fulmer Road be included in the no build volumes in this study. The remaining phases of Ashley Oaks are known as Phases 8 and 9 and include 159 lots.

Purpose of Study

The purpose of this study is to meet the requirements of the South Carolina Department of Transportation in the encroachment permit process. The study intersections are:

- Blythewood Road (S-2200)/Fulmer Road (S-1352)
- Fulmer Road/Abney Estates Drive (local)
- Fulmer Road/Mount Valley Road (local at site)
- Fulmer Road/Turkey Farm Road (S-1694)

The study periods are the traditional morning and afternoon peak periods. The study year is build out plus one year. Build out is planned by 2021. Therefore, the study year is 2022. Full build out is expected by 2024. Therefore, the second study year is 2025.

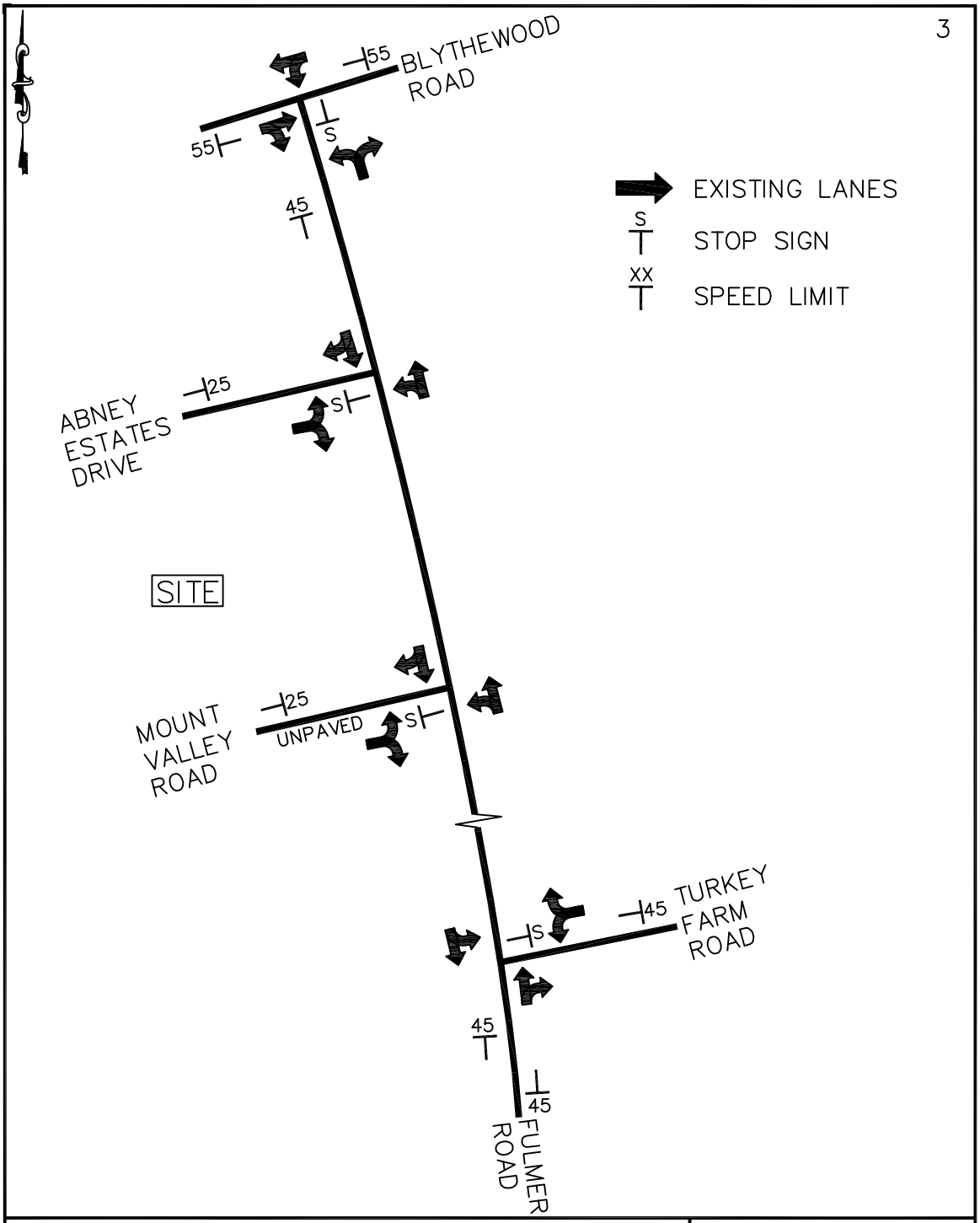
Existing Conditions

All roads at the study intersections are two-lane roads, and traffic control at all of the study intersections is side street stop control. Speed limits are 55 miles per hour on Blythewood Road, 45 on Fulmer and Turkey Farm, and 25 on Abney Estates Drive and Mount Valley Road. (Speed limit signs are not currently posted on Mount Valley, but 25 miles per hour will be used in this study.) Existing conditions are illustrated in Figure 1.

Turning movement counts were conducted at the study intersections in August 2018. The counts were conducted during the time periods of 6:30 – 8:30 a.m. and 4:30 – 6:30 p.m. and are included in Appendix B. The 2018 existing peak hour traffic volumes are shown in Figure 2.

2022 No Build Traffic

No build traffic is the traffic that would be at the study intersections in the future without the proposed development. No build traffic is made up of existing traffic and any increase or decrease in volumes which might occur from general growth trends in the surrounding area or from nearby specific developments. One way to estimate background traffic growth is to examine historical SCDOT traffic volumes. As shown in Table 1, SCDOT has annual traffic count stations at two locations near the study intersections. Between 2009 and 2017, traffic volumes went up and down as did volumes at many stations across South Carolina due to the economic downturn at the beginning of this period. It is reasonable to use the growth that occurred between 2011 and 2017 as representative of recent traffic volume growth. On Fulmer, the growth in that period was three percent per year. On Blythewood, the growth was six percent per year. Because only one study intersection includes



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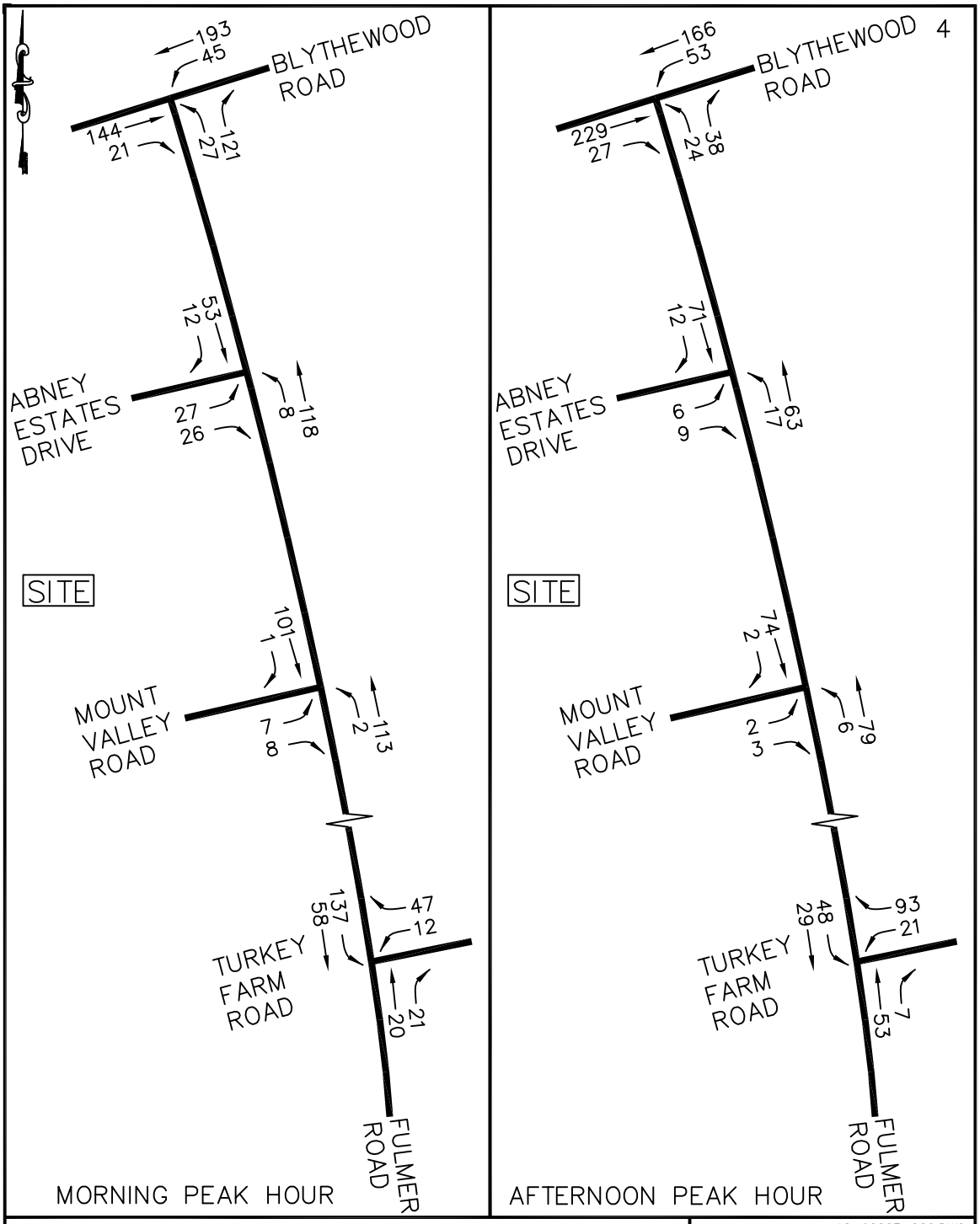
EXISTING CONDITIONS

Figure 1

11/1/18

ABNEY HILLS PHASE 3 TRAFFIC IMPACT STUDY
BLYTHEWOOD, SOUTH CAROLINA

Sprague & Sprague
Consulting Engineers



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2018 EXISTING PEAK HOUR TRAFFIC VOLUMES

Figure 2

11/1/18

ABNEY HILLS PHASE 3 TRAFFIC IMPACT STUDY
BLYTHEWOOD, SOUTH CAROLINA

Sprague & Sprague
Consulting Engineers

Blythewood and because trips from known developments will already be included in background traffic, three percent per year is a reasonable growth rate and will be used in this study. The 2018 existing peak hour volumes were increased by three percent per year for four years, and the background growth portion of the 2022 no build traffic is shown in Figure 3.

Table 1
HISTORICAL SCDOT TRAFFIC COUNTS
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Location (Station #)	2017	2016	2015	2014	2013	2012	2011	2010	2009
Fulmer Road S of Turkey Farm (#413)	900	750	850	950	750	750	750	750	900
Blythewood Road W of Fulmer (#799)	4000	3200	3000	2300	3000	2900	2800	2700	2900

In addition to this background traffic growth, the new trips from Phase 2 of Abney Hills and from Phases 8 and 9 of Ashley Oaks are also included in 2022 no build traffic. All trip generation information was taken from the 10th Edition of Trip Generation, Institute of Transportation Engineers. All trips will be new to the street network.

- Single Family Detached Housing (Land Use Code 210) – independent variable is dwelling unit
    - Morning Peak Hour of Adjacent Street Traffic: T=0.71X+4.80
        - 25% enter, 75% exit
    - Afternoon Peak Hour of Adjacent Street Traffic: LnT=0.96LnX+0.20
        - 63% enter, 37% exit

As discussed earlier, in Abney Hills the remaining lots are:

- Phase 2 = 52 (Several houses have already been built, but it was assumed they would cancel out the two or three lots still remaining or being used as a model in Phase 1) – 19 percent of total
- Phase 3 = 33 – 12 percent of total
- Future = 192 – 69 percent of toal
- Total = 277

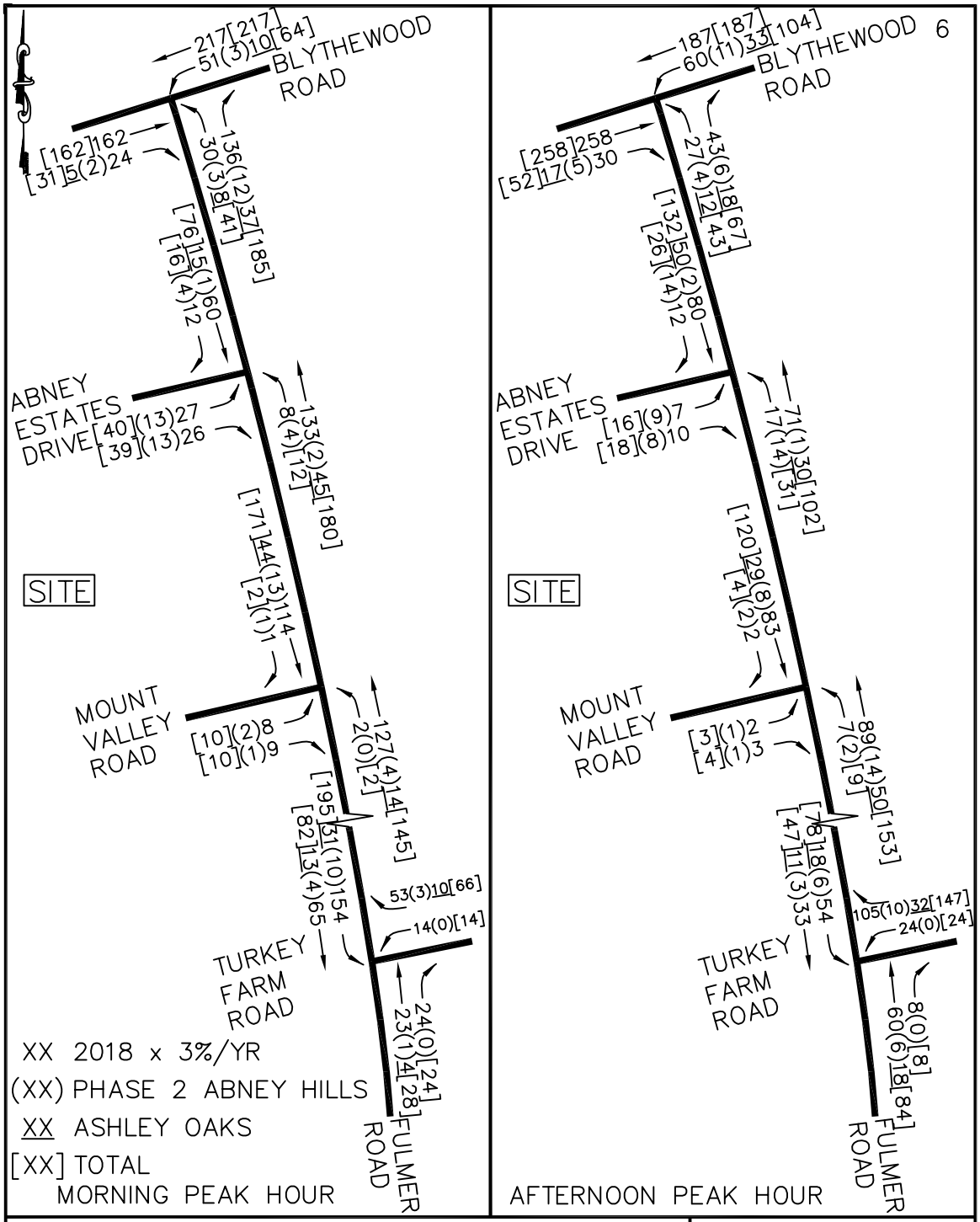
Trip generation for these 277 lots is 201 in the morning with 50 entering and 151 exiting and 270 in the afternoon with 170 entering and 100 exiting. The trip generation apportioned to each phase is:

- Phase 2
    - Morning peak hour – 38 trips; 9 enter and 29 exit
    - Afternoon peak hour – 51 trips; 32 enter and 19 exit
- Phase 3
    - Morning peak hour – 24 trips; 6 enter and 18 exit
    - Afternoon peak hour – 33 trips; 21 enter and 12 exit
- Future
    - Morning peak hour – 139 trips; 35 enter and 104 exit
    - Afternoon peak hour – 186 trips; 117 enter and 69 exit

Trip generation for the for the remaining 159 lots in Phases 8 and 9 of Ashley Oaks is:

- Morning peak hour = 118; 29 enter and 89 exit
- Afternoon peak hour = 159; 100 enter and 59 exit

Using the trip distribution discussed in the next section of this report, the peak hour trips for Phase 2 of Abney Hills and Phases 8 and 9 of Ashley Oaks were assigned to the study intersections and are shown in Figure 3.



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2022 NO BUILD PEAK HOUR TRAFFIC VOLUMES

Figure 3

11/1/18

ABNEY HILLS PHASE 3 TRAFFIC IMPACT STUDY
BLYTHEWOOD, SOUTH CAROLINA

Sprague & Sprague
Consulting Engineers

Proposed Site

Trip Generation – Trip generation for Phase 3 was estimated in the previous section of this report and is shown in Table 2.

Table 2
TRIP GENERATION
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Use – Size	Morning Peak Hour			Afternoon Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Single Family Detached Housing – 33 units	6	18	24	21	12	33

Trip Distribution – The orientation of turns into and out of Abney Estates Drive and Mount Valley Road are 52 percent to/from the north and 48 percent to/from the south. Rounding these percentages, this trip distribution was used in this study:

- 50 percent to/from the north
- 50 percent to/from the south

Trip Assignment - Peak hour site trips were assigned to the study intersections using the distribution above. At intersections not providing direction access to the sites, trips were assigned to turning movements in the same proportion as existing volumes. Peak hour site trips are shown in Figure 4.

2022 Build Traffic

Peak hour site trips were added to the 2022 no build peak hour traffic volumes to obtain the 2022 build peak hour traffic volumes shown in Figure 5.

2025 Build Traffic

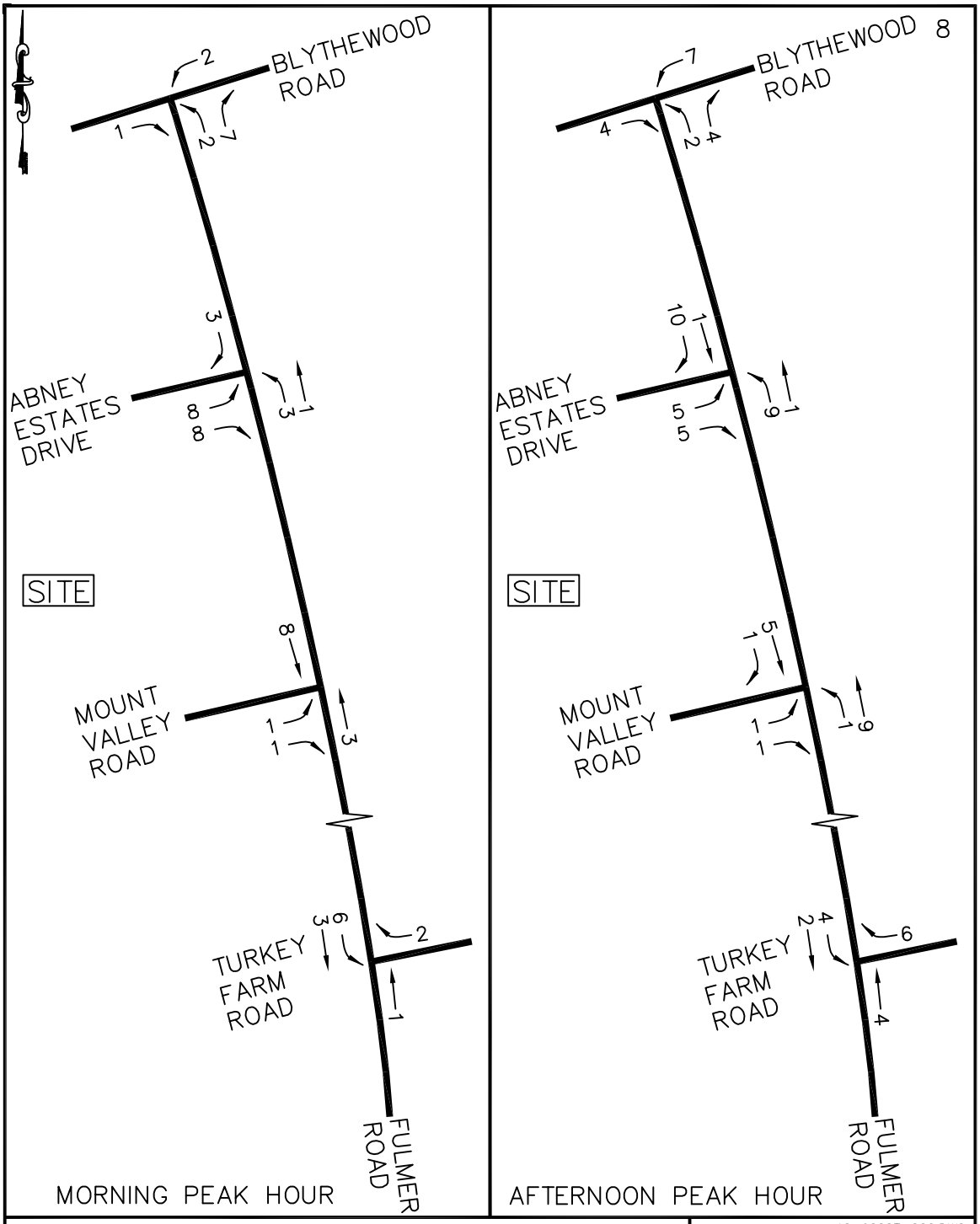
To obtain 2025 build peak hour traffic volumes, these volumes were combined:

- 2022 build traffic volumes
- Abney Hills future phase site trips
- An increase in 2022 background volumes by another three percent per year for three years

2025 build peak hour traffic volumes are shown in Figure 6.

Need for Turn Lanes

In general, it is desirable to have a left turn lane on the major street at a driveway or side street so that vehicles stopped to turn left have a place to store outside the through lane. This arrangement reduces the potential for rear end collisions. The provision of a right turn lane eliminates the delay that can result for through vehicles as the right turn vehicles slow to make the turn. Right turn lanes also reduce the potential for rear end collisions. The disadvantages of the additional lanes besides the construction cost are the right-of-way requirements, maintenance costs, and the additional run-off caused by a paved surface as well as the accident potential during construction.



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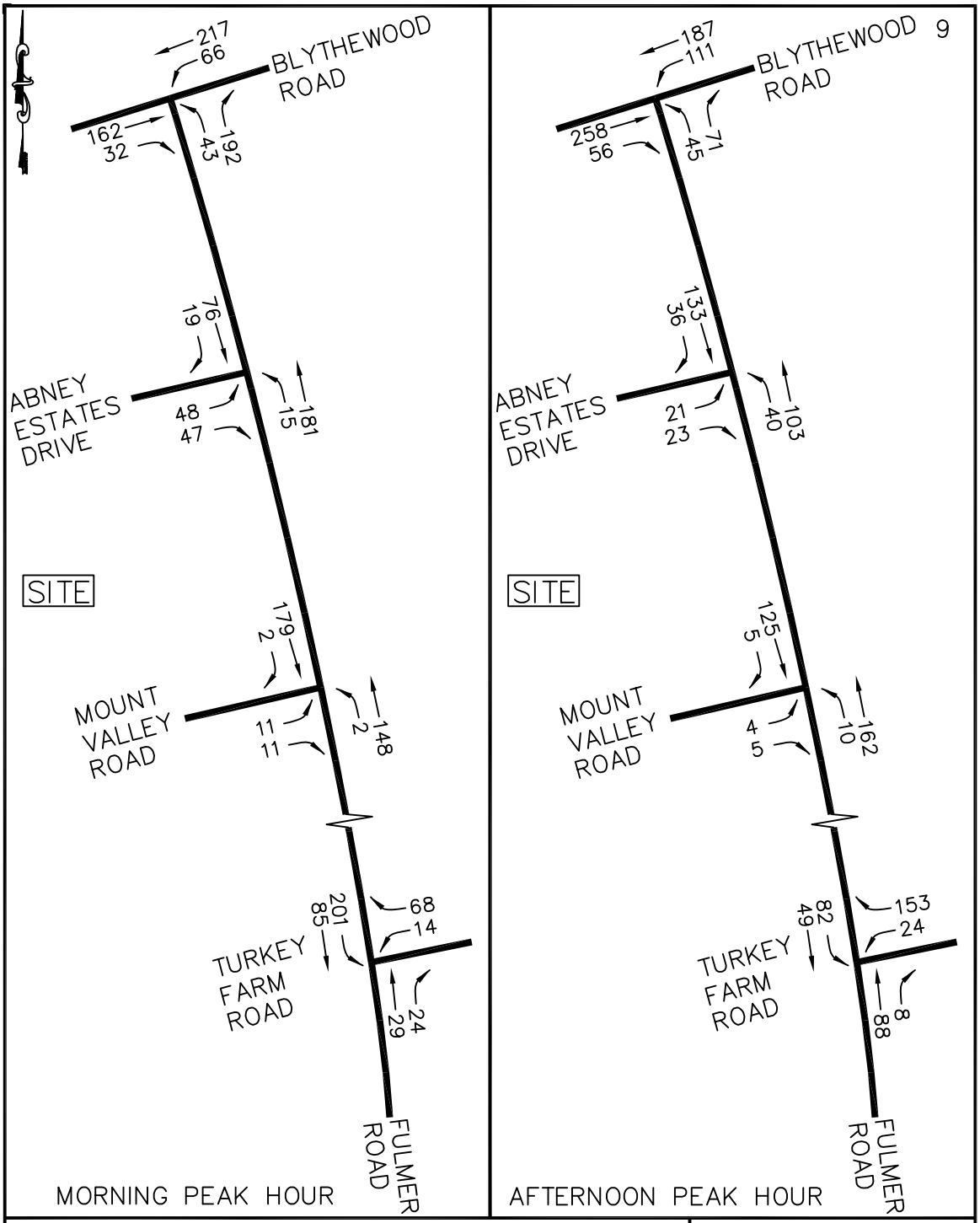
PEAK HOUR SITE TRIPS

Figure 4

11/1/18

ABNEY HILLS PHASE 3 TRAFFIC IMPACT STUDY
BLYTHEWOOD, SOUTH CAROLINA

Sprague & Sprague
Consulting Engineers



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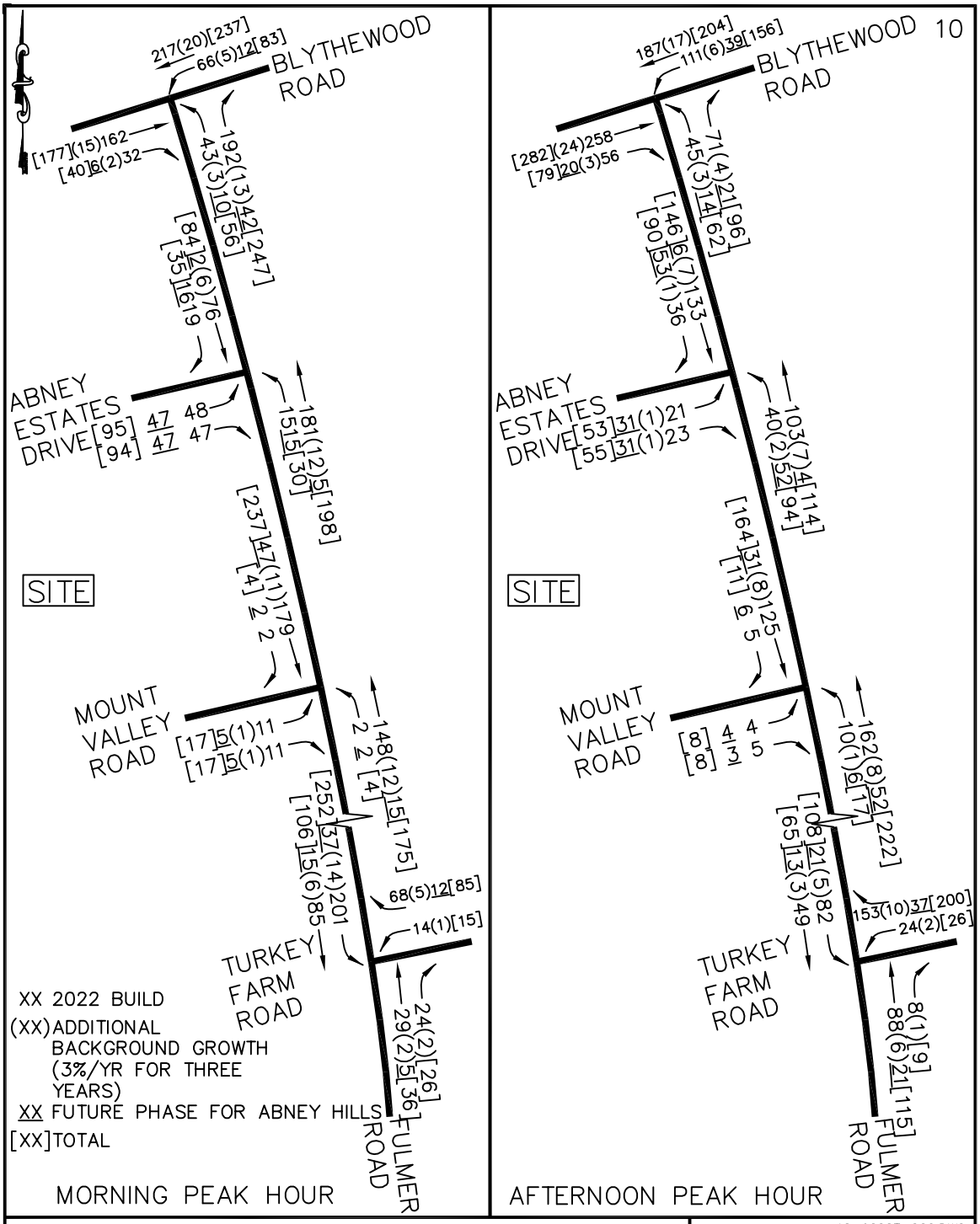
2022 BUILD PEAK HOUR TRAFFIC VOLUMES

Figure 5

11/1/18

ABNEY HILLS PHASE 3 TRAFFIC IMPACT STUDY
BLYTHEWOOD, SOUTH CAROLINA

Sprague & Sprague
Consulting Engineers



2025 BUILD PEAK HOUR TRAFFIC VOLUMES	18-022ST-GGS.DWG Figure 6 11/1/18
ABNEY HILLS PHASE 3 TRAFFIC IMPACT STUDY BLYTHEWOOD, SOUTH CAROLINA	Sprague & Sprague Consulting Engineers

Because there are both advantages and disadvantages to the additional lanes, the lanes should be installed where the advantages outweigh the disadvantages. The SCDOT Highway Design Manual, 2017 offers guidelines for a two-lane highway with a speed of 45 miles per hour: Figure 9.5F - Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on Two-Lane Highways (45 MPH) and for a two-lane highway with a speed of 55 miles per hour: Figure 9.5D – Volume Guidelines for Left-Turn Lanes at Unsignalized Intersections on Two-Lane Highways (55 mph). These graphs can be used as guidelines in this case and are included in Appendix C. The 2022 no build, 2022 build, and 2025 build volumes were plotted on the graphs and indicate that:

- A left turn lane should be considered westbound on Blythewood at Fulmer, but 2022 no build volumes indicate consideration. Therefore, this lane is not the responsibility of this project.
- A left turn lane should be considered southbound on Fulmer at Turkey Farm Road. The volumes which indicate the consideration are 2025 build.

The SCDOT Design Manual also offers Figure 9.5A – Guidelines for Right-Turn Lanes at Unsignalized Intersections on Two-Lane Highways. The 2022 no build, 2022 build, and 2025 build volumes were plotted on this graph and indicate that:

- A right turn lane should be considered eastbound on Blythewood at Fulmer. The volumes indicating this consideration are 2025 build.
- A right turn lane should be considered southbound on Fulmer at Abney Estates. The volumes indicating this consideration are 2025 build.

Traffic Operations

Synchro 9.1 is the software used for the traffic operations analyses in this study. The methodology used for assessing the quality of traffic flow is the methodology described in the 2010 Highway Capacity Manual (HCM), Transportation Research Board. In general, the HCM expresses quality of flow in terms of Level of Service (LOS). The type of transportation facility which was examined in this study is the unsignalized intersection. The criteria for unsignalized intersection LOS is shown in Table 3. The variable used is control delay. This is the delay attributed to traffic control measures and includes deceleration delay, queue move-up time, stopped delay, and final acceleration delay. SCDOT uses a guideline of roadway LOS C or no change in LOS if the baseline LOS is below C as not requiring mitigation. It is not unusual for an individual movement, especially on a side street at an unsignalized intersection, to experience LOS E or F during the peak hour.

Table 3
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Level of Service	Control Delay Range (seconds/vehicle)
A	<10
B	>10 and <15
C	>15 and <25
D	>25 and <35
E	>35 and <50
F	>50

The study intersections were analyzed for morning and afternoon peak hours with existing, 2022 no build, 2022 build, and 2025 build traffic volumes. Percentages of heavy vehicles, peak hour factors, and pedestrians were taken from existing counts. Lane widths were measured on aerials. From field observations, it appears that grades are generally flat. Capacity analysis printouts are included in Appendix D.

Although four different turns meet SCDOT "consider turn lane" guidelines, there are likely to be right of way and other impediments to the installation of these lanes. Therefore, all analyses at the study intersections were conducted without the lanes to determine if the intersections can operate acceptably without them. Although the analyses do not include any turn lanes for which estimated queues are needed to recommend storage lengths, Simtraffic was run for each set of volumes for information, and the printouts are included in Appendix D.

Blythewood Road/Fulmer Road – SCDOT guidelines indicate that a westbound left turn lane and an eastbound right turn lane should be considered at this intersection. The volumes which indicate the consideration of the westbound left are 2022 no build. Therefore, the lane is not the responsibility of this project. The volumes which indicate the consideration of the eastbound right are 2025 build. Because there may be right of way or other issues that impede the installation of these lanes, the capacity analyses were conducted with existing geometry. As shown in Table 4, the results of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes.

Table 4
CAPACITY ANALYSES RESULTS – UNSIGNALIZED INTERSECTION – EXISTING GEOMETRY
BLYTHEWOOD ROAD/FULMER ROAD
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Movement	Level of Service/Delay (seconds/vehicle)			
	Existing	2022 No Build	2022 Build	2025 Build
Morning Peak Hour				
Westbound - Left	A/8	A/8	A/8	A/8
Northbound - Left/right	B/11	B/13	B/13	C/15
Afternoon Peak Hour				
Westbound - Left	A/8	A/8	A/8	A/9
Northbound - Left/right	B/11	B/14	B/14	C/18

Notes:
- Blythewood is east-west. Fulmer is north-south.

Fulmer Road/Abney Estates Drive – SCDOT guidelines indicate that a southbound right turn lane should be considered at this intersection. The volumes which indicate the consideration of this lane are 2025 build. Because there may be right of way or other issues that impede the installation of this lane, the capacity analyses were conducted with existing geometry. As shown in Table 5, the results of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes.

Table 5
CAPACITY ANALYSES RESULTS – UNSIGNALIZED INTERSECTION – EXISTING GEOMETRY
FULMER ROAD/ABNEY ESTATES DRIVE
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Movement	Level of Service/Delay (seconds/vehicle)			
	Existing	2022 No Build	2022 Build	2025 Build
Morning Peak Hour				
Eastbound – Left/right	A/10	B/10	B/11	B/13
Northbound – Left	A/7	A/7	A/8	A/8
Afternoon Peak Hour				
Eastbound – Left/right	A/9	B/10	B/10	B/13
Northbound – Left	A/7	A/8	A/8	A/8

Notes:
- Abney Estates is east-west. Fulmer is north-south.

Fulmer Road/Mount Valley Road – As shown in Table 6, this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes.

Table 6
CAPACITY ANALYSES RESULTS – UNSIGNALIZED INTERSECTION – EXISTING GEOMETRY
FULMER ROAD/MOUNT VALLEY ROAD
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Movement		Level of Service/Delay (seconds/vehicle)			
		Existing	2022 No Build	2022 Build	2025 Build
Morning Peak Hour					
Eastbound –	Left/right	A/10	B/10	B/10	B/11
Northbound –	Left	A/7	A/7	A/8	A/8
Afternoon Peak Hour					
Eastbound –	Left/right	A/9	A/10	A/10	B/11
Northbound –	Left	A/7	A/8	A/8	A/8

Notes:
Mount Valley is east-west. Fulmer is north-south.

Fulmer Road/Turkey Farm Road – SCDOT guidelines indicate that a southbound left turn lane should be considered at this intersection. The volumes which indicate the consideration of the southbound left are 2025 build. Because there may be right of way or other issues that impede the installation of this lane, the capacity analyses were conducted with existing geometry. As shown in Table 7, the results of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes.

Table 7
CAPACITY ANALYSES RESULTS – UNSIGNALIZED INTERSECTION – EXISTING GEOMETRY
FULMER ROAD/TURKEY FARM ROAD
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Movement		Level of Service/Delay (seconds/vehicle)			
		Existing	2022 No Build	2022 Build	2025 Build
Morning Peak Hour					
Westbound –	Left/right	A/10	B/10	B/10	B/11
Southbound –	Left	A/8	A/8	A/8	A/8
Afternoon Peak Hour					
Westbound –	Left/right	A/9	B/10	B/10	B/11
Southbound –	Left	A/7	A/8	A/8	A/8

Notes:
- Turkey Farm is east-west. Fulmer is north-south.

Conclusions and Recommendations

- *Blythewood Road/Fulmer Road* – SCDOT guidelines indicate that a westbound left turn lane and an eastbound right turn lane should be considered at this intersection. The volumes which indicate the consideration of the westbound left are 2022 no build. Therefore, the lane is not the responsibility of this project. The volumes which indicate the consideration of the eastbound right are 2025 build. Because there may be right of way or other issues that impede the installation of these lanes, the capacity analyses were conducted with existing geometry. The results of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes.

- *Fulmer Road/Abney Estates Drive* – SCDOT guidelines indicate that a southbound right turn lane should be considered at this intersection. The volumes which indicate the consideration of this lane are 2025 build. Because there may be right of way or other issues that impede the installation of this lane, the capacity analyses were conducted with existing geometry. The results of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes.

- *Fulmer Road/Mount Valley Road* – This intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes.

- *Fulmer Road/Turkey Farm Road* – SCDOT guidelines indicate that a southbound left turn lane should be considered at this intersection. The volumes which indicate the consideration of the southbound left are 2025 build. Because there may be right of way or other issues that impede the installation of this lane, the capacity analyses were conducted with existing geometry. The results of those analyses indicate that this intersection currently operates acceptably and will continue to do so with existing geometry and 2022 no build, 2022 build, and 2025 build volumes.

Appendix A

SITE PLAN AND OTHER DEVELOPMENT INFORMATION

MAGNETIC

ABNEY HILL ESTATES FUTURE PHASE

WETLANDS BUFFER

WETLANDS BOUNDARY

WETLANDS BUFFER

WETLANDS BOUNDARY

FLOOD PLAIN

FLOOD PLAIN

DETENTION POND
100,602 sq.ft.

VALLEY OAKS DRIVE

ROAD "A" ONE

17 13,050 sq.ft.
16 13,050 sq.ft.
15 13,050 sq.ft.
14 13,050 sq.ft.
13 13,050 sq.ft.
12 13,050 sq.ft.
11 13,050 sq.ft.
10 14,478 sq.ft.
9 19,311 sq.ft.
8 19,311 sq.ft.
7 14,568 sq.ft.
6 13,894 sq.ft.
5 14,687 sq.ft.
4 15,686 sq.ft.
3 18,653 sq.ft.
2 17,379 sq.ft.
1 21,467 sq.ft.
18 17,807 sq.ft.
19 15,184 sq.ft.
20 14,210 sq.ft.
21 12,964 sq.ft.
22 17,809 sq.ft.
23 19,870 sq.ft.
24 24,839 sq.ft.
25 15,808 sq.ft.
26 15,447 sq.ft.
27 16,261 sq.ft.
28 15,152 sq.ft.
29 16,492 sq.ft.
30 15,796 sq.ft.
31 16,154 sq.ft.
32 16,868 sq.ft.
33 17,489 sq.ft.

15,091 sq.ft.

N/F CHARLES H. MOOREFIELD
TMS 12400-02-22

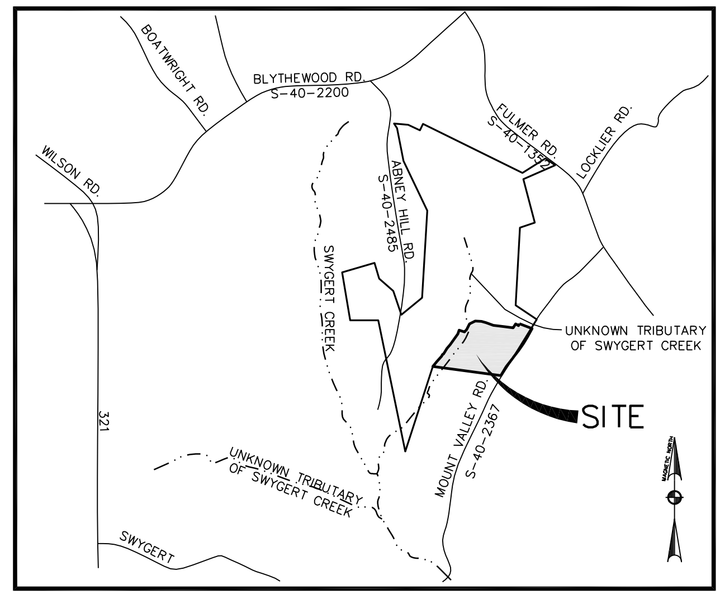
59 58 57 56 55 54 53 52 51 79 78 77 47 48 49

ABNEY HILL ESTATES PHASE 1

WINDING BROOK LOOP

VALLEY ESTATES DRIVE

MOUNT VALLEY ROAD (S-40-2367)



LOCATION MAP

NEAR BLYTHEWOOD, RICHLAND COUNTY, S.C.
1" = 2000'

TAX MAP AND ZONING INFORMATION
TMS #R12400-02-04
ZONING = R-12

SITE INFORMATION
TOTAL AREA = 17.39 ACRES
TOTAL LOTS = 33
AVERAGE LOT SIZE = 16,027 SF

SETBACK REQUIREMENTS
FRONT = 30'
SECONDARY FRONT = 30'
REAR = 25'
SIDE = 15'

ROAD LENGTH
VALLEY OAKS DRIVE = 1,437.28 LF
ROAD ONE = 481.73 LF
TOTAL LENGTH = 1,919.01 LF (0.36 MILES)

LEGEND

PROPERTY LINE
EXIST. CONTOURS 465
CENTER OF ROAD
PROP. CURB AND GUTTER
PROP. ASPHALT
PROP. PHASE LINE
PROP. WETLANDS BUFFER

60 0 30 60 120 240
SCALE : 1 inch = 60 ft.

OWNER: ESSEX HOMES SOUTHEAST, INC.
c/o FRANK BERRY
120 CROMER ROAD
LEXINGTON S.C. 29073
PHONE: (803) 356-8301
FAX: (803) 356-8303
fberry@essexhomes.net

ENGINEER: POWER ENGINEERING COMPANY, INC.
3229 SUNSET BLVD., SUITE A
WEST COLUMBIA, S.C. 29169
PHONE: (803) 216-8777
FAX: (803) 216-8070
dparr@powereng.net

SOUTH CAROLINA
POWER ENGINEERING COMPANY, INC.
No. C00195
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 15898
DAVID B. PARR, JR.

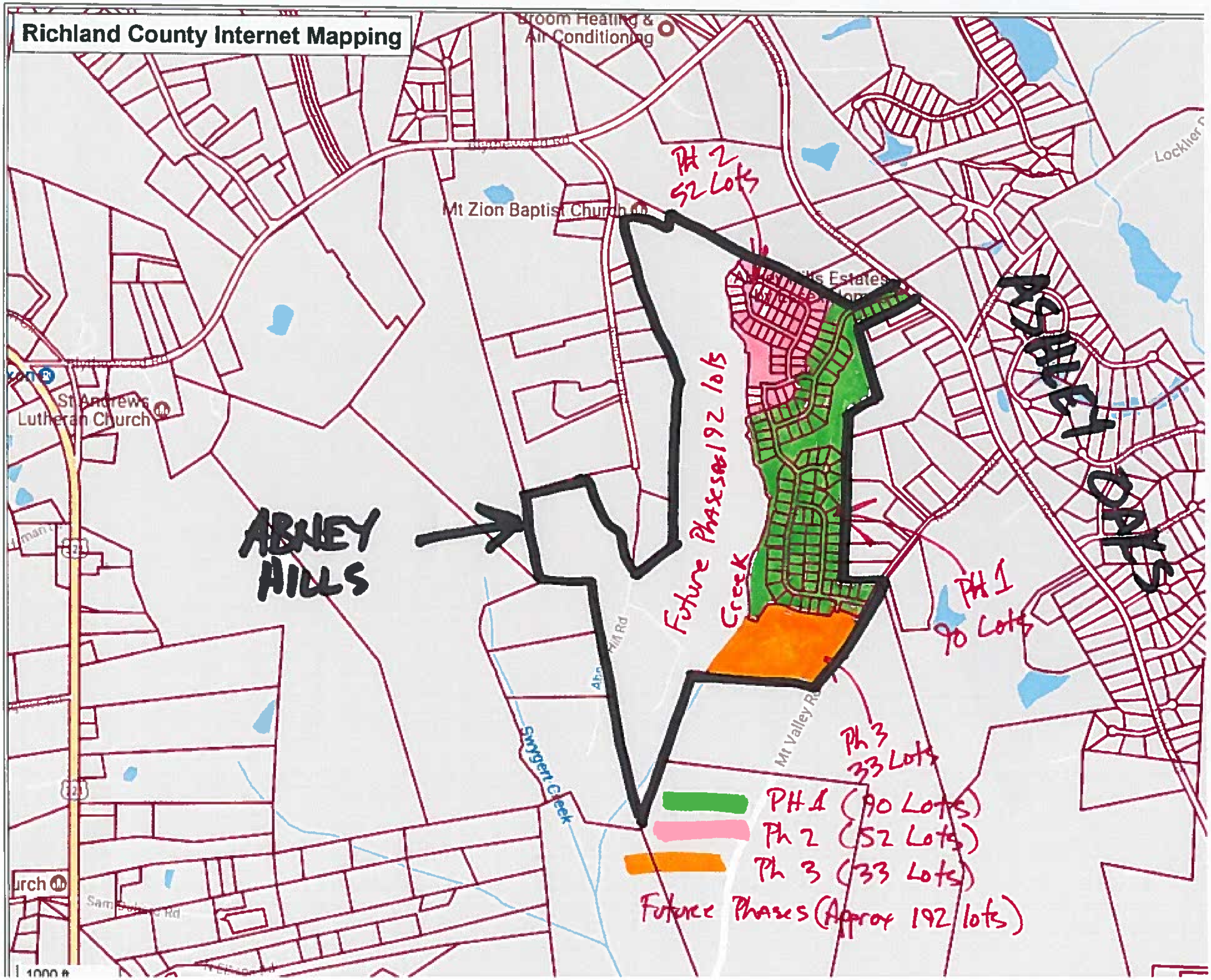
REVISIONS	BY

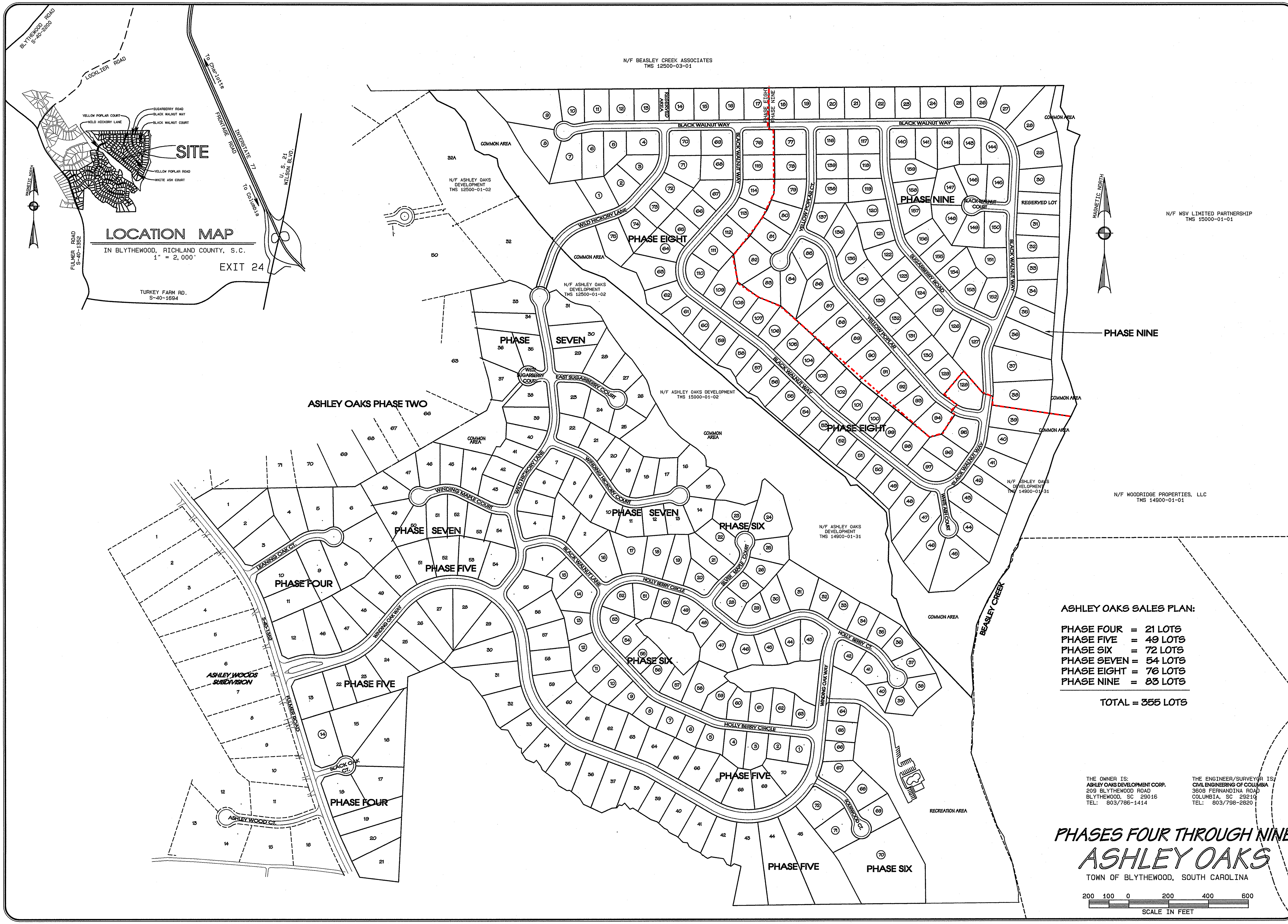
PREPARED BY
POWER ENGINEERING COMPANY, INC.
ENGINEERS - PLANNERS
WEST COLUMBIA, SC

ESSEX HOMES SOUTHEAST, INC.
ABNEY HILL ESTATES PHASE 3
SKETCH PLAN

RICHLAND COUNTY, NEAR BLYTHEWOOD, SOUTH CAROLINA

DRAWN	D.H.C.
CHECKED	D.B.P.
DATE	04-12-18
SCALE	1" = 60'
JOB NO.	3621
SHEET	1
OF	1 SHEETS


Richland County Internet Mapping
Broom Heating & Air Conditioning
Mt Zion Baptist Church
St Andrews Lutheran Church
Abney Hill Rd
Swygert Creek
Mt Valley Rd
Locklier
ABNEY HILLS
ASHLEY OAKS
Future Phases 192 lots
Creek
PH 2 52 Lots
PH 1 90 Lots
Ph 3 33 Lots
PH 1 (90 Lots)
Ph 2 (52 Lots)
Ph 3 (33 Lots)
Future Phases (Approx 192 lots)
1000 ft



CIVIL ENGINEERING of COLUMBIA

CONSULTING ENGINEERING, SURVEYING AND PLANNING
3608 FERNANDINA ROAD, COLUMBIA, SOUTH CAROLINA 29210
TELEPHONE (803) 798-2820 FAX (803) 798-2826

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SOUTH CAROLINA CIVIL ENGINEERING OF COLUMBIA, INC. NO. 000256 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER & LAND SURVEYOR NO. 4953 REGISTERED WILLIAM H. DINKINS

NO.	DATE	DESCRIPTION	BY

REVISION

SALES PLAN

PREPARED FOR
ASHLEY OAKS DEVELOPMENT CORPORATION
BLYTHEWOOD, SOUTH CAROLINA

SCALE 1" = 200'
DATE APRIL 30, 2009
DRAWN M. DINKINS
DESIGNED C.E.C.
CHECKED BY:
JOB NUMBER 06022
DRAWING NUMBER 1 OF 1

Appendix B

EXISTING TRAFFIC COUNTS

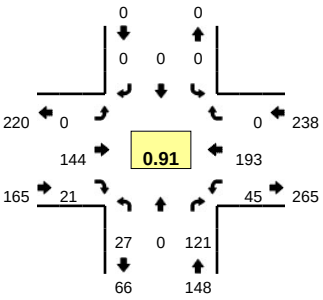
Type of peak hour being reported: Intersection Peak

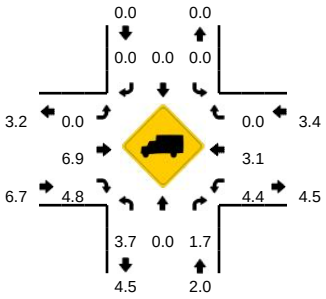
Method for determining peak hour: Total Entering Volume

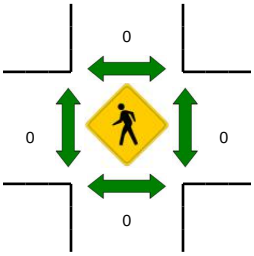
LOCATION: Fulmer Rd -- Blythewood Rd
CITY/STATE: Blythewood, SC

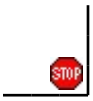
QC JOB #: 14760601
DATE: Tue, Aug 28 2018

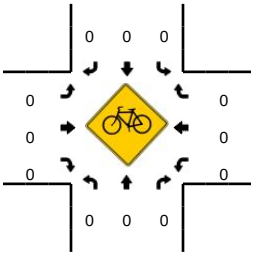
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

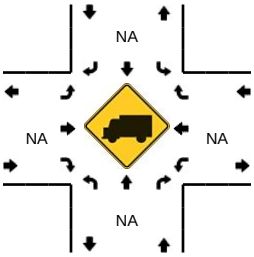


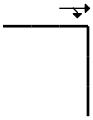


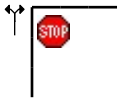


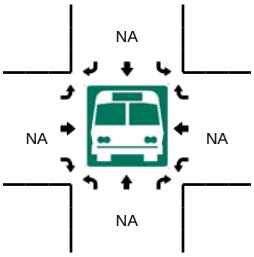












15-Min Count Period Beginning At	Fulmer Rd (Northbound)				Fulmer Rd (Southbound)				Blythewood Rd (Eastbound)				Blythewood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	3	0	8	0	0	0	0	0	0	22	2	0	0	32	0	0	67	
6:45 AM	5	0	16	0	0	0	0	0	0	30	2	0	4	29	0	0	86	
7:00 AM	3	0	34	0	0	0	0	0	0	39	6	0	6	35	0	0	123	
7:15 AM	6	0	34	0	0	0	0	0	0	34	6	0	22	48	0	0	150	426
7:30 AM	10	0	30	0	0	0	0	0	0	44	4	0	5	59	0	0	152	511
7:45 AM	8	0	23	0	0	0	0	0	0	27	5	0	12	51	0	0	126	551
8:00 AM	4	0	11	0	0	0	0	0	0	30	9	0	14	50	0	0	118	546
8:15 AM	7	0	11	0	0	0	0	0	0	35	5	0	4	33	0	0	95	491

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	0	120	0	0	0	0	0	0	176	16	0	20	236	0	0	608
Heavy Trucks	0	0	4		0	0	0		0	12	4		4	12	0		36
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2018 10:49 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

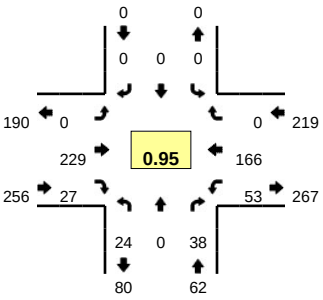
Type of peak hour being reported: Intersection Peak

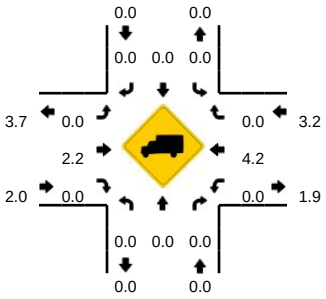
Method for determining peak hour: Total Entering Volume

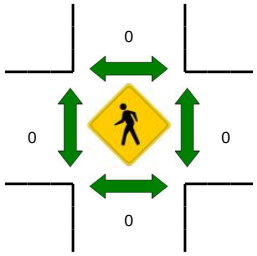
LOCATION: Fulmer Rd -- Blythewood Rd
CITY/STATE: Blythewood, SC

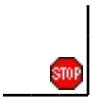
QC JOB #: 14760602
DATE: Tue, Aug 28 2018

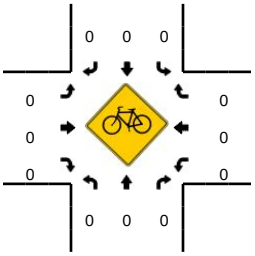
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

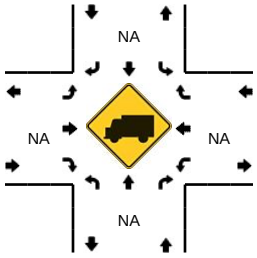


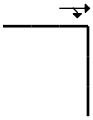


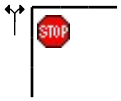


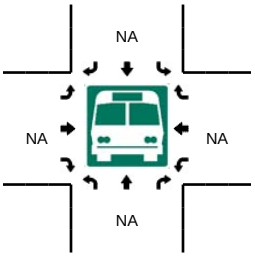












15-Min Count Period Beginning At	Fulmer Rd (Northbound)				Fulmer Rd (Southbound)				Blythewood Rd (Eastbound)				Blythewood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	9	0	12	0	0	0	0	0	0	41	7	0	16	46	0	0	131	
4:45 PM	2	0	12	0	0	0	0	0	0	38	6	0	15	44	0	0	117	
5:00 PM	5	0	9	0	0	0	0	0	0	54	4	0	18	40	0	0	130	
5:15 PM	10	0	11	0	0	0	0	0	0	55	5	0	12	49	0	0	142	520
5:30 PM	3	0	12	0	0	0	0	0	0	73	10	0	11	31	0	0	140	529
5:45 PM	6	0	6	0	0	0	0	0	0	47	8	0	12	46	0	0	125	537
6:00 PM	9	0	11	0	0	0	0	0	0	38	4	0	9	25	0	0	96	503
6:15 PM	5	0	5	0	0	0	0	0	0	32	6	0	10	42	0	0	100	461

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	0	44	0	0	0	0	0	0	220	20	0	48	196	0	0	568
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	4	0		8
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2018 10:49 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Fulmer Rd -- Abney Estates Dr

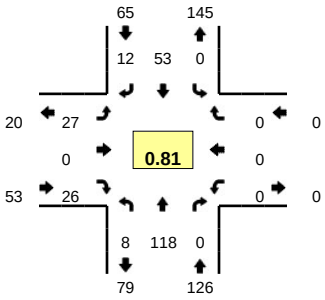
CITY/STATE: Blythewood, SC

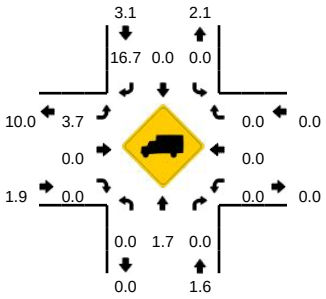
QC JOB #: 14760603

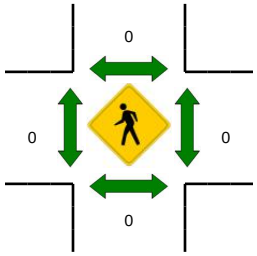
DATE: Tue, Aug 28 2018

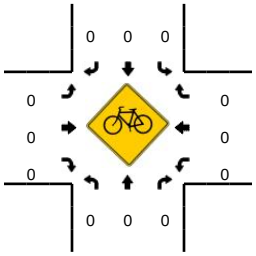
Peak-Hour: 7:00 AM -- 8:00 AM

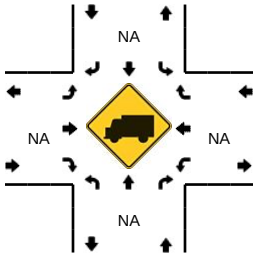
Peak 15-Min: 7:15 AM -- 7:30 AM

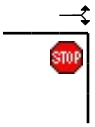


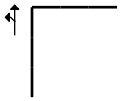


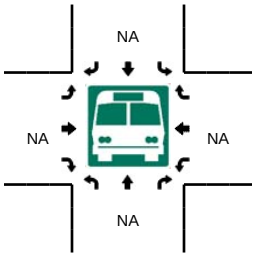












15-Min Count Period Beginning At	Fulmer Rd (Northbound)				Fulmer Rd (Southbound)				Abney Estates Dr (Eastbound)				Abney Estates Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	1	11	0	0	0	2	0	0	0	0	2	0	0	0	0	0	16	
6:45 AM	4	19	0	0	0	6	0	0	4	0	4	0	0	0	0	0	37	
7:00 AM	1	31	0	0	0	9	2	0	4	0	10	0	0	0	0	0	57	
7:15 AM	0	32	0	0	0	26	2	0	9	0	6	0	0	0	0	0	75	185
7:30 AM	3	32	0	0	0	4	5	0	7	0	2	0	0	0	0	0	53	222
7:45 AM	4	23	0	0	0	14	3	0	7	0	8	0	0	0	0	0	59	244
8:00 AM	3	9	0	0	0	23	2	0	3	0	8	0	0	0	0	0	48	235
8:15 AM	2	16	0	0	0	8	0	0	3	0	8	0	0	0	0	0	37	197

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	128	0	0	0	104	8	0	36	0	24	0	0	0	0	0	300
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2018 10:49 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

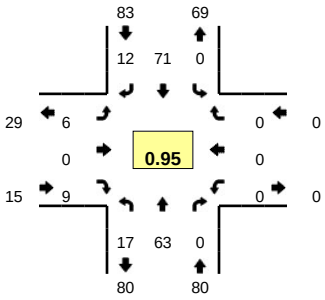
Type of peak hour being reported: Intersection Peak

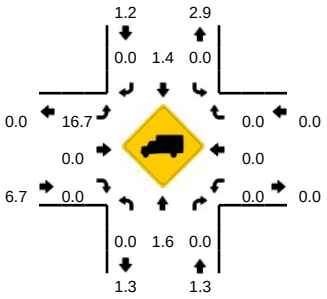
Method for determining peak hour: Total Entering Volume

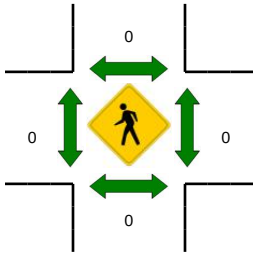
LOCATION: Fulmer Rd -- Abney Estates Dr
CITY/STATE: Blythewood, SC

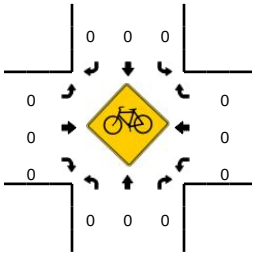
QC JOB #: 14760604
DATE: Tue, Aug 28 2018

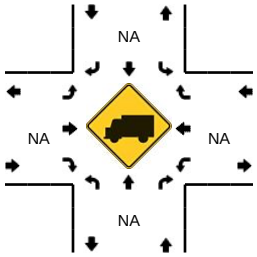
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

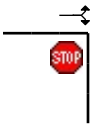


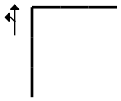


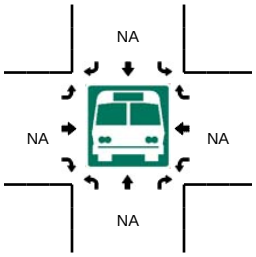












15-Min Count Period Beginning At	Fulmer Rd (Northbound)				Fulmer Rd (Southbound)				Abney Estates Dr (Eastbound)				Abney Estates Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	5	17	0	0	0	18	4	0	3	0	0	0	0	0	0	0	47	
4:45 PM	2	12	0	0	0	18	4	0	1	0	5	0	0	0	0	0	42	
5:00 PM	3	19	0	0	0	19	1	0	1	0	3	0	0	0	0	0	46	
5:15 PM	7	15	0	0	0	16	3	0	1	0	1	0	0	0	0	0	43	178
5:30 PM	4	12	0	0	0	12	7	0	5	0	3	0	0	0	0	0	43	174
5:45 PM	6	7	0	0	0	15	7	0	0	0	4	0	0	0	0	0	39	171
6:00 PM	4	15	0	0	0	9	4	0	5	0	2	0	0	0	0	0	39	164
6:15 PM	1	10	0	0	0	16	0	0	3	0	3	0	0	0	0	0	33	154

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	68	0	0	0	72	16	0	12	0	0	0	0	0	0	0	188
Heavy Trucks	0	4	0		0	0	0		4	0	0		0	0	0		8
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2018 10:49 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

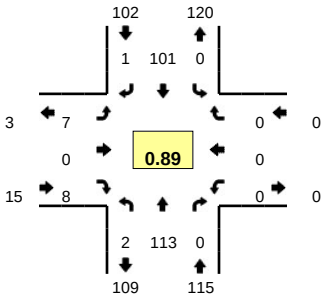
Type of peak hour being reported: Intersection Peak

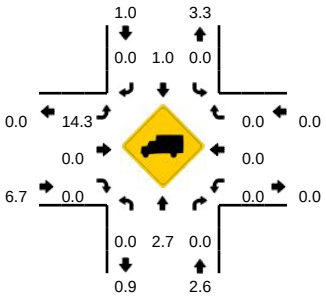
Method for determining peak hour: Total Entering Volume

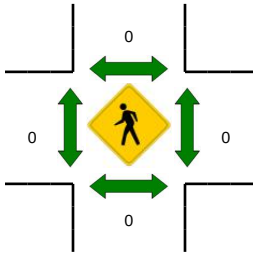
LOCATION: Fulmer Rd -- Mt Valley Rd
CITY/STATE: Blythewood, SC

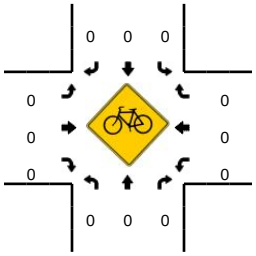
QC JOB #: 14760605
DATE: Tue, Aug 28 2018

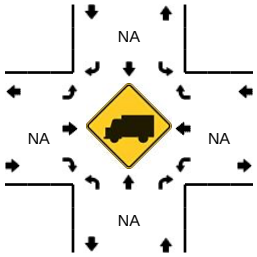
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

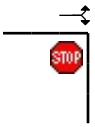


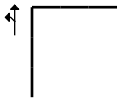


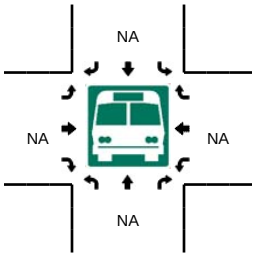












15-Min Count Period Beginning At	Fulmer Rd (Northbound)				Fulmer Rd (Southbound)				Mt Valley Rd (Eastbound)				Mt Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	0	10	0	0	0	5	0	0	1	0	2	0	0	0	0	0	18	
6:45 AM	0	22	0	0	0	14	0	0	1	0	1	0	0	0	0	0	38	
7:00 AM	0	29	0	0	0	29	0	0	3	0	2	0	0	0	0	0	63	
7:15 AM	0	25	0	0	0	36	1	0	1	0	2	0	0	0	0	0	65	184
7:30 AM	0	34	0	0	0	14	0	0	1	0	1	0	0	0	0	0	50	216
7:45 AM	2	25	0	0	0	22	0	0	2	0	3	0	0	0	0	0	54	232
8:00 AM	0	11	0	0	0	35	0	0	0	0	3	0	0	0	0	0	49	218
8:15 AM	0	15	0	0	0	19	0	0	2	0	0	0	0	0	0	0	36	189

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	100	0	0	0	144	4	0	4	0	8	0	0	0	0	0	260
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	0	0		4
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2018 10:49 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

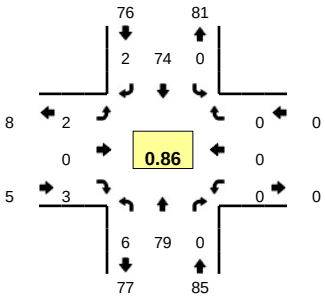
Type of peak hour being reported: Intersection Peak

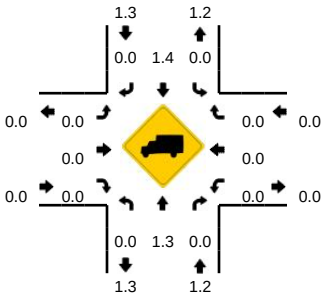
Method for determining peak hour: Total Entering Volume

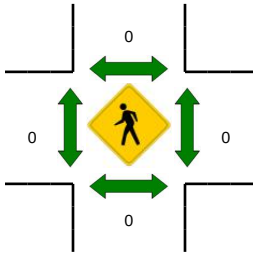
LOCATION: Fulmer Rd -- Mt Valley Rd
CITY/STATE: Blythewood, SC

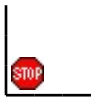
QC JOB #: 14760606
DATE: Tue, Aug 28 2018

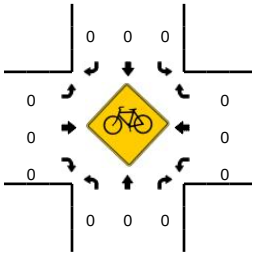
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

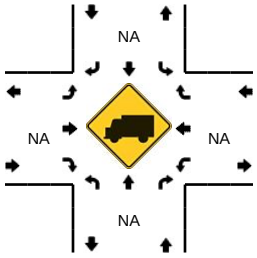


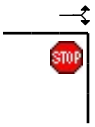


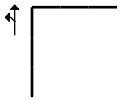


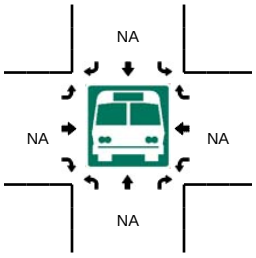












15-Min Count Period Beginning At	Fulmer Rd (Northbound)				Fulmer Rd (Southbound)				Mt Valley Rd (Eastbound)				Mt Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	2	21	0	0	0	13	2	0	1	0	3	0	0	0	0	0	42	
4:45 PM	4	13	0	0	0	24	0	0	0	0	0	0	0	0	0	0	41	
5:00 PM	0	24	0	0	0	23	0	0	1	0	0	0	0	0	0	0	48	
5:15 PM	0	21	0	0	0	14	0	0	0	0	0	0	0	0	0	0	35	166
5:30 PM	0	18	0	0	0	15	1	0	1	0	0	0	0	0	0	0	35	159
5:45 PM	3	17	0	0	0	18	0	0	0	0	2	0	0	0	0	0	40	158
6:00 PM	2	15	0	0	0	14	0	0	1	0	1	0	0	0	0	0	33	143
6:15 PM	0	14	0	0	0	14	2	0	0	0	2	0	0	0	0	0	32	140

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	96	0	0	0	92	0	0	4	0	0	0	0	0	0	0	192
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2018 10:49 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

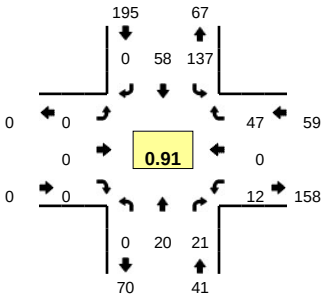
Type of peak hour being reported: Intersection Peak

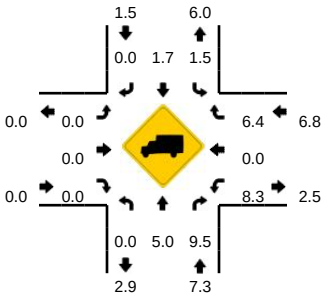
Method for determining peak hour: Total Entering Volume

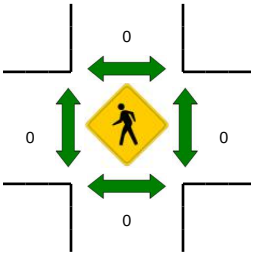
LOCATION: Fulmer Rd -- Turkey Farm Rd
CITY/STATE: Blythewood, SC

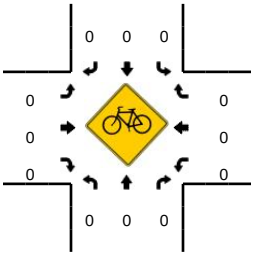
QC JOB #: 14760607
DATE: Tue, Aug 28 2018

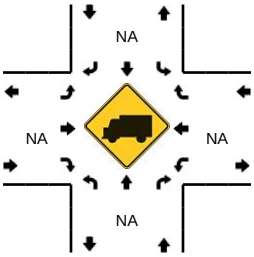
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

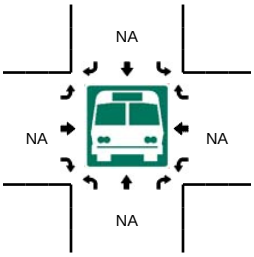












15-Min Count Period Beginning At	Fulmer Rd (Northbound)				Fulmer Rd (Southbound)				Turkey Farm Rd (Eastbound)				Turkey Farm Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	0	4	3	0	13	5	0	0	0	0	0	0	1	0	4	0	30	
6:45 AM	0	7	4	0	20	12	0	0	0	0	0	0	1	0	7	0	51	
7:00 AM	0	7	2	0	28	11	0	0	0	0	0	0	0	0	16	0	64	
7:15 AM	0	5	6	0	36	23	0	0	0	0	0	0	0	0	11	0	81	226
7:30 AM	0	7	3	0	28	17	0	0	0	0	0	0	3	0	12	0	70	266
7:45 AM	0	4	7	0	30	10	0	0	0	0	0	0	2	0	18	0	71	286
8:00 AM	0	4	5	0	43	8	0	0	0	0	0	0	7	0	6	0	73	295
8:15 AM	0	2	3	0	28	14	0	0	0	0	0	0	4	0	13	0	64	278

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	20	24	0	144	92	0	0	0	0	0	0	0	0	44	0	324
Heavy Trucks	0	0	4		0	4	0		0	0	0		0	0	0		8
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2018 10:49 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

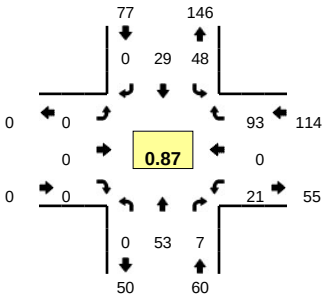
Type of peak hour being reported: Intersection Peak

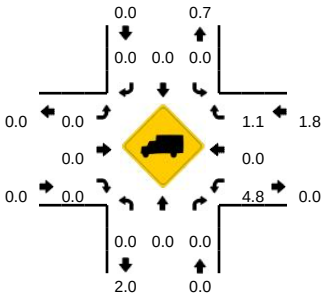
Method for determining peak hour: Total Entering Volume

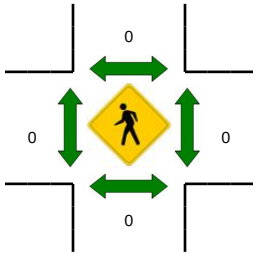
LOCATION: Fulmer Rd -- Turkey Farm Rd
CITY/STATE: Blythewood, SC

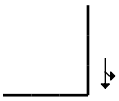
QC JOB #: 14760608
DATE: Tue, Aug 28 2018

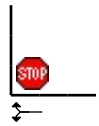
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

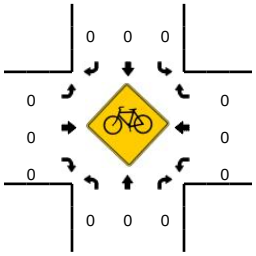


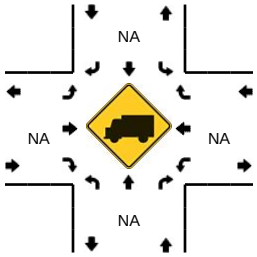


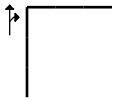


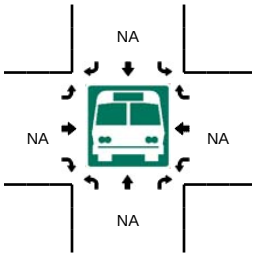












15-Min Count Period Beginning At	Fulmer Rd (Northbound)				Fulmer Rd (Southbound)				Turkey Farm Rd (Eastbound)				Turkey Farm Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:30 PM	0	6	1	0	5	11	0	0	0	0	0	0	3	0	22	0	48	
4:45 PM	0	13	1	0	11	8	0	0	0	0	0	0	3	0	18	0	54	
5:00 PM	0	15	2	0	9	4	0	0	0	0	0	0	7	0	22	0	59	
5:15 PM	0	18	2	0	18	6	0	0	0	0	0	0	4	0	24	0	72	233
5:30 PM	0	14	2	0	8	11	0	0	0	0	0	0	4	0	21	0	60	245
5:45 PM	0	6	1	0	13	8	0	0	0	0	0	0	6	0	26	0	60	251
6:00 PM	0	8	1	0	7	11	0	0	0	0	0	0	3	0	23	0	53	245
6:15 PM	0	11	2	0	9	5	0	0	0	0	0	0	2	0	16	0	45	218

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	72	8	0	72	24	0	0	0	0	0	0	16	0	96	0	288
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 9/4/2018 10:49 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix C

TURN LANE GUIDELINE GRAPHS

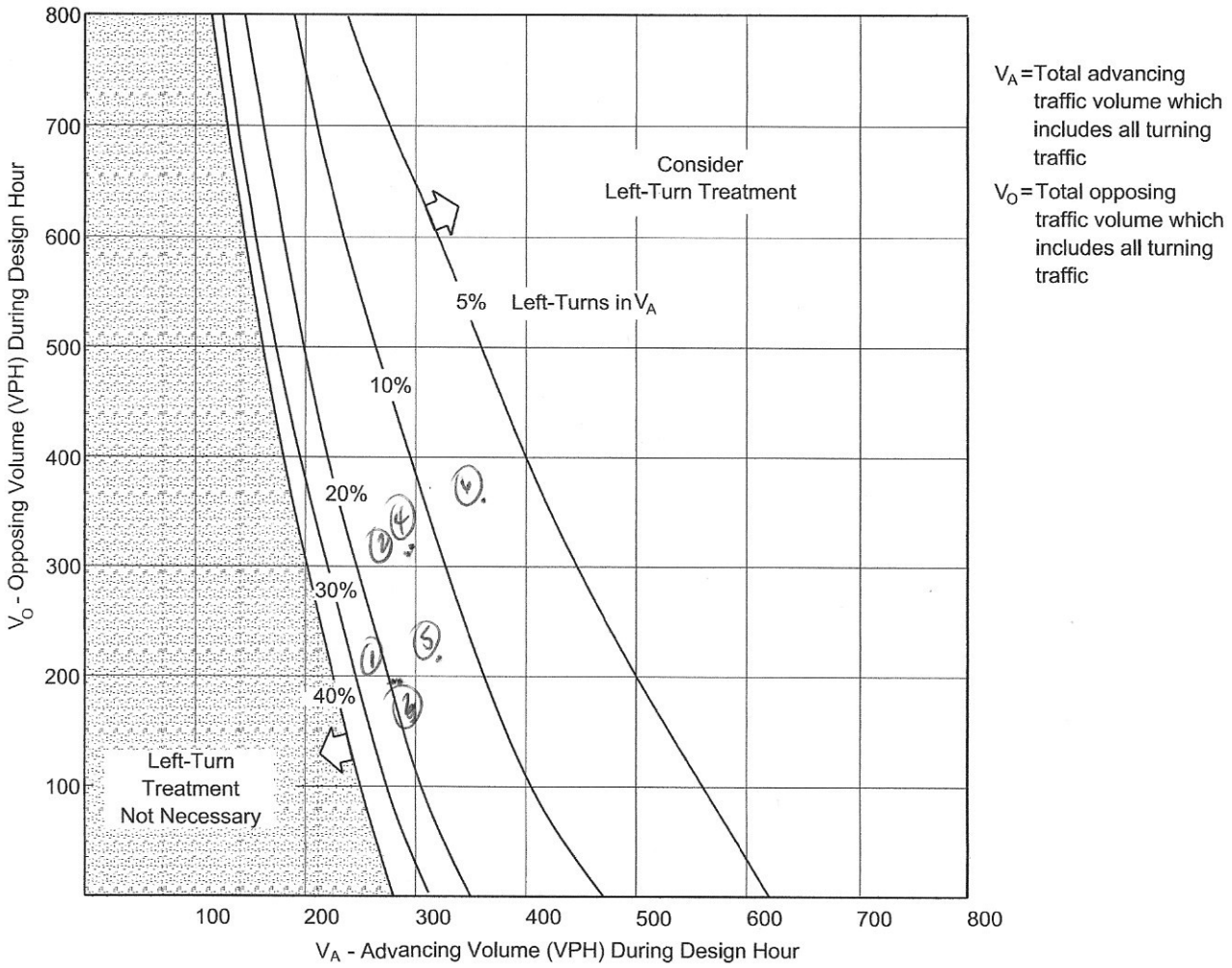
Source: SCDOT Roadway Design Manual, 2017

Table C-1
LEFT TURN LANE GRAPH INPUTS
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Plot #	Left Turn	Year	Peak Hour	Volume Opposing	Volume Advancing	% Left	Should Left Turn Lane be Considered?
1	Blythewood Road WB at Fulmer Road	2022 No Build	AM	193	281	23	yes
2			PM	310	291	36	yes
3		2022 Build	AM	194	283	23	yes
4			PM	314	298	37	yes
5		2025 Build	AM	217	320	26	yes
6			PM	361	360	43	yes
7	Fulmer Road NB at Abney Estates Drive	2022 No Build	AM	92	192	6	no
8			PM	158	133	23	no
9		2022 Build	AM	95	196	8	no
10			PM	169	143	28	no
11		2025 Build	AM	119	228	13	no
12			PM	236	208	45	no
13	Fulmer Road NB at Mount Valley Road	2022 No Build	AM	173	147	1	no
14			PM	124	162	6	no
15		2022 Build	AM	181	150	1	no
16			PM	130	172	6	no
17		2025 Build	AM	241	179	2	no
18			PM	175	239	7	no
19	Fulmer Road SB at Turkey Farm Road	2022 No Build	AM	52	277	70	no
20			PM	92	125	62	no
21		2022 Build	AM	53	286	70	no
22			PM	96	131	63	no
23		2025 Build	AM	62	358	70	yes
24			PM	124	173	62	no

Table C-2
RIGHT TURN LANE GRAPH INPUTS
Abney Hills Phase 3 Traffic Impact Study
Blythewood, South Carolina

Plot #	Left Turn	Year	Peak Hour	Right Turn Volume	Design Hourly Volume	Should Right Turn Lane be Considered?
1	Blythewood Road EB at Fulmer Road	2022 No Build	AM	31	193	no
2			PM	52	310	no
3		2022 Build	AM	32	194	no
4			PM	56	314	no
5		2025 Build	AM	40	217	no
6			PM	79	361	yes
7	Fulmer Road SB at Abney Estates Drive	2022 No Build	AM	16	92	no
8			PM	26	158	no
9		2022 Build	AM	19	95	no
10			PM	36	169	no
11		2025 Build	AM	35	119	no
12			PM	90	236	yes
13	Fulmer Road SB at Mount Valley Road	2022 No Build	AM	2	173	no
14			PM	4	124	no
15		2022 Build	AM	2	181	no
16			PM	5	130	no
17		2025 Build	AM	4	241	no
18			PM	11	175	no
19	Fulmer Road NB at Turkey Farm Road	2022 No Build	AM	24	52	no
20			PM	8	92	no
21		2022 Build	AM	24	53	no
22			PM	8	96	no
23		2025 Build	AM	26	62	no
24			PM	9	124	no



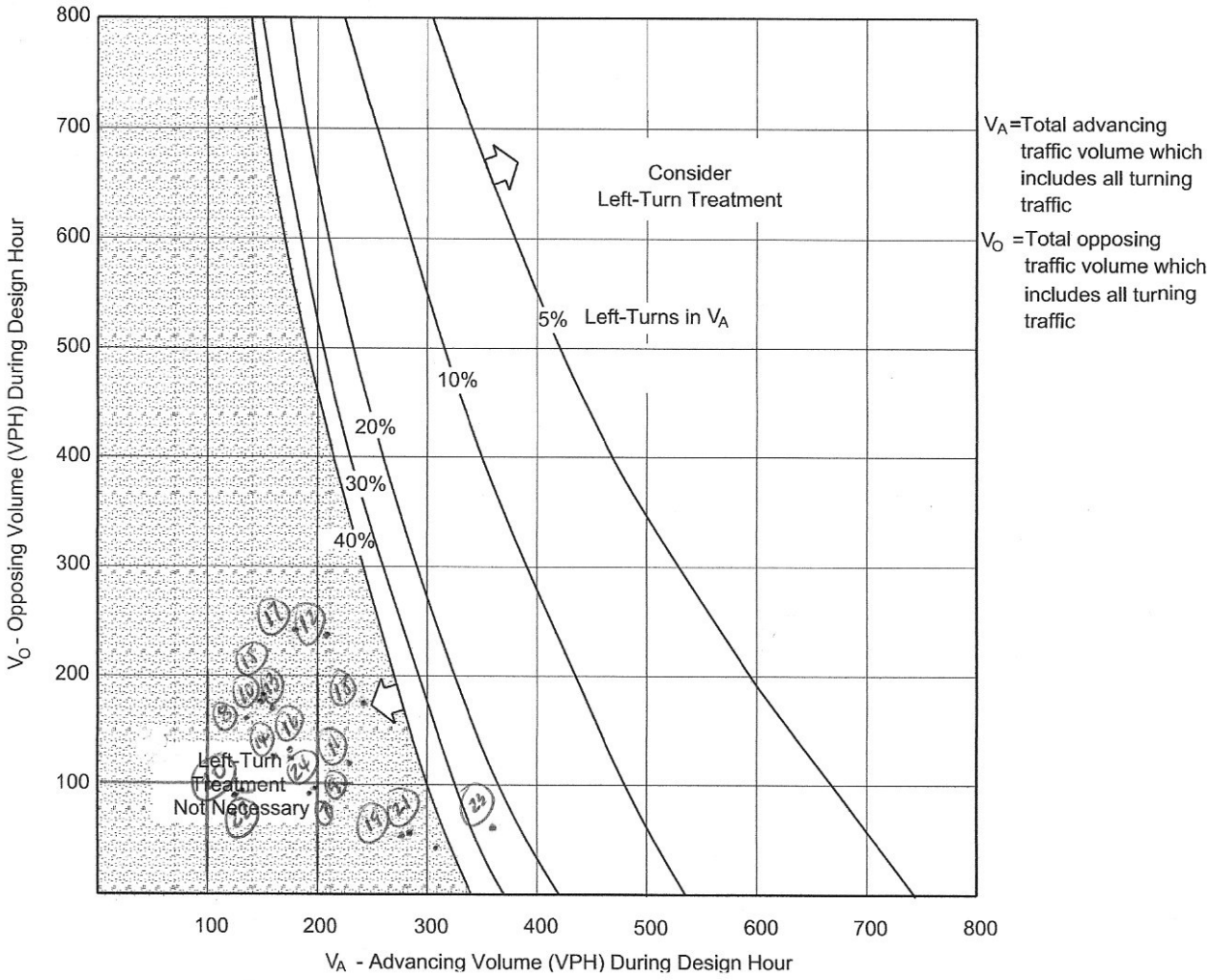
Instructions:

1. *The family of curves represents the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.*

2. *Read V_A and V_O into the chart and locate the intersection of the two volumes.*

3. *Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.*

VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (55 mph)
Figure 9.5-D



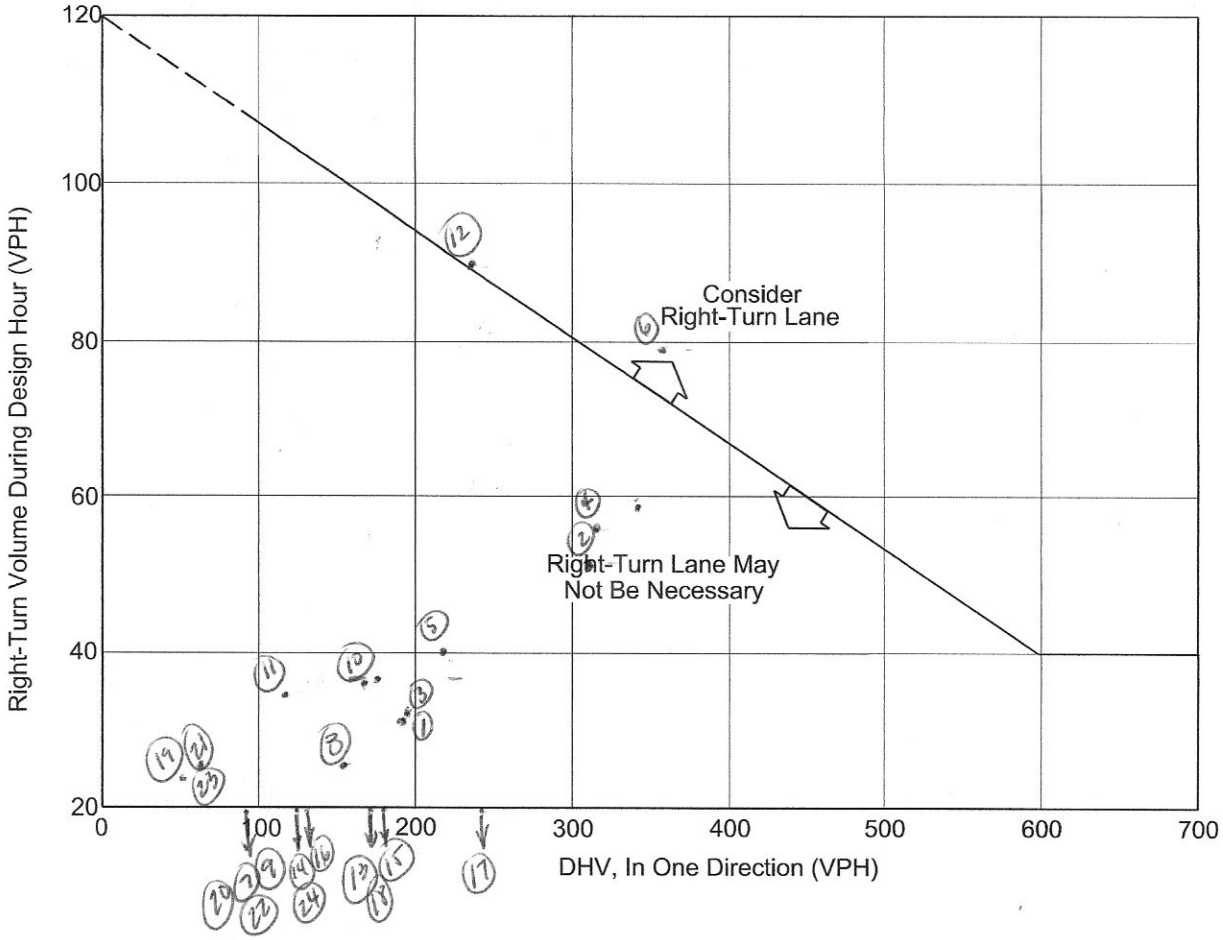
Instructions:

1. *The family of curves represents the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.*

2. *Read V_A and V_O into the chart and locate the intersection of the two volumes.*

3. *Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.*

VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (45 mph)
Figure 9.5-F



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.

Example

Given:	Design Speed	=	35 miles per hour
	DHV	=	250 vehicles per hour
	Right Turns	=	100 vehicles per hour

Problem: Determine if a right-turn lane is necessary.

Solution: To read the vertical axis, use 100 – 20 = 80 vehicles per hour. The figure indicates that a right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS
Figure 9.5-A

Appendix D

CAPACITY ANALYSIS AND QUEUE REPORT PRINTOUTS

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	144	21	45	193	27	121
Future Vol, veh/h	144	21	45	193	27	121
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	91	91	91	91	91	91
Heavy Vehicles, %	7	5	4	3	4	2
Mvmt Flow	158	23	49	212	30	133

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	181	0	481	170
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	311	-
Critical Hdwy	-	-	4.14	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.318
Pot Cap-1 Maneuver	-	-	1382	-	540	874
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	738	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1382	-	518	874
Mov Cap-2 Maneuver	-	-	-	-	518	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	708	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	777	-	-	1382	-
HCM Lane V/C Ratio	0.209	-	-	0.036	-
HCM Control Delay (s)	10.9	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	26	8	118	53	12
Future Vol, veh/h	27	26	8	118	53	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	4	0	0	2	0	17
Mvmt Flow	33	32	10	146	65	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	238	73	80	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.44	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	746	995	1531	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	741	995	1531	-	-	-
Mov Cap-2 Maneuver	741	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	853	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1531	-	847	-	-
HCM Lane V/C Ratio	0.006	-	0.077	-	-
HCM Control Delay (s)	7.4	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	8	2	113	101	1
Future Vol, veh/h	7	8	2	113	101	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	14	0	0	3	1	0
Mvmt Flow	8	9	2	127	113	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	245	114	115	0	-	0
Stage 1	114	-	-	-	-	-
Stage 2	131	-	-	-	-	-
Critical Hdwy	6.54	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	718	944	1487	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	717	944	1487	-	-	-
Mov Cap-2 Maneuver	717	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1487	-	822	-	-
HCM Lane V/C Ratio	0.002	-	0.021	-	-
HCM Control Delay (s)	7.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	47	20	21	137	58
Future Vol, veh/h	12	47	20	21	137	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	8	6	5	10	2	2
Mvmt Flow	13	52	22	23	151	64

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	399	34	0	0	45	0
Stage 1	34	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Critical Hdwy	6.48	6.26	-	-	4.12	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.354	-	-	2.218	-
Pot Cap-1 Maneuver	595	1028	-	-	1563	-
Stage 1	973	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	536	1028	-	-	1563	-
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	866	1563	-
HCM Lane V/C Ratio	-	-	0.075	0.096	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.3	-

Intersection: 3: Fulmer Road & Blythewood Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	37	89
Average Queue (ft)	7	40
95th Queue (ft)	27	67
Link Distance (ft)	2053	3228
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Fulmer Road & Abney Estates Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	50	9
Average Queue (ft)	28	0
95th Queue (ft)	49	5
Link Distance (ft)	1161	1968
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Fulmer Road & Mount Valley Road

Movement	EB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	14
95th Queue (ft)	42
Link Distance (ft)	1997
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Fulmer Road & Turkey Farm Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	60	54
Average Queue (ft)	31	7
95th Queue (ft)	56	33
Link Distance (ft)	3036	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	162	31	64	217	41	185
Future Vol, veh/h	162	31	64	217	41	185
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	91	91	91	91	91	91
Heavy Vehicles, %	7	5	4	3	4	2
Mvmt Flow	178	34	70	238	45	203

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	212	0	574	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	379	-
Critical Hdwy	-	-	4.14	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.318
Pot Cap-1 Maneuver	-	-	1347	-	477	846
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1347	-	448	846
Mov Cap-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	647	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	729	-	-	1347	-
HCM Lane V/C Ratio	0.341	-	-	0.052	-
HCM Control Delay (s)	12.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.5	-	-	0.2	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	39	12	180	76	16
Future Vol, veh/h	40	39	12	180	76	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	4	0	0	2	0	17
Mvmt Flow	49	48	15	222	94	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	356	104	114	0	-	0
Stage 1	104	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Critical Hdwy	6.44	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	638	956	1488	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	630	956	1488	-	-	-
Mov Cap-2 Maneuver	630	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1488	-	758	-	-
HCM Lane V/C Ratio	0.01	-	0.129	-	-
HCM Control Delay (s)	7.4	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	10	2	145	171	2
Future Vol, veh/h	10	10	2	145	171	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	14	0	0	3	1	0
Mvmt Flow	11	11	2	163	192	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	360	193	194	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	167	-	-	-	-	-
Critical Hdwy	6.54	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	615	854	1391	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	614	854	1391	-	-	-
Mov Cap-2 Maneuver	614	-	-	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	832	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1391	-	714	-	-
HCM Lane V/C Ratio	0.002	-	0.031	-	-
HCM Control Delay (s)	7.6	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	66	28	24	195	82
Future Vol, veh/h	14	66	28	24	195	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	8	6	5	10	2	2
Mvmt Flow	15	73	31	26	214	90

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	563	44	0	0	57	0
Stage 1	44	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Critical Hdwy	6.48	6.26	-	-	4.12	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.354	-	-	2.218	-
Pot Cap-1 Maneuver	477	1015	-	-	1547	-
Stage 1	963	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	407	1015	-	-	1547	-
Mov Cap-2 Maneuver	407	-	-	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	500	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	5.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	805	1547	-
HCM Lane V/C Ratio	-	-	0.109	0.139	-
HCM Control Delay (s)	-	-	10	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.5	-

Intersection: 3: Fulmer Road & Blythewood Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	74	125
Average Queue (ft)	12	55
95th Queue (ft)	42	96
Link Distance (ft)	2053	3228
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Fulmer Road & Abney Estates Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	67	26
Average Queue (ft)	34	1
95th Queue (ft)	59	9
Link Distance (ft)	1161	1968
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Fulmer Road & Mount Valley Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	46	9
Average Queue (ft)	18	0
95th Queue (ft)	45	5
Link Distance (ft)	1997	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Fulmer Road & Turkey Farm Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	74	96
Average Queue (ft)	32	14
95th Queue (ft)	57	59
Link Distance (ft)	3036	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	162	32	66	217	43	192
Future Vol, veh/h	162	32	66	217	43	192
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	91	91	91	91	91	91
Heavy Vehicles, %	7	5	4	3	4	2
Mvmt Flow	178	35	73	238	47	211

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	213	0	580	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	4.14	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.318
Pot Cap-1 Maneuver	-	-	1345	-	473	845
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1345	-	443	845
Mov Cap-2 Maneuver	-	-	-	-	443	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	725	-	-	1345	-
HCM Lane V/C Ratio	0.356	-	-	0.054	-
HCM Control Delay (s)	12.7	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0.2	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	47	15	181	76	19
Future Vol, veh/h	48	47	15	181	76	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	4	0	0	2	0	17
Mvmt Flow	59	58	19	223	94	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	366	106	117	0	-	0
Stage 1	106	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.44	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	630	954	1484	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	621	954	1484	-	-	-
Mov Cap-2 Maneuver	621	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1484	-	751	-	-
HCM Lane V/C Ratio	0.012	-	0.156	-	-
HCM Control Delay (s)	7.5	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	11	2	148	179	2
Future Vol, veh/h	11	11	2	148	179	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	14	0	0	3	1	0
Mvmt Flow	12	12	2	166	201	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	373	202	203	0	-	0
Stage 1	202	-	-	-	-	-
Stage 2	171	-	-	-	-	-
Critical Hdwy	6.54	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	605	844	1381	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	604	844	1381	-	-	-
Mov Cap-2 Maneuver	604	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1381	-	704	-	-
HCM Lane V/C Ratio	0.002	-	0.035	-	-
HCM Control Delay (s)	7.6	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	68	29	24	201	85
Future Vol, veh/h	14	68	29	24	201	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	8	6	5	10	2	2
Mvmt Flow	15	75	32	26	221	93

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	580	45	0	0	58	0
Stage 1	45	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Critical Hdwy	6.48	6.26	-	-	4.12	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.354	-	-	2.218	-
Pot Cap-1 Maneuver	467	1014	-	-	1546	-
Stage 1	962	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	396	1014	-	-	1546	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	5.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	801	1546	-
HCM Lane V/C Ratio	-	-	0.112	0.143	-
HCM Control Delay (s)	-	-	10.1	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.5	-

Intersection: 3: Fulmer Road & Blythewood Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	52	123
Average Queue (ft)	9	54
95th Queue (ft)	33	92
Link Distance (ft)	2053	3228
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Fulmer Road & Abney Estates Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	68	25
Average Queue (ft)	36	1
95th Queue (ft)	60	11
Link Distance (ft)	1161	1968
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Fulmer Road & Mount Valley Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	60	18
Average Queue (ft)	21	1
95th Queue (ft)	51	10
Link Distance (ft)	1997	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Fulmer Road & Turkey Farm Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	70	73
Average Queue (ft)	33	12
95th Queue (ft)	59	46
Link Distance (ft)	3036	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	177	40	83	237	56	247
Future Vol, veh/h	177	40	83	237	56	247
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	91	91	91	91	91	91
Heavy Vehicles, %	7	5	4	3	4	2
Mvmt Flow	195	44	91	260	62	271

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	238	0	659	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	443	-
Critical Hdwy	-	-	4.14	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.318
Pot Cap-1 Maneuver	-	-	1317	-	425	824
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	643	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1317	-	391	824
Mov Cap-2 Maneuver	-	-	-	-	391	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	591	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	684	-	-	1317	-
HCM Lane V/C Ratio	0.487	-	-	0.069	-
HCM Control Delay (s)	15.2	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.7	-	-	0.2	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	95	94	30	198	84	35
Future Vol, veh/h	95	94	30	198	84	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	4	0	0	2	0	17
Mvmt Flow	117	116	37	244	104	43

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	444	125	147	0	-	0
Stage 1	125	-	-	-	-	-
Stage 2	319	-	-	-	-	-
Critical Hdwy	6.44	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	568	931	1447	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	551	931	1447	-	-	-
Mov Cap-2 Maneuver	551	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	710	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1447	-	691	-	-
HCM Lane V/C Ratio	0.026	-	0.338	-	-
HCM Control Delay (s)	7.6	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.5	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	17	4	175	237	4
Future Vol, veh/h	17	17	4	175	237	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	14	0	0	3	1	0
Mvmt Flow	19	19	4	197	266	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	475	269	271	0	-	0
Stage 1	269	-	-	-	-	-
Stage 2	206	-	-	-	-	-
Critical Hdwy	6.54	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	527	775	1304	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	525	775	1304	-	-	-
Mov Cap-2 Maneuver	525	-	-	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1304	-	626	-	-
HCM Lane V/C Ratio	0.003	-	0.061	-	-
HCM Control Delay (s)	7.8	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	5.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	85	36	26	252	106
Future Vol, veh/h	15	85	36	26	252	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	8	6	5	10	2	2
Mvmt Flow	16	93	40	29	277	116

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	724	54	0	0	68	0
Stage 1	54	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Critical Hdwy	6.48	6.26	-	-	4.12	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.354	-	-	2.218	-
Pot Cap-1 Maneuver	384	1002	-	-	1533	-
Stage 1	953	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	310	1002	-	-	1533	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	5.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	751	1533	-
HCM Lane V/C Ratio	-	-	0.146	0.181	-
HCM Control Delay (s)	-	-	10.6	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.7	-

Intersection: 3: Fulmer Road & Blythewood Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	67	125
Average Queue (ft)	18	65
95th Queue (ft)	51	106
Link Distance (ft)	2053	3228
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Fulmer Road & Abney Estates Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	102	35
Average Queue (ft)	51	3
95th Queue (ft)	81	17
Link Distance (ft)	1161	1968
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Fulmer Road & Mount Valley Road

Movement	EB
Directions Served	LR
Maximum Queue (ft)	60
Average Queue (ft)	21
95th Queue (ft)	49
Link Distance (ft)	1997
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Fulmer Road & Turkey Farm Road

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	85	7	88
Average Queue (ft)	40	0	18
95th Queue (ft)	67	4	63
Link Distance (ft)	3036	3679	7938
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	229	27	53	166	24	38
Future Vol, veh/h	229	27	53	166	24	38
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	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	4	0	0
Mvmt Flow	241	28	56	175	25	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	269	0	541	255
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1306	-	506	789
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1306	-	482	789
Mov Cap-2 Maneuver	-	-	-	-	482	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	731	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	633	-	-	1306	-
HCM Lane V/C Ratio	0.103	-	-	0.043	-
HCM Control Delay (s)	11.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	9	17	63	71	12
Future Vol, veh/h	6	9	17	63	71	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	17	0	0	2	1	0
Mvmt Flow	6	9	18	66	75	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	183	81	87	0	-	0
Stage 1	81	-	-	-	-	-
Stage 2	102	-	-	-	-	-
Critical Hdwy	6.57	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	773	985	1522	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	764	985	1522	-	-	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1522	-	883	-	-
HCM Lane V/C Ratio	0.012	-	0.018	-	-
HCM Control Delay (s)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	3	6	79	74	2
Future Vol, veh/h	2	3	6	79	74	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	2	3	7	92	86	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	193	87	88	0	-	0
Stage 1	87	-	-	-	-	-
Stage 2	106	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	800	977	1520	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	796	977	1520	-	-	-
Mov Cap-2 Maneuver	796	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	918	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1520	-	896	-	-
HCM Lane V/C Ratio	0.005	-	0.006	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	93	53	7	48	29
Future Vol, veh/h	21	93	53	7	48	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	1	0	0	0	0
Mvmt Flow	24	107	61	8	55	33

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	209	65	0	0	69	0
Stage 1	65	-	-	-	-	-
Stage 2	144	-	-	-	-	-
Critical Hdwy	6.45	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	773	1002	-	-	1545	-
Stage 1	950	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	745	1002	-	-	1545	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	844	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	4.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	942	1545	-
HCM Lane V/C Ratio	-	-	0.139	0.036	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection: 3: Fulmer Road & Blythewood Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	44	60
Average Queue (ft)	8	26
95th Queue (ft)	31	50
Link Distance (ft)	2053	3228
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Fulmer Road & Abney Estates Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	55	18
Average Queue (ft)	15	1
95th Queue (ft)	45	11
Link Distance (ft)	1161	1968
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Fulmer Road & Mount Valley Road

Movement	EB
Directions Served	LR
Maximum Queue (ft)	38
Average Queue (ft)	3
95th Queue (ft)	20
Link Distance (ft)	1997
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Fulmer Road & Turkey Farm Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	64	38
Average Queue (ft)	37	2
95th Queue (ft)	59	16
Link Distance (ft)	3036	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	258	52	104	187	43	67
Future Vol, veh/h	258	52	104	187	43	67
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	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	4	0	0
Mvmt Flow	272	55	109	197	45	71

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	326	0	715	299
Stage 1	-	-	-	-	299	-
Stage 2	-	-	-	-	416	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1245	-	400	745
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1245	-	361	745
Mov Cap-2 Maneuver	-	-	-	-	361	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	604	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	526	-	-	1245	-
HCM Lane V/C Ratio	0.22	-	-	0.088	-
HCM Control Delay (s)	13.8	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	18	31	102	132	26
Future Vol, veh/h	16	18	31	102	132	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	17	0	0	2	1	0
Mvmt Flow	17	19	33	107	139	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	326	153	166	0	-	0
Stage 1	153	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.57	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	638	898	1424	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	622	898	1424	-	-	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	1.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1424	-	743	-	-
HCM Lane V/C Ratio	0.023	-	0.048	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	9	153	120	4
Future Vol, veh/h	3	4	9	153	120	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	3	5	10	178	140	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	341	142	144	0	-	0
Stage 1	142	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	659	911	1451	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	654	911	1451	-	-	-
Mov Cap-2 Maneuver	654	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	832	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1451	-	780	-	-
HCM Lane V/C Ratio	0.007	-	0.01	-	-
HCM Control Delay (s)	7.5	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	147	84	8	78	47
Future Vol, veh/h	24	147	84	8	78	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	1	0	0	0	0
Mvmt Flow	28	169	97	9	90	54

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	334	101	0	0	106	0
Stage 1	101	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.45	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	655	957	-	-	1498	-
Stage 1	916	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	614	957	-	-	1498	-
Mov Cap-2 Maneuver	614	-	-	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	749	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	4.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	887	1498	-
HCM Lane V/C Ratio	-	-	0.222	0.06	-
HCM Control Delay (s)	-	-	10.2	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.2	-

Intersection: 3: Fulmer Road & Blythewood Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	74	80
Average Queue (ft)	25	38
95th Queue (ft)	62	66
Link Distance (ft)	2053	3228
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Fulmer Road & Abney Estates Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	73	18
Average Queue (ft)	25	2
95th Queue (ft)	57	13
Link Distance (ft)	1161	1968
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Fulmer Road & Mount Valley Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	42
Average Queue (ft)	4	2
95th Queue (ft)	21	16
Link Distance (ft)	1997	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Fulmer Road & Turkey Farm Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	85	67
Average Queue (ft)	48	9
95th Queue (ft)	75	38
Link Distance (ft)	3036	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	258	56	111	187	45	71
Future Vol, veh/h	258	56	111	187	45	71
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	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	4	0	0
Mvmt Flow	272	59	117	197	47	75

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	331	0	732	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	431	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1240	-	391	743
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	660	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1240	-	350	743
Mov Cap-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	590	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	518	-	-	1240	-
HCM Lane V/C Ratio	0.236	-	-	0.094	-
HCM Control Delay (s)	14.1	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.3	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	23	40	103	133	36
Future Vol, veh/h	21	23	40	103	133	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	17	0	0	2	1	0
Mvmt Flow	22	24	42	108	140	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	352	159	178	0	-	0
Stage 1	159	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.57	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	616	892	1410	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	805	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	596	892	1410	-	-	-
Mov Cap-2 Maneuver	596	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	779	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1410	-	721	-	-
HCM Lane V/C Ratio	0.03	-	0.064	-	-
HCM Control Delay (s)	7.6	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	10	162	125	5
Future Vol, veh/h	4	5	10	162	125	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	5	6	12	188	145	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	360	148	151	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	212	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	643	904	1442	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	637	904	1442	-	-	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1442	-	762	-	-
HCM Lane V/C Ratio	0.008	-	0.014	-	-
HCM Control Delay (s)	7.5	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	153	88	8	82	49
Future Vol, veh/h	24	153	88	8	82	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	1	0	0	0	0
Mvmt Flow	28	176	101	9	94	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	351	106	0	0	110	0
Stage 1	106	-	-	-	-	-
Stage 2	245	-	-	-	-	-
Critical Hdwy	6.45	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	640	951	-	-	1493	-
Stage 1	911	-	-	-	-	-
Stage 2	789	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	598	951	-	-	1493	-
Mov Cap-2 Maneuver	598	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	4.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	881	1493	-
HCM Lane V/C Ratio	-	-	0.231	0.063	-
HCM Control Delay (s)	-	-	10.3	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection: 3: Fulmer Road & Blythewood Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	82	103
Average Queue (ft)	29	44
95th Queue (ft)	63	83
Link Distance (ft)	2053	3228
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Fulmer Road & Abney Estates Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	71	59
Average Queue (ft)	25	6
95th Queue (ft)	54	29
Link Distance (ft)	1161	1968
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Fulmer Road & Mount Valley Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	46	8
Average Queue (ft)	8	0
95th Queue (ft)	31	5
Link Distance (ft)	1997	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Fulmer Road & Turkey Farm Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	77	67
Average Queue (ft)	47	7
95th Queue (ft)	72	36
Link Distance (ft)	3036	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	282	79	156	204	62	96
Future Vol, veh/h	282	79	156	204	62	96
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	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	4	0	0
Mvmt Flow	297	83	164	215	65	101

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	380	0	881	338
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	543	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1190	-	320	709
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	586	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1190	-	270	709
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	495	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	18.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	433	-	-	1190	-
HCM Lane V/C Ratio	0.384	-	-	0.138	-
HCM Control Delay (s)	18.4	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.8	-	-	0.5	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	55	94	114	146	90
Future Vol, veh/h	53	55	94	114	146	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	17	0	0	2	1	0
Mvmt Flow	56	58	99	120	154	95

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	519	201	248	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	6.57	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	492	845	1330	-	-	-
Stage 1	798	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	453	845	1330	-	-	-
Mov Cap-2 Maneuver	453	-	-	-	-	-
Stage 1	798	-	-	-	-	-
Stage 2	649	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	3.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1330	-	593	-	-
HCM Lane V/C Ratio	0.074	-	0.192	-	-
HCM Control Delay (s)	7.9	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	17	222	164	11
Future Vol, veh/h	8	8	17	222	164	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	9	9	20	258	191	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	495	197	203	0	-	0
Stage 1	197	-	-	-	-	-
Stage 2	298	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	537	849	1381	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	528	849	1381	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1381	-	651	-	-
HCM Lane V/C Ratio	0.014	-	0.029	-	-
HCM Control Delay (s)	7.6	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	200	115	9	108	65
Future Vol, veh/h	26	200	115	9	108	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	1	0	0	0	0
Mvmt Flow	30	230	132	10	124	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	460	137	0	0	143	0
Stage 1	137	-	-	-	-	-
Stage 2	323	-	-	-	-	-
Critical Hdwy	6.45	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	554	914	-	-	1452	-
Stage 1	882	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	505	914	-	-	1452	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	662	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	4.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	836	1452	-
HCM Lane V/C Ratio	-	-	0.311	0.085	-
HCM Control Delay (s)	-	-	11.2	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.3	-

Intersection: 3: Fulmer Road & Blythewood Road

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	20	87	96
Average Queue (ft)	1	37	50
95th Queue (ft)	8	76	86
Link Distance (ft)	1994	2053	3228
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Fulmer Road & Abney Estates Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	96	67
Average Queue (ft)	46	16
95th Queue (ft)	74	49
Link Distance (ft)	1161	1968
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Fulmer Road & Mount Valley Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	52
Average Queue (ft)	9	4
95th Queue (ft)	32	22
Link Distance (ft)	1997	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Fulmer Road & Turkey Farm Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	84	70
Average Queue (ft)	52	11
95th Queue (ft)	81	43
Link Distance (ft)	3036	7938
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

2015

Town of Blythewood Comprehensive Plan

Doko Manor, Blythewood

Table of Contents

List of Exhibits

CHAPTER 1 INTRODUCTION AND PURPOSE

1.1 Introduction

The goal of this plan update is to establish a set of guidelines and procedures for implementing the development objectives of the Town of Blythewood, and to provide direction for the conservation, identity and growth of the Town. The Plan is intended for use by government agencies, citizens, and both the public and private organizations concerned with planning within the Town.

The Plan describes the framework for the arrangement of land use, public services, and transportation and how they will contribute towards making the Town a distinct and desirable community in the region.

The recent history of planning for the Town of Blythewood began in 1991. The focus of the 1991 study update was to create a "...land use inventory within the Town limits and to examine changes in land use over time as well as by annexation."

The stage for the 1997 Plan was set by the study of the Blythewood, SC Town Center conducted by Clark Smith Architect. The issues, goals and objectives developed through this document formed the vision of what the Comprehensive Plan should look like. The Plan focused on the Town's beautification, growth, economic development, land use, image, and how these goals can be achieved through various implementation techniques.

The 2004 plan was "annexation" driven, since over 1,600 acres of developed and undeveloped land had been added to the Town. New issues needed to be addressed and new plans and answers developed.

The 2008 Plan looked at areas outside of the town boundary anticipating future growth for the Town. It also laid the framework for the eventual master plan by incorporating policies of Sustainability.

The 2015 plan is an opportunity to update data using the 2010 Census but to also bring the plan more in line with the master plan which the Town is actively implementing. The plan is arranged in the following broad categories: Introduction, Existing Conditions, Policies and Objectives, and Implementation. The Existing Conditions element provides the feedback and the foundation from which the goals were drafted; the Policies and Objectives express the desires of the community on how they would like to grow; the Implementation provide the guidance on how to achieve these policies and objectives.

1.2 Plan Purpose

The purpose of a comprehensive plan is to assist officials and citizens of an area to build a better community and improve its surroundings. The Blythewood Comprehensive Plan provides: (1) the primary direction regarding development of the public and private sectors of the Town; (2) a stable land use pattern for the Town and surrounding area and; (3) the tools with which the Town can guide or direct the orderly growth and development of their area of influence.

A comprehensive plan also provides a forum for local elected officials to discuss growth and development in the Town and the surrounding area. The plan addresses how best to deal with the subject in a positive and effective manner and offers a variety of information through statistics, demographics, and a visual assessment of the Town of Blythewood. The plan will assist in implementing a source of action and serve as a basis for land use control regulations and ordinances. In essence, the plan is a guide for Blythewood's future land uses, both public and private, and a land use guide for areas that may be annexed in the future.

This planning effort must include the provision of adequate public utilities and transportation facilities, continued improvement in the public education system, and a new emphasis on the quality of life. The Blythewood Comprehensive Plan contains numerous recommendations for these areas and others. As development occurs, the Town must become aware that growth, while good for the economy, can begin to detract from those very characteristics of life in Blythewood that are highly valued. The rapid growth of a community can lessen the sense of place and community cohesiveness that make life in a small town attractive to many. The town's regulatory ordinances may serve not only to provide protection for specific land uses, but also to enhance the visual quality of growth and encourage development practices that create stronger neighborhoods and provide more opportunities for interaction.

The 2015 Comprehensive Plan update has been developed under the guidelines of the *South Carolina Comprehensive Planning Enabling Act of 1994*.

CHAPTER 2 POPULATION ELEMENT

2.1 Inventory

As shown in Exhibit 2.3 the Town has experienced substantial growth since the 1980 Census. The significant population increase from 2000 to the special census count in 2006 is a result of a combination of factors. First, the Town's successful agreements for water service from the Town of Winnsboro and sewer service from Palmetto Utilities brought the necessary infrastructure for urban development to the Town. Second, the water agreement gave the Town a bargaining tool for additional annexation into the Town. Third, the Town annexed large, developing subdivisions, providing the opportunity for new residential development in the Town. Exhibit 2.2 shows a map of the town and the study area. Due to the rapid growth, it is difficult to identify any significant change in demographics over the years, but one change does stand-out. Despite the increase in population, when presumably new families have moved into the Town or have been annexed into the Town, the median age of the residents increased from 37.8 to 40.6 years. This phenomenon is common in older, declining communities where young adults are moving away and few new residents moving into the community. In Blythewood's situation, it appears that an older population is moving into the town. Housing stock, which will be discussed in Chapter 7 plays a role in this change, but so does developments such as Cobblestone Park which has amenities that appeal to retirees.

Exhibit 2.1 2010 Census

	Town	Study Area
• Total Population	2,034	7,958
• Median age	40.6	38.3
• Male	985	3,989
• Female	1,049	4,059
• White	1,419	5,128
• Black	549	2,477
• Other Race	66	352
• Hispanic or Latino (of any race)	57	261

Exhibit 2.2 Base Map

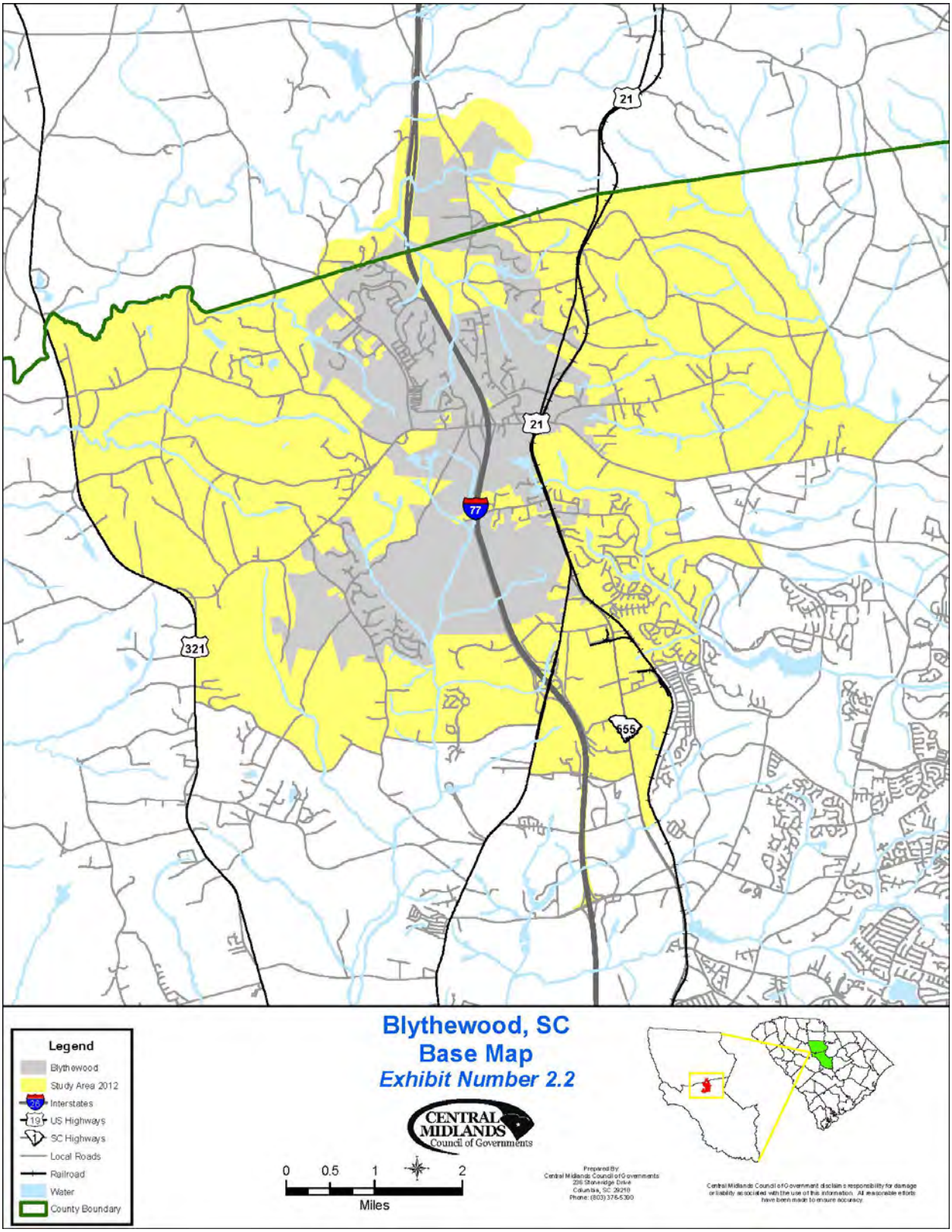
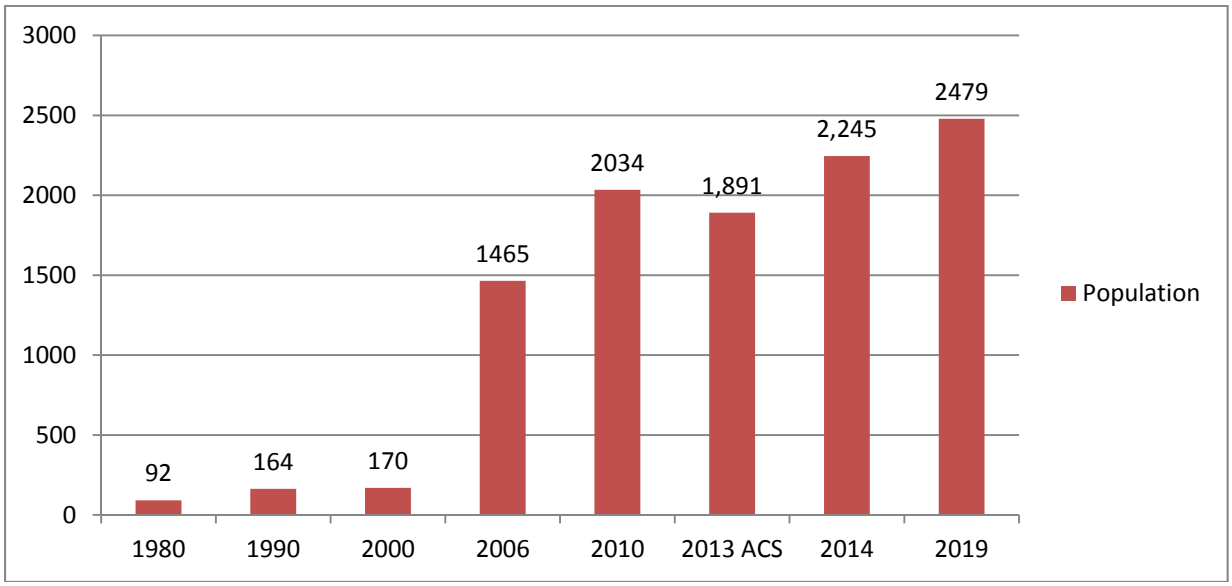


Exhibit 2.3 Population



2013 data based on American Community Survey, 2014 and 2019 projections based on ESRI Community Analyst

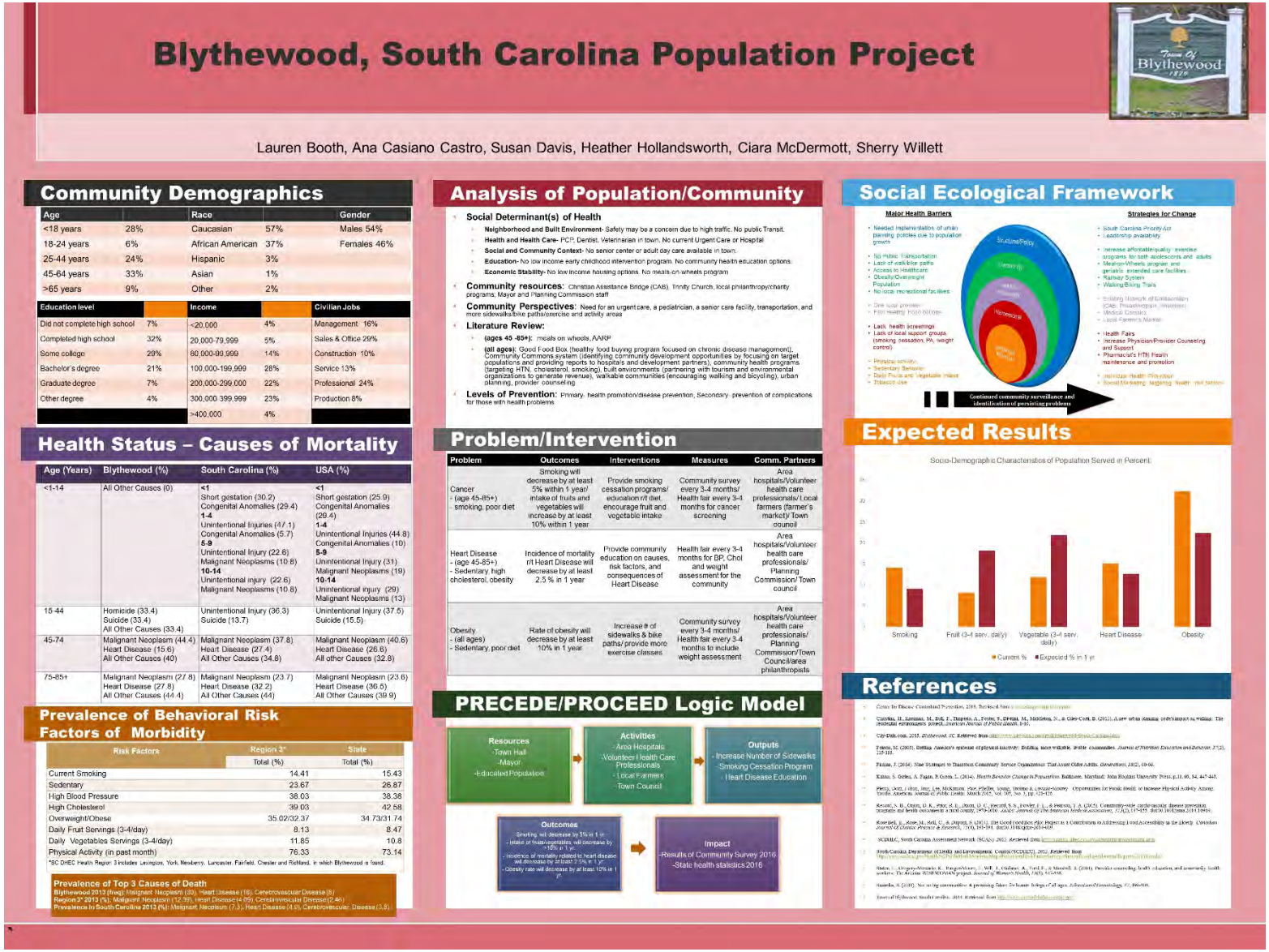
The population estimates showing in Exhibit 2.3 reflect data for national sources, but lag behind the building activity that has occurred in the town since the 2010 Census. Between 2011 and the first half of 2015 a total of 443 building permits and 322 certificates of occupancy have been issued in the Town of Blythewood. Examining these numbers in relationship to the Town's 2010 Census average of 2.8 persons per household would provide a current population estimate of around 2,900 people, which is well in excess of the 2019 population projections shown above. According to the Central Midlands Council of Governments regional population projections, the larger Blythewood study area is expected to more than double in population over the next thirty years.

One aspect of an older, affluent, retirement population is the high education level. The 2008-2012 American Community Survey estimated that 57.6% of those 25 years and older had a Bachelor's Degree or higher.

2.2 Opportunities

The Town has experienced tremendous growth during the decade, but it has also seen the median age of the population increase during this time. The Town needs to ensure that its decisions accommodate the older population. Adopting principles such as **universal design**, which provides standards for universal access in public and private developments, is one way to address the needs of an aging population. Additionally, **encouraging a mix of housing types** combined with a **mix of uses** in a vibrant setting will help attract younger residents. Residents of all ages can benefit from healthy and active lifestyles which can be facilitated through good urban design and access to healthy food, social services, and recreational amenities. The Town recognizes this growing need for healthy life styles and should continue to support and encourage residents towards healthy diets and opportunities for exercise. Exhibit 2.4 presents a wide range of public health statistics and recommended interventions for the Town of Blythewood.

Exhibit 2.4 Community Health Risks and Interventions



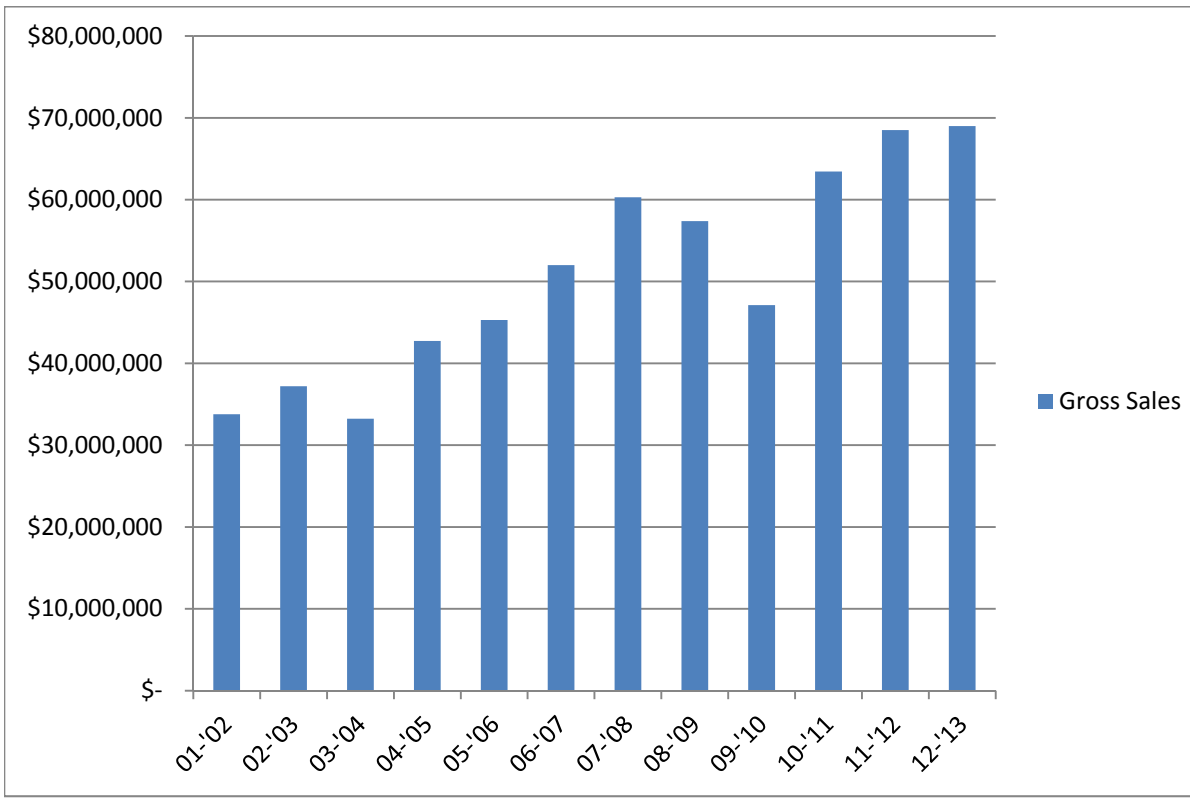
CHAPTER 3 ECONOMIC ELEMENT

3.1 Inventory

Background

Even before its incorporation in 1879, Blythewood's existence was tied to a major thoroughfare; historically, the railroad served as the lifeline for the Town. Even the original name of Doko described the Town's role as a "watering place" for the trains passing through the region. With the closing of the depot in 1968, and the completion of I-77 through Columbia, the interstate has replaced the railroad as the catalyst for development, and has had an even greater impact. Both the railroad and the interstate brought commercial development to the center, or "heart" of the Town. Commercial activities, such as shops and restaurants, developed to serve not only the residents in the area but travelers who were passing through the Town. The interstate has had a greater impact on the Town since people can more easily commute to Columbia for work, as well as making travel to other destination much more convenient. Exhibit 3.1 shows the economic impact of the interchange. From 2001-2002 the town saw a steady increase in gross sales with the peak coming in 2007-2008. The following two years saw a decline reflecting the national recession, but the year 2010-2011 showed a rebound in gross sales, exceeding the total from 2008-2009.

Exhibit 3.1 Town of Blythewood Gross Sales



Source: SC Department of Revenue

Employment

The next three exhibits present employment and economic data from the 2008-2012 American Community Survey. The most significant finding in Exhibit 3.2 is that the estimated total unemployment rate (Civilian and Armed Forces) for the town was 5.4% at a time with the national rate was around 8% and during a period when the State's unemployment rate ranged from 6.6%-9.4%[1]. The high education attainment noted in Chapter 2 is reflected in the employment by industry in the town where an estimated 39% of the civilian labor force is employed in the two sectors, Education, Health Care, and Social Services (253 people) and Professional, Scientific, and Management, and Administrative and Waste Management Services (111 people).

Exhibit 3.2 Employment Status

STATUS	Estimate	Margin of Error	Percent	Margin of Error
Population 16 years and older	1,396	+/- 220	(X)	(X)
In labor force	1,013	+/-186	72.6%	+/-5.0
Civilian labor force	990	+/-176	70.9%	+/-5.0
Employed	937	+/-158	67.1%	+/-5.6
Unemployed	53	+/-44	3.8%	+/-2.8
Armed Forces	23	+/-25	1.6%	+/-1.7
Not in labor force	383	+/-84	27.4%	+/-5.0
Civilian labor force	990	+/-176	(X)	(X)
Percent Unemployed	(X)	(X)	5.4%	+/-4.0
2009-2013 ACS 5-year survey				

Exhibit 3.3 Employment By Industry

INDUSTRY	Estimate	Margin of Error	Percent	Margin of Error
Civilian employed population 16 years and over	937	+/-158	937	(X)
Agriculture, forestry, fishing and hunting, and mining	1	+/-3	.1%	+/-.3
Construction	28	+/-18	3.0%	+/-1.8
Manufacturing	71	+/-34	7.6%	+/-3.6
Wholesale trade	22	+/-14	2.3%	+/-1.5
Retail trade	106	+/-46	11.3%	+/-4.4
Transportation and warehousing, and utilities	51	+/-32	5.4%	+/-3.2
Information	20	+/-17	2.1%	+/-1.7
Finance and insurance, and real estate and rental and leasing	88	+/-31	9.4%	+/-2.8
Professional, scientific, and management, and administrative and waste management services	111	+/-36	11.8%	+/-3.6
Educational services, and health care and social assistance	253	+/-74	27.0%	+/-5.7
Arts, entertainment, and recreation, and accommodation and food services	50	+/-24	5.3%	+/-2.5
Other services, except public administration	37	+/-19	3.9%	+/-1.9
Public administration	99	+/-45	10.6%	+/-3.7
2009-2013 ACS 5-year survey				

[1]http://www.google.com/publicdata/explore?ds=z1ebjpgk2654c1_&met_y=unemployment_rate&idim=state:ST450000&fdim_y=seasonality:S&dl=en&hl=en&q=south+carolina+unemployment+rate

Income and Commuting

Exhibit 3.4 shows income distribution in Blythewood. The town has the highest Median Family Income in the region ($101,406), with the Town of Arcadia Lakes second ($96,250).

Exhibit 3.4 Income

INCOME AND BENEFITS (IN 2010 INFLATION-ADJUSTED DOLLARS)	Estimate	Margin of Error	Percent	Margin of Error
Families	548	+/-93	548	(X)
Less than $10,000	3	+/-7	.5%	+/-1.2
$10,000 to $14,999	8	+/-9	1.5%	+/-1.6
$15,000 to $24,999	10	+/-11	1.8%	+/-1.9
$25,000 to $34,999	17	+/-15	3.1%	+/-2.8
$35,000 to $49,999	51	+/-27	9.3%	+/-4.6
$50,000 to $74,999	84	+/-45	15.3%	+/-6.9
$75,000 to $99,999	92	+/-37	16.8%	+/-5.9
$100,000 to $149,999	130	+/-37	23.7%	+/-6.0
$150,000 to $199,999	84	+/-31	15.3%	+/-5.6
$200,000 or more	69	+/-26	12.6%	+/-4.4
Median family income (dollars)	101,406	+/-13,114	(X)	(X)
Mean family income (dollars)	117,746	+/-11,757	(X)	(X)
2009-2013 ACS 5-year survey				

83.1% of the residents commute alone to work with a mean travel time of 22 minutes. Diversifying the employment base beyond the service industries along the I-77 interchange would help to keep the residents in the town reducing the need to commute to other parts of the region. Another aspect of the relatively high commute time serves as an indicator that many of the service jobs that are located in the town are not filled by town residents, but rather by workers commuting into the town from the surrounding area.

Exhibit 3.5 Commute to Work 2006-2010 ACS

COMMUTERS	Estimate	Margin of Error	Estimate	Margin of Error
Workers 16 years and over	957	+/-164	957	(X)
Car, truck, or van -- drove alone	795	+/-143	83.1%	+/-4.5
Car, truck, or van -- carpooled	63	+/-30	6.6%	+/-2.8
Public transportation (excluding taxicab)	0	+/-13	0.0%	+/-3.8
Walked	4	+/-6	0.4%	+/-.7
Other means	9	+/-11	0.9%	+/-1.2
Worked at home	86	+/-37	9.0%	+/-3.5
Mean travel time to work (minutes)	22.1	+/-1.6	(X)	(X)
2009-2013 ACS 5-year survey				

3.2 Opportunities

The commercial development in the town has been primarily retail and service activities to meet the needs of the town residents but also, due to the interstate interchange, meet the needs of those traveling on I-77. The employment base is not yet diversified enough to meet the employment needs of the residents which is why the commuter rate is high. The Town needs to **accommodate the expected growth in an orderly fashion** that respects both the **existing built environment** as well as **the existing natural environment**, which could be accomplished by providing **incentives to developers** who actively work to implement the visions of the Town and having a stable and predictable land development process in place. To address these needs, the master plan recommends the following projects:

- Establish a technology village west of I-77 in southern Blythewood
- Install landscaping, distinctive fencing and welcome signage along I-77 approaches to Blythewood Road - ***COMPLETED***
- Design and install wayfinding signage - ***IN PROGRESS***
- Install historic markers at historic buildings and other points of interest
- Construct or lease space for a Blythewood Welcome Center - ***COMPLETED***
- Assemble land at the northwest corner of Main Street and McNulty Avenue for a possible historic village
- Hire a qualified staff person to research funding and implementation options for Master Plan projects
- Identify key real estate sites to prepare for redevelopment and consider potential for acquisition to build an inventory of ready-to-go properties for leasing or development – ***ON-GOING***
- Enact development and business relocation incentives such as expedited plan review, public leases, low interest loans, tax increment financing, and other economic incentives
- Develop marketing collateral materials including a prospect package, fact sheets, maps, and electronic materials - ***IN PROGRESS***
- Develop a web site based on the town's branding theme - ***IN PROGRESS***
- Organize a business development team through the Chamber of Commerce - ***COMPLETED***
- Establish a marketing implementation program.- ***IN PROGRESS***

The economic development needs of the Town, as expressed in the master plan and throughout this document, are considered to be of high importance to the local leadership. At the Town Council Retreat on March 8, 2015 a SWOT analysis was carried out on the primary goals of the Comprehensive Plan in order to determine the current relevance and importance of those major objectives. As a result of the discussion and analysis the primary goals were set in order of importance with Commercial and Economic Development as the most important factor upon which the prosperity of the Town depends.

It was subsequently agreed that the Planning Commission should conduct a similar SWOT analysis on this specific topic to provide the framework for advising Council on the path forward. The results of the SWOT conducted on Commercial and Economic Development are presented below.

Strengths:

- Ties with I-77 Alliance, Central S.C. Alliance and the Richland County Office of Economic Development
- Strong relationships with experienced and knowledgeable economic development professionals
- Desirable location with strong residential growth
- Zero property taxes
- Doko Meadows and the Manor
- High quality schools and housing to attract new businesses and residents
- Bravo Blythewood

Weaknesses:

- Complex land use ordinance
- Desire to maintain status quo
- No campaign to market the Town
- Lack of aggressive plan for economic development
- No "boutique hotel" to cater for corporate retreats
- Poor signage in the Town (e.g., inadequate directions to Doko)
- No traditional "Town Look"
- Hospitality fees on businesses perceived to be a negative
- Number of rooftops to support commercial is too low
- Inadequate code enforcement

Opportunities:

- Suitable zoned real estate available
- Revenue for the Town will increase
- Amenities for residents will improve
- Long term Town Center Plan (develop one)
- Grant $$ for Economic Development (search for)
- Bond availability (low interest rates at present time)
- New LI (2) District
- Town has nearly 1,000 acres of land available for commercial/industrial development
- Maximize & expand festivals, hot air balloons, rodeo, jazz, marching bands, tournaments, etc.
- Blythewood Music Festival
- Good schools and quality housing to attract new businesses and residents
- Bravo Blythewood (make more use of)
- Better use of social media to give exposure to Blythewood's attributes

Challenges:

- Competition from nearby development
- Concerns for residents
- Economic development
- Completion of plans to re-vitalize roads and road plans in Town
- Past perception of developers that Blythewood is hard to deal with
- Insufficient funds
- Town has solid financial reserves but the future is uncertain because of potential reductions in permitted taxation
- Council must avoid being nonchalant or too risk averse

The results of this SWOT analysis reflects the belief that the Town has a great deal to offer homebuyers, businesses and industries. A belief which is substantiated by the rapid rate of growth in Blythewood since 2000. The Town depends upon this growth for its survival but could re-organize in several ways to maximize this potential, guided by the Comprehensive Plan and SWOT output. Some key conclusions and recommendations are summarized below and are reflected in the implementation plan outlined in Chapter 12.

- Follow-up the review of the Comprehensive Plan with a determined action strategy and establish responsibility and accountability for implementation;
- Commission a Commercial and Economic Development Plan as a matter of urgency and look at availability of grants, bonds, incentives, etc;
- Commission a Marketing Plan and improve promotional signs on I-77 and in the Town;
- Update the TOB website so that it reflects the Town we live in and displays the resources and facilities available and their location (street maps);
- Plan to have one event at Doko Meadows every weekend and expand the facilities for ball fields, etc; - ***COMPLETED***
- Press forward with the road and storm drainage improvements within the Town;
- Further utilize the Commissions, Boards, Chamber of Commerce, Bravo Blythewood, etc. as ambassadors & consultants more effectively.

CHAPTER 4 NATURAL RESOURCES ELEMENT

4.1 General

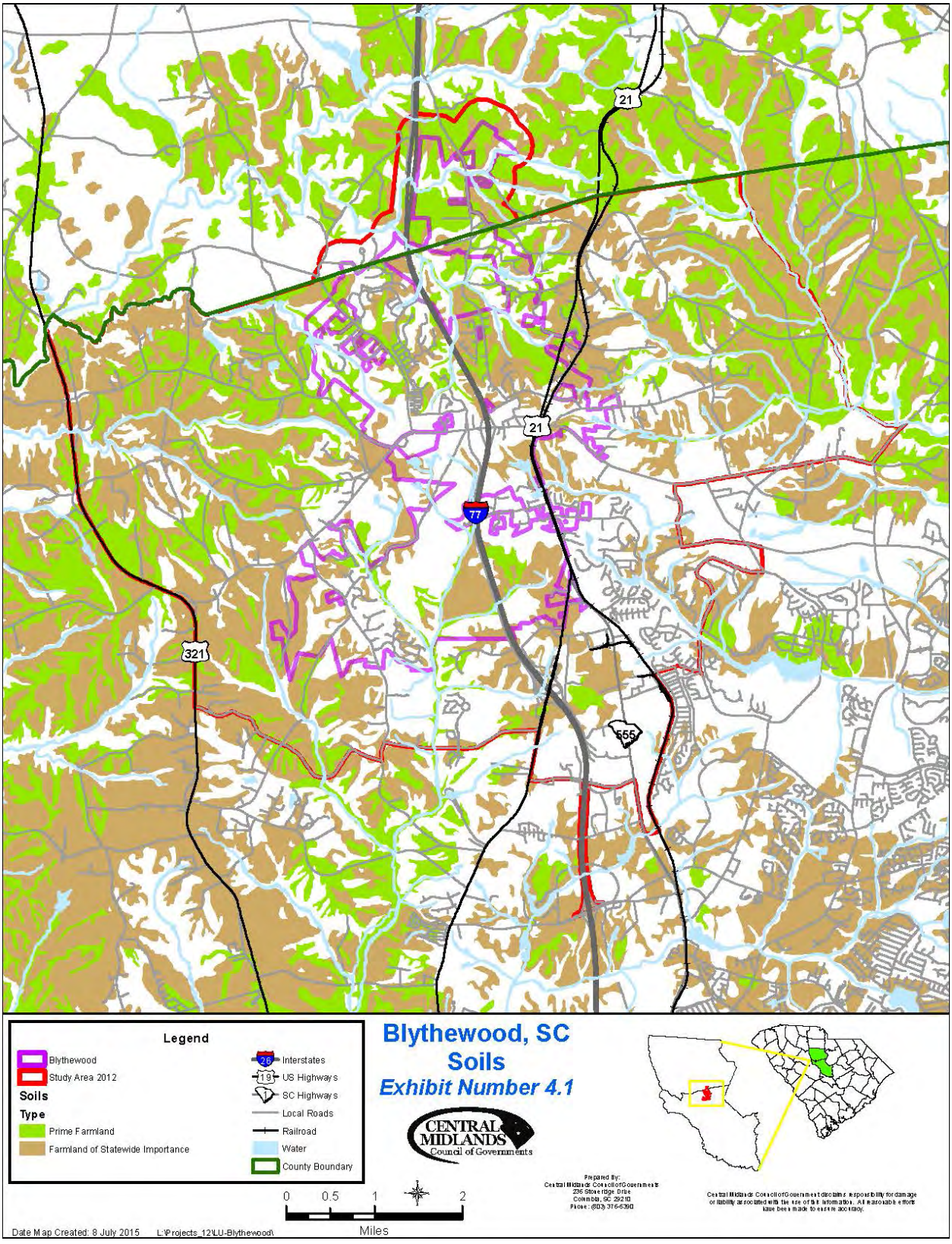
The Town of Blythewood is located in the northern portion of Richland County, straddling the border with Fairfield County. It lies at the intersection of Blythewood Road and I-77, and is approximately 10 miles north of the intersection of I-77 and I-20.

4.2 Inventory

4.2.1 Soil and Slope

Blythewood is located in the Coastal Plain area of Richland County. This class of soil is generally found on smooth ridges and stream terraces of the Coastal Plain along elevations of 100 to 250 feet with marginal to moderate slopes. The Coastal Plain is divided into two subclasses: the Lakeland and Pelion-Johnston associations. The Lakeland association is the only one found in Blythewood. It consists of deep, gently sloping to strongly sloping, excessively drained soils which formed in sandy marine sediment. These soils have a dark gray sandy surface layer of up to 80 inches. Low water capacity and inherently low fertility for farming generally limit existing natural growth to woodlands. Exhibit 4.1 shows of map of prime farmland around the Town.

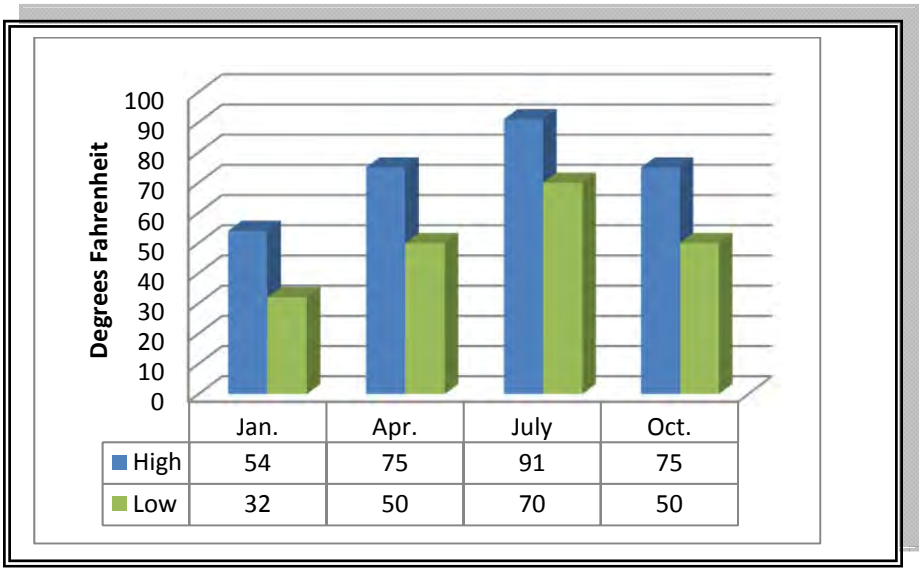
Exhibit 4.1 Soils



4.2.2 Climate

The temperate climate provides hot and usually humid summers due to warm, moist air from the Atlantic Ocean. The winters are moderately cold but short, moderated by the Appalachian Mountains in the northwest that impede cold air movement from the north. The average winter temperature is 48 degrees, and the average summer temperature is 80 degrees. The total annual precipitation of 47 inches is fairly evenly distributed among the seasons. Prevailing winds are from the southwest with an average wind speed of nine miles per hour.

Exhibit 4.2 Average Temperature



	Jan.	Apr.	July	Oct.
High	54	75	91	75
Low	32	50	70	50

4.2.3 Streams, Wetlands and Hazards

Prior to recent annexations, there were very few areas in the Town that were susceptible to flood damage based on the FEMA Flood Insurance Rate Maps. However, as the town annexed property that was susceptible to flooding, it became important for the town to implement floodplain management standards. As a result, the town has become a member of the National Flood Insurance Program and has adopted flood mitigation regulations. Additionally the town's zoning ordinance includes a floodplain overlay district and a floodway overlay district.

The Town of Blythewood participated in the update to the **An All Natural Hazard Risk Assessment and Hazard Mitigation Plan for the Central Midlands Region of South Carolina 2010 Update.** The plan identified the following natural hazards by priority that affect the town:

1. Forest Fires/Wild Fires
2. Flooding
3. Winter Snow and Ice Storms
4. Thunderstorms/Summer Storms with accompanying hail, wind and lightening
5. Hurricanes
6. Tornados
7. Earthquakes

8. Drought/Heat

As part of the planning process, a list of implementation strategies was developed to mitigate the impact of the hazards listed above.

4.2.4 Air Quality

EPA regulates local air quality because it directly contributes to public health problems (e.g. cardiopulmonary problems like heart attacks, as well as respiratory conditions like asthma and bronchitis). According to the South Carolina Department of Health and Environmental Control local air quality monitors, much of the area can experience dangerously high concentrations of ground-level ozone based on EPA standards. Of the three air quality monitors in the area, the Parklane and Sandhill monitors have a history of exceeding EPA's current standard of 0.075 ppm.[2] To date, both Richland and Lexington counties are considered to be in attainment, but EPA is in the process of revisiting the standard and is expected to issue a final rule at some point in the near future. Central Midlands Council of Governments (CMCOG), DHEC, Richland and Lexington Counties, and other regional stakeholders have established an air quality coalition called Clean Air Midlands which intends to collaborate on initiatives to reduce mobile source emissions and keep the midlands area in attainment with future air quality standards.

4.2.5 Sustainable Energy

From the fall of 2010 to the spring of 2012, Central Midlands COG participated in the development of the *Sustainable Energy Plan for the Central Midlands Region*. While the plan was developed to address the specific needs of Lexington County, Richland County and the City of Columbia, many of the recommendations in the plan were designed to be applicable to most of the jurisdictions in the region.

The plan addressed sustainable energy issues in four general topics:

- **Energy Efficiency:** When looking for ways to conserve energy, the first place the local governments should look is in areas they have the greatest control, specifically their facilities and policies. South Carolina lacks a statewide energy efficiency resource standard, but even in the absence of a statewide standard, there are many actions available to the Central Midlands local governments to improve the energy efficiency of the built environment.
- **Broader Initiatives:** Regional policies such as actions on land use, transportation, procurement, waste management, and drinking/wastewater while still under local government control, require a level of regional cooperation to see significant energy efficiency. The plan focuses on reducing the region's energy footprint through areas over which local government possesses considerable control and expertise but looks at the cooperative nature of these activities.
- **Renewable Energy:** Renewable energy can improve local air quality and energy security by offsetting the use of conventional energy sources and diversifying the energy portfolio. In addition, alternative energy development positively impacts the region's economic development by generating green collar jobs and keeping spending on energy within the region. The Central Midlands is blessed with a reasonably good endowment of renewable

[2] EPA uses the most current three-year average to make a determination on a county's attainment designation.

resources. Access to solar power is increasing in SC due to the passage of Act 236 in 2014, which will make it easier for homeowners and businesses to expand their energy portfolio with solar power options. The new legislation will expand opportunities for rooftop solar panels, solar farms, and net energy metering, as well as provide additional incentives for tax-exempt entities. The law will enhance the Town of Blythewood's existing efforts to encourage the use of renewable energy sources.

- **Economic Development:** If local governments are successful in their efforts to reduce the energy footprints of Richland and Lexington Counties, then some green jobs will surely be created, but other economic activity might get curtailed. Likewise, the alternative to implementing a sustainable energy plan may also cause some jobs to be created and others to be lost. On balance, pursuing energy sustainability produces greater net benefits for a local economy than the alternative.

4.3 Future Needs

The Town has a rich supply of natural resources within its boundaries and an even richer supply within close proximity. However, much of this treasure is not formally protected. In broader cases, the Town should work with developers to **identify sensitive areas** as generally reflected on exhibit 4.1 and create development plans that help preserve/protect these sensitive areas. The town should participate in specific activities to promote the sustainable use of natural resources. An example of a possible activity the town could pursue is a program to compost horse manure which is impacting the water quality of the 25 Mile Creek watershed. This program could be a public/private partnership with a company that would collect the manure for composting. A portion of that compost could then be used by the town to help fertilize the landscaping in the town parks.

With the placement of five electric vehicle charging stations at two hotels and a gas station in the Town Center, Blythewood has positioned itself as a leader for the region for the use of alternative energy vehicles. The stations are open 24/7 at no cost to users through the collaboration of local automotive dealers, utility companies and the supplier of the charging equipment. The Town is a supporter of the regional activities designed to improve air quality such as **SmartRide** (commuter bus service provided by the Central Midlands Regional Transit Authority), **carpooling, staying in at lunch, and reducing excessive idling**. On the local level, the Town can address activities such as **limiting open burning**, and encouraging **mixed use developments** that reduce the need for vehicle trips. To address these needs, the master plan recommends the following projects

- completing the town park - ***PHASE 1 COMPLETE***
- enacting a stream buffer ordinance,
- adopting the Sustainability Practices document
- promoting community gardens and orchards throughout the town.

CHAPTER 5 CULTURAL RESOURCES ELEMENT

5.1 Historic Background

The original settlement had its beginnings near the only railroad depot in this part of the county and was named Doko, an Indian name meaning "watering place." This essentially was the depot's purpose since steam engines stopped here to take on fuel and water. The Town of Blythewood acquired its name through the establishment of the Blythewood Female Institute in 1860. Established one mile west of the Doko depot by Dr. S. W. Bookhart, the institute took its name from the surrounding landscape. The local citizens, taking a liking to the name, adopted it as the name of the village in 1877.

On December 24, 1879, by Act of the South Carolina General Assembly, the village was incorporated as the Town of Blythewood. Boundaries were drawn to make a circle one-quarter mile around with the train depot as the center for a total of 126 acres. A November 24, 1875 plat of Doko shows that roads were laid out west of the railroad and given names representing those families settling in the area. There are no records of elections during this period. Blythewood was a part of Fairfield County until 1913, but by vote of its citizens, joined Richland County. For almost 100 years the Town had no formal governmental structure. Some residents became dissatisfied with what they perceived to be inadequate representation and on February 15, 1974 were able to get then Governor John C. West to reenact the Town Charter of 1879. It was not until March 26, 1974 that the first elections were held to elect the first Mayor and council members.

The railroad was the lifeline of the village during the early years; cotton and other products from the local farms and plantations were shipped from the depot. There had been settlers in the area for some time, but it was the depot and turn-out (side track for loading and unloading) which was the catalyst for the Town's development. The railroad, originally known as the Charlotte and South Carolina Railroad, was built in the 1850s, with the first route from Charlotte to Columbia. In 1888 the railroad become the Richmond and Danville Railroad Company, and was later purchased and operated by Southern Railway Company in 1900. The current owner is Norfolk Southern Railroad. The depot served Blythewood for 98 years until it was discontinued and demolished on June 30, 1968.

5.2 Inventory

Historic Sites

The area in and around Blythewood is rich in historical resources; however, there are only a few historically significant structures within the Town limits. The Town recently adopted historic preservation guidelines to help identify and preserve historic structures. The Town of Blythewood Board of Architectural Review will be monitoring the status of structures for inclusion on the list of historically significant structures. Exhibit 5.1shows the initial list of historically significant sites developed under the historic preservation guidelines. Exhibit 5.2 is a copy of the historic sites map in the town's master plan showing the historic sites in the town center area.

The Blythewood Historical Society was founded in 2010 to help protect, nurture and support the historical, pre-historical and cultural heritage of Blythewood through preservation, advocacy and education. One of their accomplishments includes the development of a historic site walking tour of the area.

Exhibit 5.1 Blythewood Historic Sites

Historical Name	Date of Construction (ca.)
Bethel Baptist Sanctuary and Cemetery	1864
Sandy Level Baptist Sanctuary and Cemetery Sandy Level Slave Balcony Sandy Level Baptismal Pool	1856
George Peter Hoffman House	1855
Boney/Hykil House	1859
Old Post Office/Wilson 5, 10 & 25	1912
St. Marks Lutheran Sanctuary and Cemetery	1885 (est.) 1930 (bld.)
Langford/Wilson Community Store	1914
DeSto and sister building	1920
Original Blythewood School 3 bldgs. Blythewood School Rock Columns	Late 1920s early 1930s 1939 gym
Wooten Procter House	1925
Bookhart/Blume House	1905
Clara Martin Sandwich Shop	Early 1950s
Tom/Tally Boney Barn and Milk Shed	
Langford/Nord House	1895
Langford/Wilson House	

Exhibit 5.2 Historic Sites from the Town of Blythewood Master Plan

Cultural Arts

Complementing the commitment to historic preservation, the Town of Blythewood also has a thriving cultural arts community as evidenced by the Blythewood Artists Guild which operates an arts center and gift shop on Blythewood Road. The Blythewood Artists Guild, also known as Bravo Blythewood, is an organization committed to cultivating the artistic talents of Blythewood and the surrounding community through events, education, promotions, advocacy, and support. The organizations goal is to provide a unifying element for all artists in order to foster, develop, and grow the local artist community. Bravo Blythewood is also committed to cultivating the talent and energy of some of the areas youngest residents through a partnership with Richland School District Two. In conjunction with the "Arts in Education" program, Bravo Blythewood works with young artists and students in order to educate, promote, and display their work so that they may grow as artists, students, and citizens.

5.3 Opportunities

The Town's Board of Architectural Review was instrumental in the development of historic preservation guidelines and has also developed a list of historic sites based on these guidelines. As this list grows, the Town will need to work with property owners to **implement the historic preservation guidelines**. In order to expand the purview of the Board of Architectural Review, architectural and other design standards have been adopted for all land uses within the town center and for all commercial districts within the municipal limits. The creation of a **historic district** and the **identification of funding sources** for the repair and maintenance of historic properties may be necessary in the future. To address all of these needs, the master plan recommends the following projects:

- Expand the purview of the Board of Architectural Review beyond the core of the town - ***COMPLETED***
- Adopt the Design Guidelines in the Master Plan - ***COMPLETED***
- Assemble the land at the northwest corner of Main Street and McNulty Avenue for a possible historic village
- Enact key updates to the town's zoning ordinance to more responsibly shape development in the short term.

CHAPTER 6 COMMUNITY FACILITIES ELEMENT

6.1 Inventory

Below is a review of the current status of the public facilities offered in the town. Maps 6.1, 6.2, 6.3 and 6.3A illustrate the location of the various facilities. The water and sewer maps are based on old information provided to CMCOG from the various service providers. Attempts to update this information have been made.

6.1.2 Water and Sewer

The Town of Winnsboro began providing water service to the Town of Blythewood in 1997. Initially, only certain areas of Blythewood had access to this service. The remainder of the Town was connected to the system in the fall of 2001 – spring of 2002. The Town of Winnsboro gets its raw water supply from a 192 acre lake, Sandy Creek and a quarry/reservoir which was added in the fall of 2000. The average pumpage is 1.2 MGD, and the total plant capacity is 3.1 MGD. The total storage capacity, including elevated, ground and pressure tanks, is in excess of 3.5 million gallons.

The Town of Winnsboro recently entered into an agreement to purchase water from the City of Columbia as a result of a recent drought in the region severely impacting their water supply. That agreement, in addition to the Town of Winnsboro's construction of a new raw water line connecting their supply to the Broad River, has provided the capacity to sustain current and future water demand well into the future despite any possible future drought conditions.

Recent annexations toward the south have added properties served by the City of Columbia. As the Columbia water system expands towards the Town of Blythewood, the Town's ability to grow towards the south may be enhanced because of this expanded water system. As the Town grows and develops it will need to continue coordinating with both the City of Columbia and the Town of Winnsboro to ensure access to an adequate water supply.

Palmetto Utilities provided sewer service starting in 1997. Palmetto Utilities is a private utility system franchised to provide sewer service to the northeastern portion of Richland County. Granted a contract and franchise by Richland County and the Public Service Commission, Palmetto Utilities provides service to several large developments including: Briarcliffe Estates, Longcreek Plantation, The Summit, and Woodbranch. Palmetto Utilities operates a land application plant located in Kershaw County with a permitted capacity of 2.25 MGD.

The City of Columbia also provides sewer service to a number of residential, commercial and industrial areas to the south and west of the Town of Blythewood. Coordination with the City of Columbia may be necessary as the Town continues to grow in this direction.

Exhibit 6.1 Water Lines

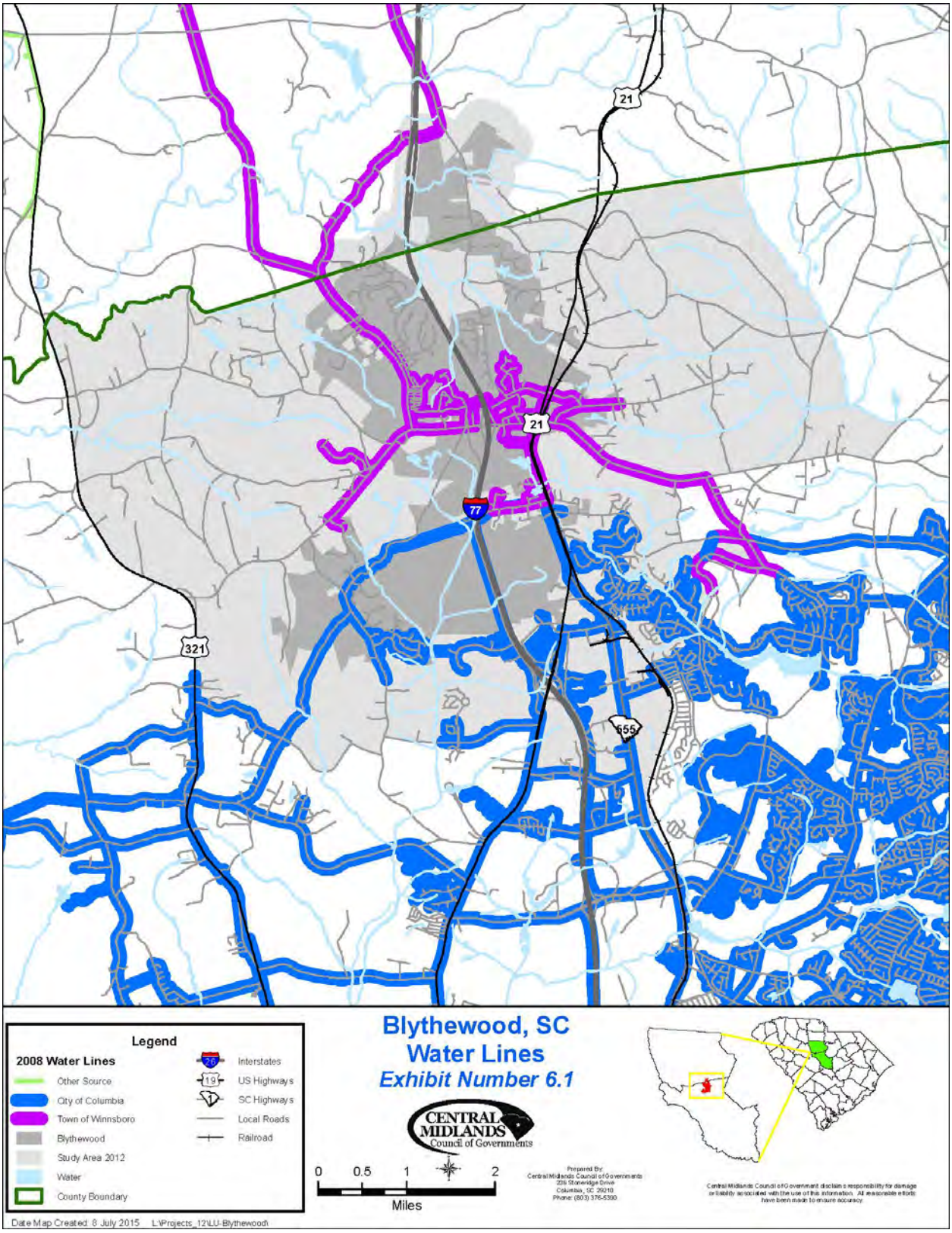


Exhibit 6.2 Sewer Lines

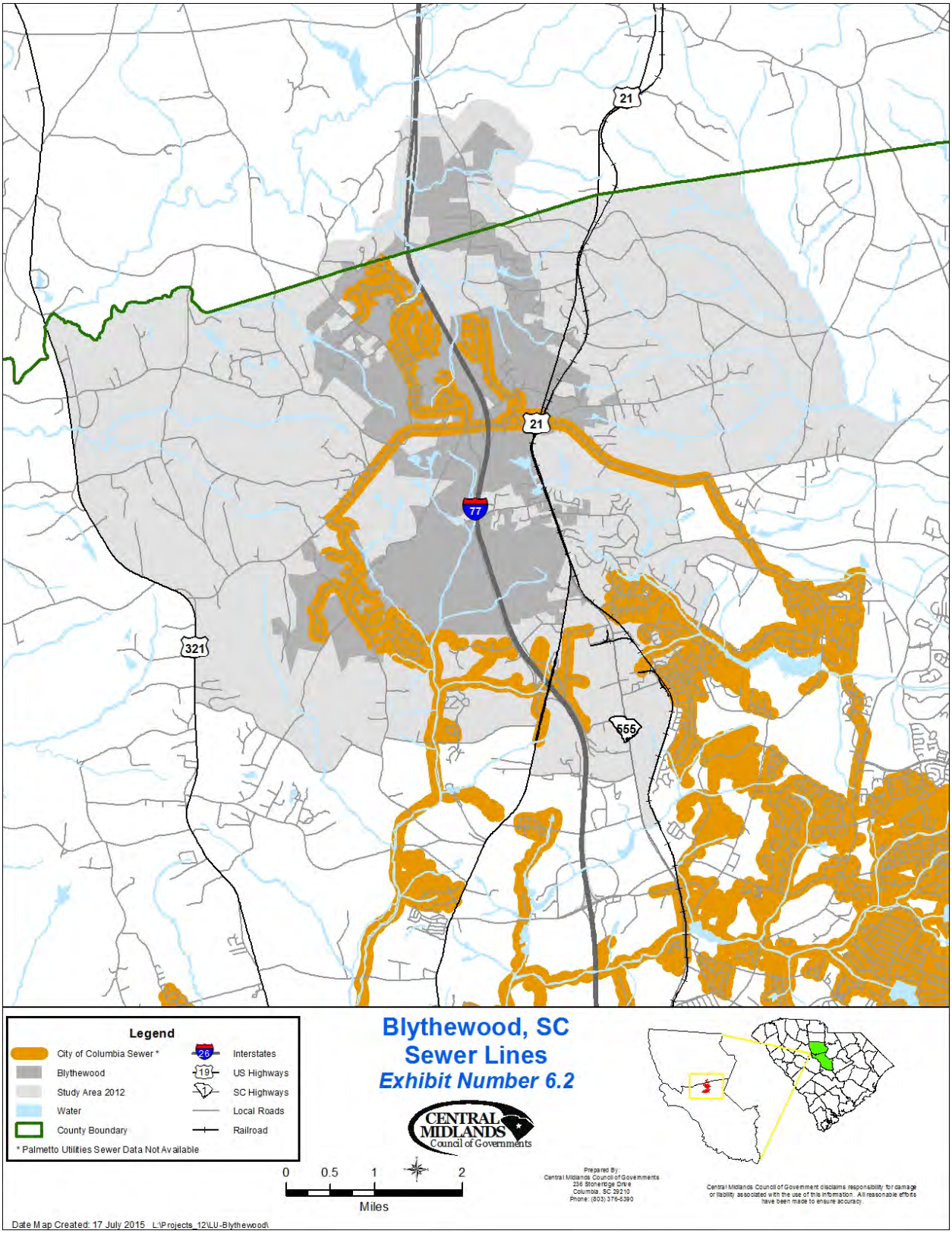
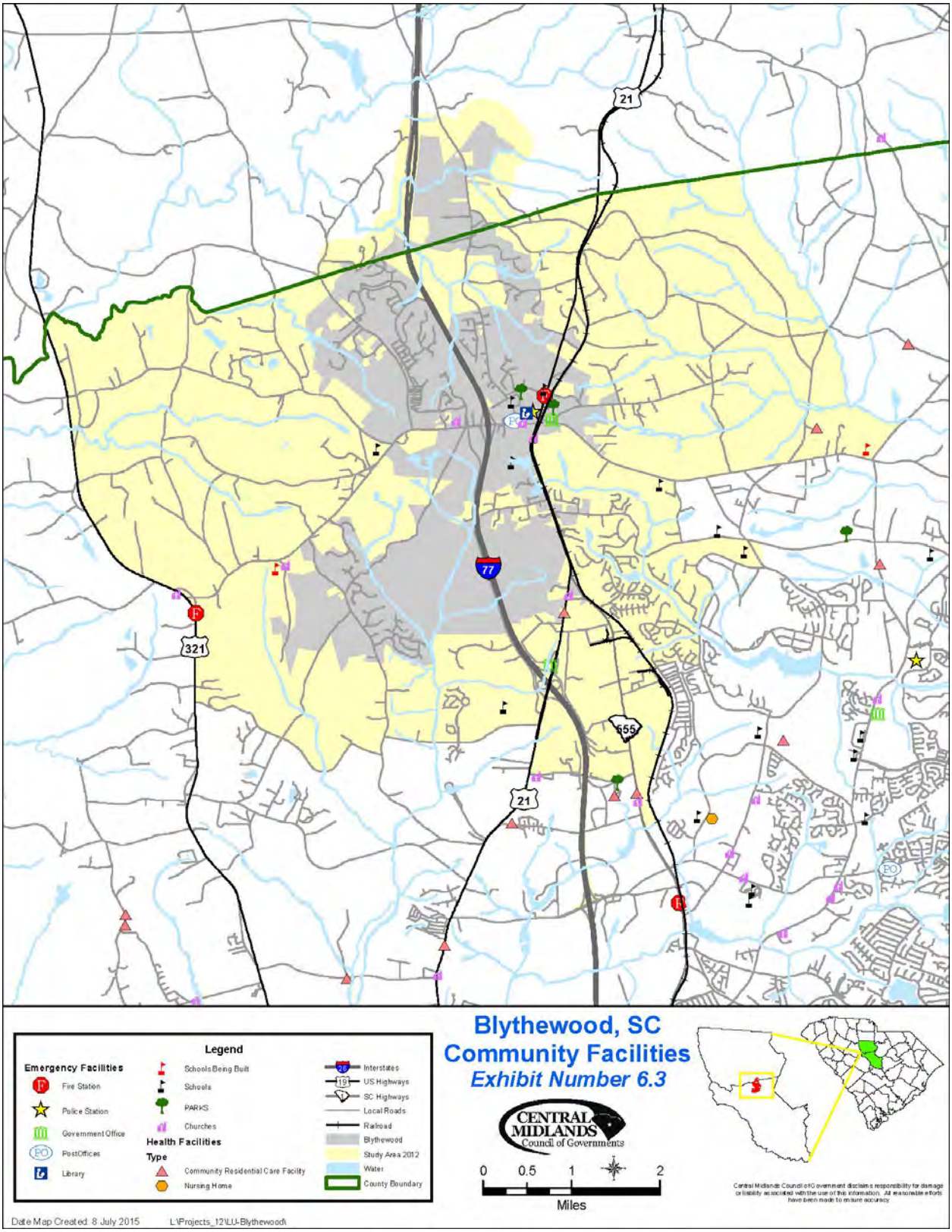
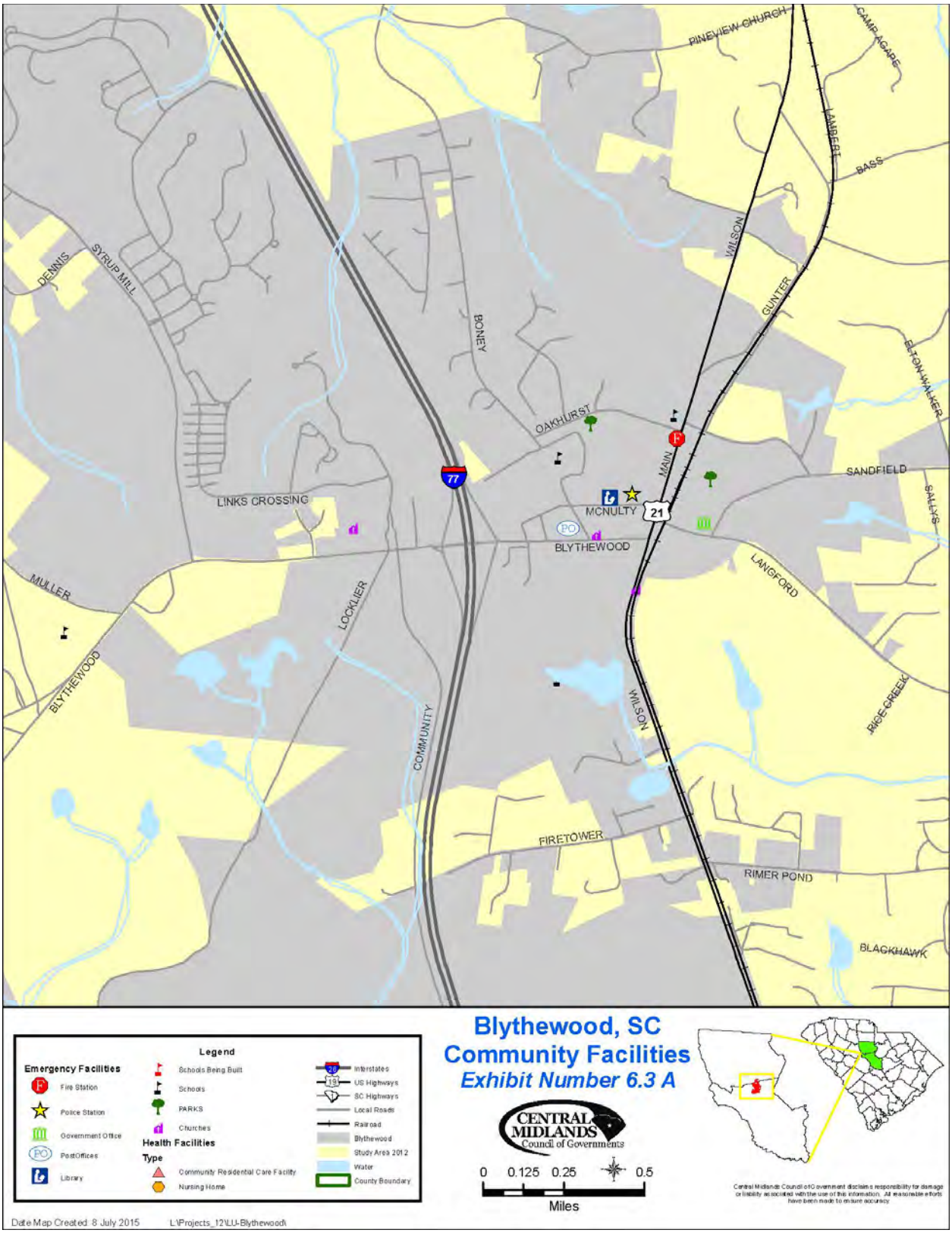


Exhibit 6.3 Community Facilities




PINEVIEW CHURCH
CAMP AGAPE
LAMBERT
BASS
WILSON
GUNTER
ELTON WALKER
DENNIS
SYRUP MILL
BONEY
OAKHURST
MAIN
SANDFIELD
SALLYS
LINKS CROSSING
77
MCNULTY
21
BLYTHEWOOD
LANGFORD
MULLER
LOCKLIER
BLYTHEWOOD
COMMUNITY
WILSON
RICE CREEK
FIRETOWER
RIMER POND
BLACKHAWK
Legend
Emergency Facilities
Fire Station
Police Station
Government Office
PostOffices
Library
Schools Being Built
Schools
PARKS
Churches
Health Facilities
Type
Community Residential Care Facility
Nursing Home
Interstates
US Highways
SC Highways
Local Roads
Railroad
Blythewood
Study Area 2012
Water
County Boundary
Blythewood, SC
Community Facilities
Exhibit Number 6.3 A
CENTRAL MIDLANDS
Council of Governments
0 0.125 0.25 0.5
Miles
Central Midlands Council of Government disclaims responsibility for damage or liability associated with the use of this information. All reasonable efforts have been made to ensure accuracy.
Date Map Created: 8 July 2015
L:\Projects_12\LU-Blythewood\

6.1.3 Solid Waste

Richland County contracts with Advanced Disposal and Waste Industries for solid waste and recycling collection in the Blythewood area.

6.1.4 Public Safety

Fire and EMS: An EMS and fire facility is located on U.S. 21 just north of Blythewood Road. This facility is operated by Richland County.

Magistrate Court: Magistrate Court is located on McNulty Street in a building jointly occupied by the Sheriff's Department.

Police: The Richland County Sheriff's Department provides policing in the Blythewood area. The department has established a separate facility in Blythewood on McNulty Street in a building jointly occupied by the Magistrate Court.

6.1.5 Recreation

Richland County Recreation Commission operates a 21.62 acre recreation complex located on Boney Road, across from Bethel-Hanberry Elementary School. In addition to two lighted Dixie Youth baseball fields, one lighted softball field, two tennis courts, a playground and picnic facilities with shelter, there is a recreation center with meeting rooms, weight room, and basketball facilities.

6.1.6 Town Hall and Meeting Facilities

Town Hall: Town Hall is located at 171 Langford Road in the Hoffman House. Currently 7 staff members and the Mayor have offices in Town Hall. The town is exploring opportunities to expand office capacity for future staff.

The Manor and Doko Meadow:

Community Center: The Town's previous meeting facility was the community center located at 311 Blythewood Road. The town recently sold this facility and is using the Manor at Doko Meadows for its public meetings (e.g., Town Council, Planning Commission, and Board of Zoning Appeals) as well as for private parties and business functions.

6.1.7 Schools and Libraries

Schools: There are three schools located within the Town limits: Bethel-Hanberry Elementary, Blythewood High School, and the Blythewood Lifelong Learning Center. Students from the elementary school are sent to Blythewood Middle School and then to Blythewood High School which opened in 2005. Schools outside the town but serving the area include Round Top Elementary, Langford Elementary, Blythewood Middle, Muller Road Middle and Westwood High School. The school district's enrollment for FY 2013-1014 was 26,861. The district's 2011 Long-Range Facility Study projected an enrollment for 2020-2021 of close to 35,000 students. To address the enrollment needs, the study called for three new elementary schools, one new middle school and one new high school.

Library: A branch of the Richland County Public Library is located on McNulty Road. It is a 4,000 square foot facility and has a circulation of 156,000 items. The current building began operation in 1992. The proceeds of an approved bond referendum in 2013 will be used to make system-wide improvements to all the Richland Library facilities. Richland Library sees its mission evolving beyond lending books and the plans for the Blythewood facility reflect this changing mission. In addition to an approximately 2,800 square foot building expansion, the facility will also include additional amenities such as:

- Partnering Space
- Teen Space
- Meeting Room
- Larger public restrooms
- Learning Lab
- Group Study Room
- Additional outdoor programming space
- Repaving of the parking facilities.

6.1.8 Wi-Fi:

The town has Wi-Fi available throughout the town

6.2 Challenges

The Town has agreements with service providers for water, sewer, police, and fire. While it makes fiscal sense for the Town to continue these agreements, there may be a time when the services provided are not sufficient to meet the needs of the Town's residents either because of limited capacity of the provider or that the residents have higher expectations of service levels. The Town should conduct a detailed **analysis for service level needs** to determine and delineate at what point the Town should begin providing services and how the Town would pay for these services. The town's master plan recommended the following projects:

- Enter into negotiations with Winnsboro and Columbia to secure and expand the public water supply - ***ONGOING***;
- After negotiations with the adjacent municipalities, conduct an engineering evaluation to determine how to best expand the sewer system, if necessary
- Investigate the feasibility of an ordinance to adopt the Richland County stormwater program and allow for a millage property assessment to cover the capital cost, when population requires (probably with 2020 census numbers).

CHAPTER 7 HOUSING ELEMENT

7.1 Inventory

One key indicator in the rapid growth the Town has seen since 1990 is the number of the housing units in the Town. At the 1990 Census, there were 71 housing units. By the 2000 census, the number of units had grown to 111; an additional 40 units over the 10 year period. The 2010 Census revealed that the number of housing units was 782; an increase of 671 units. Of the total number of units in the town, 93% were occupied and 7% were vacant. Of the occupied units, 91% were owner-occupied and 9% were renter occupied.

The average household size for the owner-occupied units was 2.83 and the average size of the renter-occupied units was 2.65

From 2011 to the first half of 2015 the town issued a total of 443 residential building permits bringing the estimate of the total number of housing units in the town to 1, 225. Factoring in owner versus renter-occupied, the vacancy rate, the size of the owner-occupied and renter occupied units, and the number of certificates of occupancy issued in recent years, the current population of the town is estimated to be around 2,900, which is well ahead of the of the population estimates reflected in Exhibit 2.3.

The recent building activity is reflected in the Census estimate of housing stock age shown in Figure 7.1, where an estimated 76% were built after 1989. This is a significant change from the 1990 Census when, of the 71 units in the town at that time, 68% were built prior to 1960. The more recent units built in the town tend to have a higher value, raising the median value shown in Exhibit 7.2. Exhibit 7.3 shows the large housing developments being planned for construction in the next 3-5 years. The distribution of the recent permits issued in the study area is shown in Exhibit 7.3.

Exhibit 7.1 2008-2012 ACS 5 Year Estimate

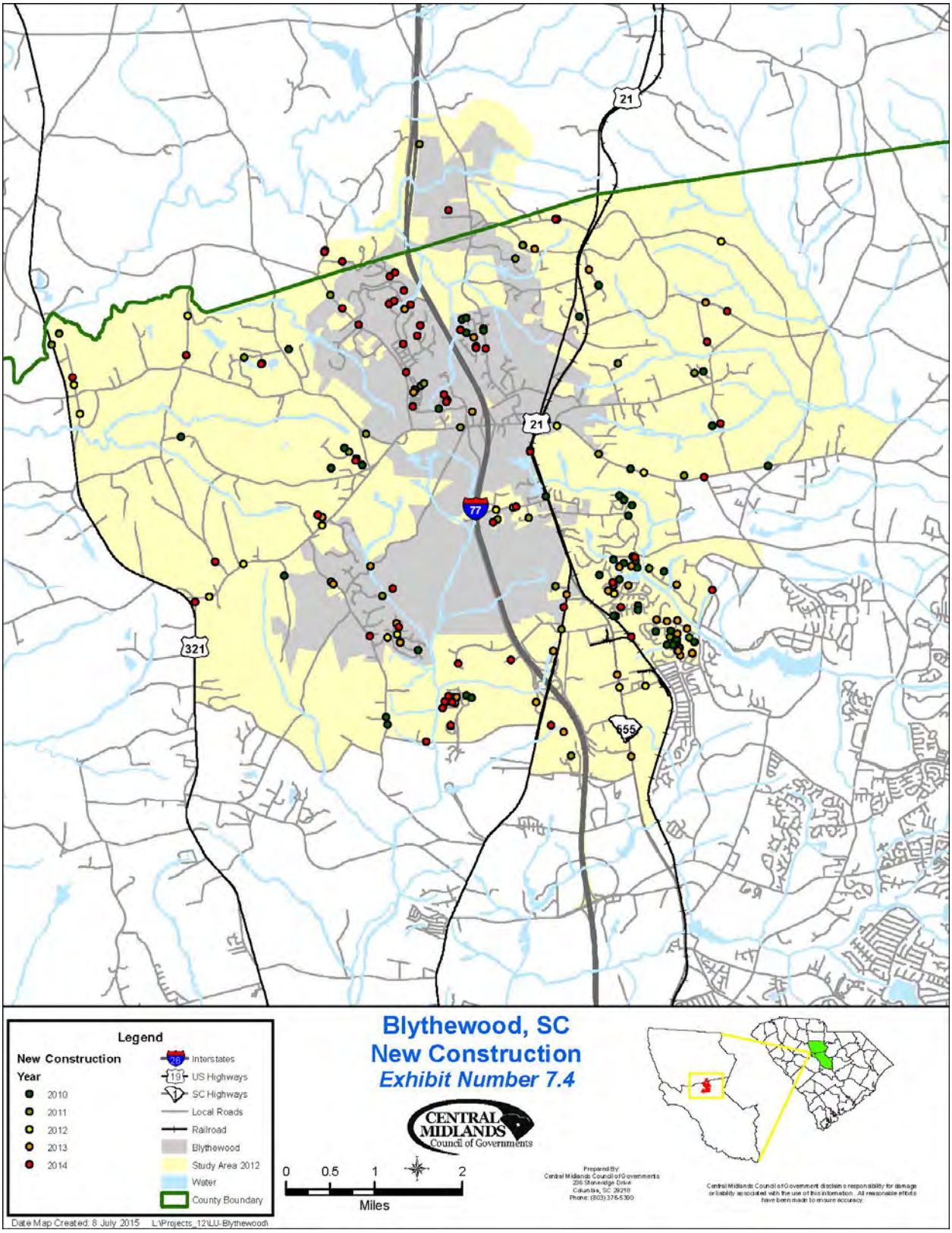
YEAR STRUCTURE BUILT	Estimate	Margin of Error	Percent	Margin of Error
Total housing units	638	+/-107	638	(X)
Built 2010 or later	2	+/-4	.3%	+/-.6
Built 2000 to 2009	333	+/-58	52.2%	+/-6.3
Built 1990 to 1999	148	+/-46	23.2%	+/-6.2
Built 1980 to 1989	69	+/-29	10.6%	+/-4.3
Built 1970 to 1979	32	+/-18	5.0%	+/-2.8
Built 1960 to 1969	19	+/-16	3.0%	+/-2.4
Built 1950 to 1959	11	+/-11	1.7%	+/-1.7
Built 1940 to 1949	0	+/-13	0.9%	+/-5.7
Built 1939 or earlier	24	+/-21	3.8%	+/-3.1

Exhibit 7.2 2008-2012 ACS 5 Year Estimate				
VALUE	**Estimate**	**Margin of Error**	**Percent**	**Margin of Error**
Owner-occupied units	553	+/-79	553	(X)
Less than $50,000	15	+/-12	2.7%	+/-2.1
$50,000 to $99,999	22	+/-18	4.0%	+/-3.2
$100,000 to $149,999	56	+/-23	6.1%	+/-3.9
$150,000 to $199,999	28	+/-24	5.1%	+/-4.0
$200,000 to $299,999	124	+/-40	22.4%	+/-6.1
$300,000 to $499,999	276	+/-56	49.9%	+/-7.1
$500,000 to $999,999	29	+/-17	5.2%	+/-2.9
$1,000,000 or more	3	+/-5	.5%	+/-.8
Median (dollars)	316,000	+/-17,959	(X)	(X)

Exhibit 7.3 Planned Residential Developments

Neighborhood	Developer	# of Homes	Status	Estimated Completion (Depending Upon Sales)
Cobblestone	D.R. Horton, Crown, Others	1,142	Platted	2020 or Later
Holly Bluffs	Crown	61	Platted	Unknown
Abney Hills	Essex	366	Phase 1 Platted	2018-2020
Ashley Oaks (Phases 8 & 9)	Essex	159	Proposed	2020
Total		**1,728**		

Exhibit 7.4 New Construction



7.2 Affordable Housing

Affordable Housing

For the purpose of this document, "affordable housing" is defined as:

> Residential housing that, so long as the same is occupied by lower or very low income households, requires payment of monthly housing costs of no more than thirty percent of one-twelfth adjusted annual income.

The exhibits below depict two alternative ways to determine affordable housing thresholds for the Town of Blythewood. Exhibit 7.5 is based on the median household income reported based on a 2009 estimate. Exhibit 7.6 is based on the 2009 Census estimates for the Columbia Metropolitan Statistical Area (MSA). The mortgage amounts shown in both exhibits are based on the assumption of a 30-year mortgage at 4% interest. It should be noted that this does not include taxes or insurance.

Based on 2010 Census Data, about 50% of the single family housing units fell in the range for low income families in the town but less than 20% fell within the range of low income families in the MSA. The new town center district allows for high density multi-family development if the market will support that type of development. Recent amendments to the zoning ordinance also allow for mixed uses on the same parcel and within the same building in the Town Center district.

Exhibit 7.5 Town of Blythewood Income Thresholds

Town of Blythewood (2013 est)	Income	30% housing cost per month	Mortgage amount
Median Family income	$101,406	$2,535.15	$530,000
Moderate (80%)	$81,124.80	$2,028.12	$420,000
Low (50%)	$50,703	$1267.58	$265,000
Very low (30%)	$30,421.8	$760.55	$155,000
Source: 2013 American Community Survey			

Exhibit 7.6 Columbia Area Income Thresholds			
Columbia MSA 2013 est	**Income**	**30% housing cost per month**	**Mortgage Amount**
Median income	$61,906	$1,547.65	$320,000
Moderate (80%)	$49,524.80	$1,238.12	$257,000
Low (50%)	$30,953.00	$773.83	$162,000
Very low (30%)	$18,871.80	$464.30	$97,000
SOUCE: 2013 American Community Survey			

7.3 Opportunities

Recent developments approved provide a mix of housing prices in the Town. Seventy-five percent of the residential units in the town are valued over $200,000. The dominant type of housing remains single-family residential. While the real estate market helps determine the type of housing that is developed, the Town should encourage the inclusion of multi-family housing in the Town in the core commercial area.

CHAPTER 8 LAND USE ELEMENT

8.1 Inventory

Existing Land Uses

Below is a discussion of the existing land use within the town. Maps 8.1 and 8.1A illustrate the land use distribution in the town.

Commercial: Commercial development is concentrated on Blythewood Road, McNulty Road, and U.S. 21. There are a couple of isolated commercial establishments located east of the railroad tracks. Because of the access to I-77, most of the intense commercial development has occurred along Blythewood Road, between I-77 and Boney Road. The Village at Blythewood is a commercial development adjacent to Cobblestone with retail and personal services There are plans for residential development, short-term housing for overnight guests and additional commercial/office development on the remainder of the commercial property. Near the intersection of Blythewood Road and Highway 21 there are discussions regarding several "Town center" projects that would incorporate a mix of commercial, residential, and civic uses.

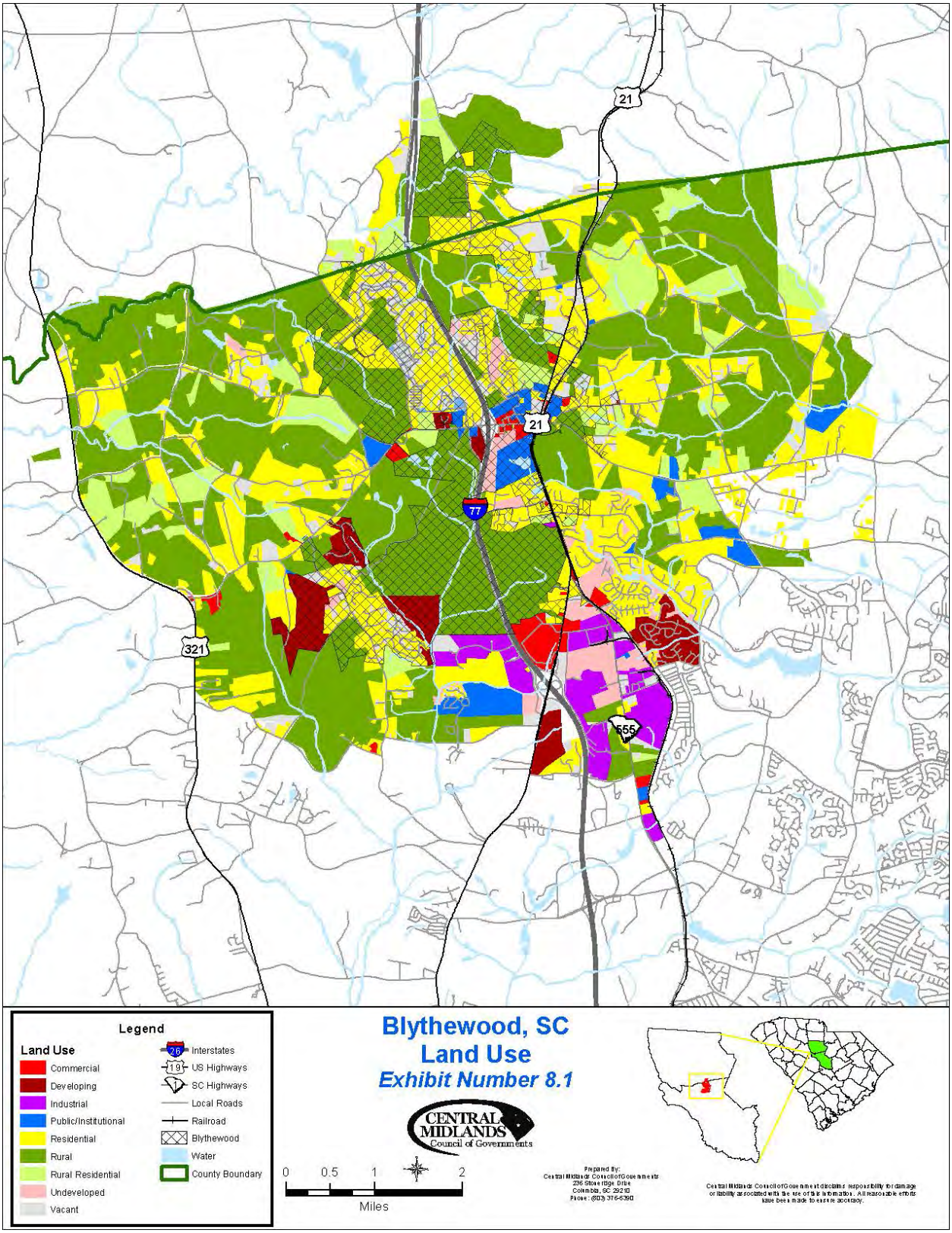
Beyond the town limits, the highest concentration of commercial activity is at the US 21/I-77 interchange which is the location of the Computer Services Corporation campus.

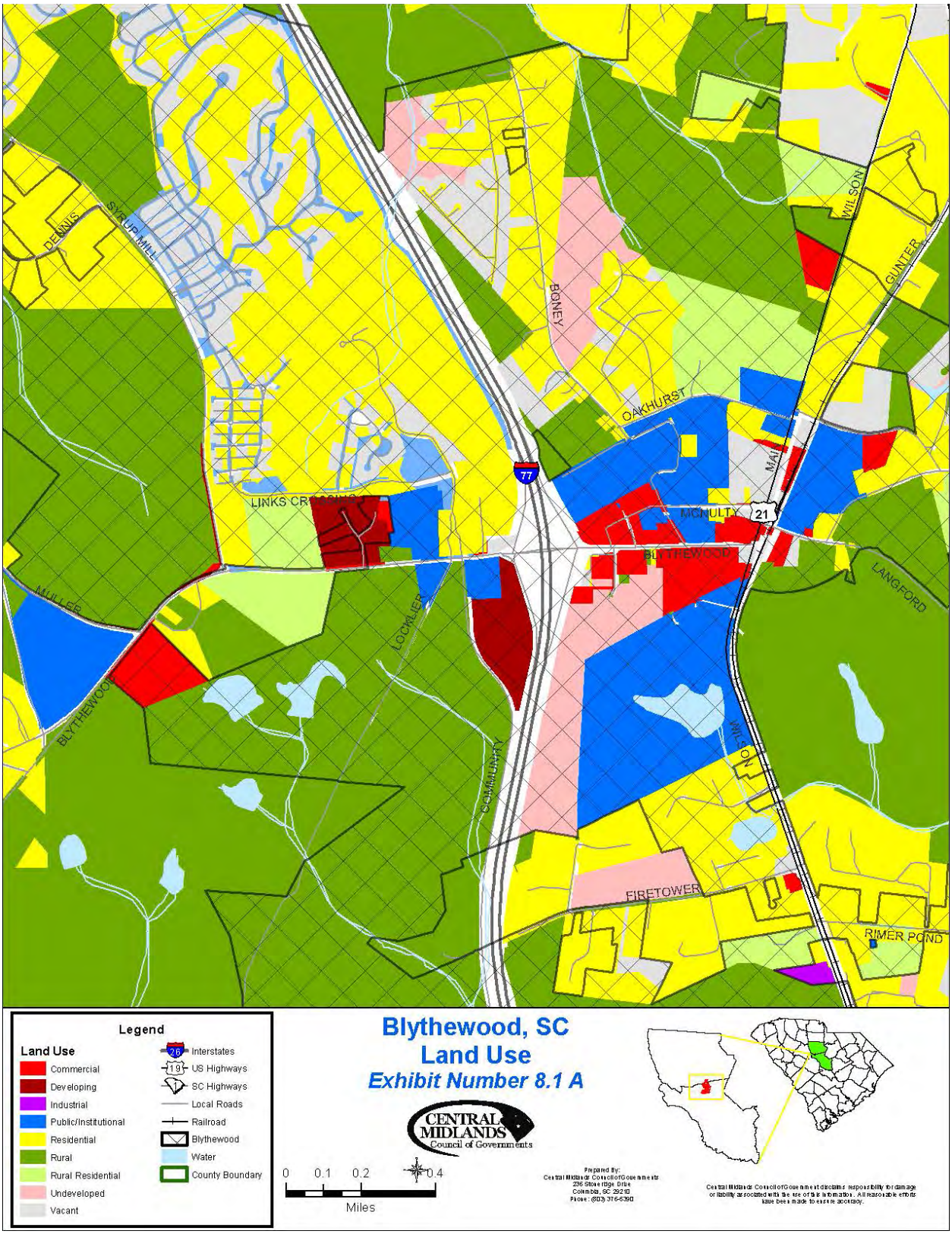
Residential: Within the Town limits, as well as the surrounding areas, the most common land uses are residential and rural. The residential development is almost entirely single family on large lots. There are several "neighborhoods" within the Town limits including: Cobblestone (formerly The University Club), Ashley Oaks, Dawson Creek, Dawson Pond, and Oakhurst. In addition, one new neighborhood, Blythe Creek, is under development. Residential uses are found in every part of Town.

Cobblestone Park (formerly The University Club), located west of I-77 on Blythewood Road, is a Planned Development District incorporating a mix of residential lot sizes, a 27-hole golf course, club house and training facility for the University of South Carolina Golf Team. Originally the commercial area currently known as The Village at Blythewood was part of the University Club PDD, but it is now under a separate development plan. Details of the revised PDD, zoning and traffic impacts are current areas of study. The developer is coordinating closely with the Town Council and Planning Commission on this major undertaking.

Industrial: There are no industrial activities in the town. There are large industrial areas just south of the Town as well as large potential industrial sites east of I-77 within the newly annexed areas. A mini-warehouse facility is located along Community Drive right next to the I-77 on-ramp and a new 636 acre industrial site is being planned for the west side of I-77.

Exhibit 8.1 Land Use




Legend
Land Use
Commercial
Developing
Industrial
Public/Institutional
Residential
Rural
Rural Residential
Undeveloped
Vacant
Interstates
US Highways
SC Highways
Local Roads
Railroad
Blythewood
Water
County Boundary
Blythewood, SC
Land Use
Exhibit Number 8.1 A
CENTRAL MIDLANDS
Council of Governments
0 0.1 0.2 0.4
Miles
Prepared By:
Central Midlands Council of Governments
236 Stoneridge Drive
Columbia, SC 29210
Phone: (803) 376-5390
Central Midlands Council of Governments disclaims responsibility for damage or liability associated with the use of this information. All reasonable efforts have been made to ensure accuracy.
DENNIS
SYRUP MILL
BONEY
OAKHURST
LINKS CR
MCNULTY
BLYTHEWOOD
MULLER
LOCKLIER
BLYTHEWOOD
COMMUNITY
WILSON
LANGFORD
GUNTER
FIRETOWER
RIMER POND
77
21

8.2 Opportunities

Rural communities that experience rapid growth run the risk of losing the rural character. Land use decisions should be sensitive to the rural character of the community by focusing **urban development** at the commercial core of the town, implementing development standards that **reflect and enhance the rural character** of the Town and working with service providers to ensure **that infrastructure is sensitive to the rural character**. To address these needs, the master plan recommends a land use pattern that focuses on a mix of uses, traditional town scale, walkability and the preservation of existing open space where logical. As a first step in implementing this vision, Town Council has adopted the Master Plan as a regulating plan to guide future development and this Comprehensive Plan Update has incorporated key principles of the Master Plan (see Exhibit 8.3). Efforts will now be made to develop a strategic plan for implementing these principles as budget constraints allow. Other important land use recommendations from the Master Plan that need to be considered for implementation include:

- Enact key updates to the town's zoning ordinance to more responsibly shape development in the short term;
- Prioritize private development south of the current Town Hall (See Exhibit 8.4);
- Prioritize development adjacent to I-77, near the former Community Center.

Exhibit 8.2 Future Land Use

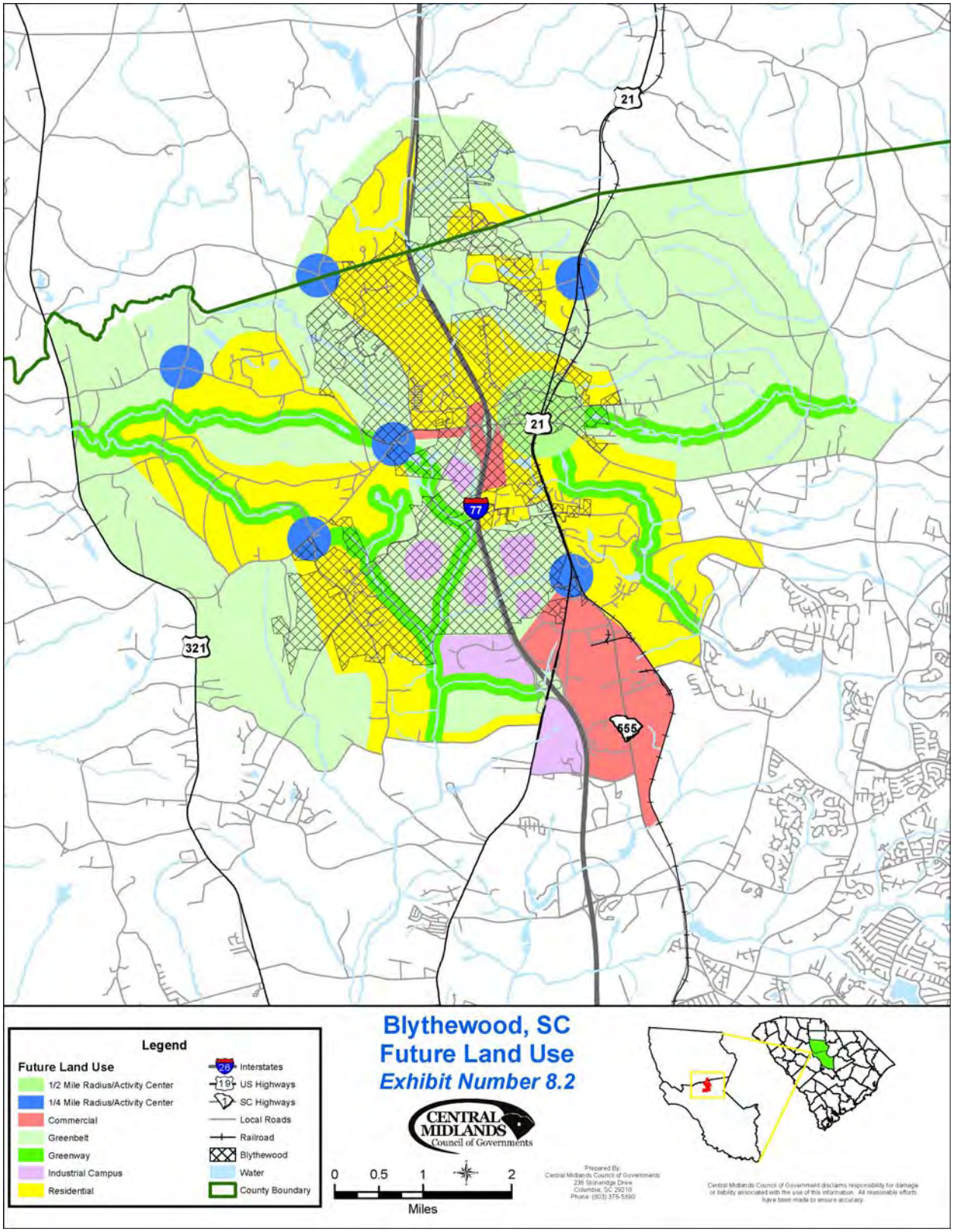
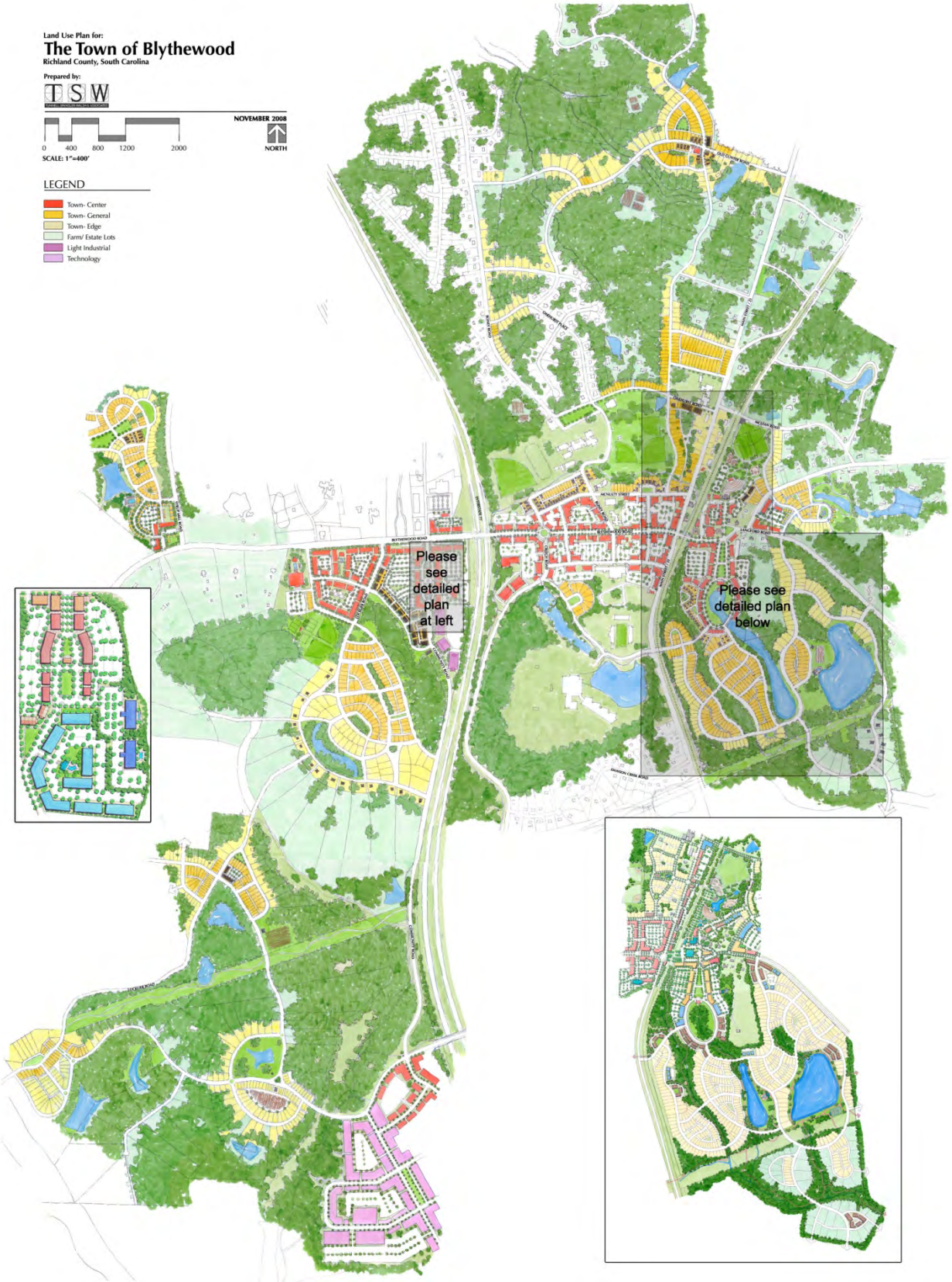


Exhibit 8.3 Blythewood Master Plan



Project Totals

Depot	3,200 s.f.
Sheriff Station	10,200 s.f.
Town Hall	26,600 s.f.
Commercial	138,600 s.f.
Amenity	6,925 s.f.
Residential	
Apartments	246 units
Quadraplex	44 units
Townhouses	128 units
Single Family	447 units
Estates	51 units
Total	916 units
Parking*	
Lot A(Commuter Lot)	130 spaces
Lot B	439 spaces
Lot C	315 spaces
On-Street	294 spaces
Total	1,178spaces
Total Provided*	1,048spaces
Total Required	1,026spaces

* Estimated parking counts
** Does not include Commuter Lot

Land Use

Building A
Depot
1 Story Total - 3,200 s.f.

Building B
Sheriff Station/ Commercial
2 Stories Total
Commercial - 10,200 s.f.
Sheriff Station - 10,200 s.f.
82 Spaces @ 4/1,000 s.f.

Building C
Town Hall
2 Stories Total - 26,600 s.f.
106 Spaces @ 4/1,000 s.f.

Building D
Commercial
2 Stories Total - 15,000 s.f.
60 Spaces @ 4/1,000 s.f.

Building E
Mixed Use
3 Stories Total
Commercial - 9,000 s.f.
36 Spaces @ 4/1,000 s.f.
Apartments (Floors 2-3)- 18,000 s.f.
15 Units @ +/- 1,200 s.f. Avg. Cross
26 Spaces @ 1.75/unit

Building F
Mixed Use
3 Stories Total
Commercial - 12,000 s.f.
48 Spaces @ 4/1,000 s.f.
Apartments (Floors 2-3)- 24,000 s.f.
20 Units @ +/- 1,200 s.f. Avg. Cross
35 Spaces @ 1.75/unit

Building G
Mixed Use
3 Stories Total
Commercial - 9,000 s.f.
36 Spaces @ 4/1,000 s.f.
Apartments (Floors 2-3)- 18,000 s.f.
15 Units @ +/- 1,200 s.f. Avg. Cross
26 Spaces @ 1.75/unit

Building H
Commercial
2 Stories Total - 15,600 s.f.
62 Spaces @ 4/1,000 s.f.

Building I, J, K
Mixed Use
3 Stories Total
Commercial - 11,700 s.f. each
47 Spaces @ 4/1,000 s.f. each
Apartments (Floors 2-3)- 23,400 s.f.
20 Units each @ +/-1,200 s.f. Avg. Cross
33 Spaces @ 1.75/unit

Building L
Mixed Use
3 Stories Total
Commercial - 9,750 s.f.
39 Spaces @ 4/1,000 s.f.
Apartments (Floors 2-3)- 19,500 s.f.
16 Units @ +/- 1,200 s.f. Avg. Cross
28 Spaces @ 1.75/unit

Building M
Mixed Use
3 Stories Total
Commercial - 9,750 s.f.
39 Spaces @ 4/1,000 s.f.
Apartments (Floors 2-3)- 19,500 s.f.
16 Units @ +/- 1,200 s.f. Avg. Cross
28 Spaces @ 1.75/unit

Building N
Restuarant
1 Story Total
Commercial - 2,800 s.f.
28 Spaces @ 10/1,000 s.f.

Building O
Mixed Use
3 Stories Total
Commercial - 10,400 s.f.
42 Spaces @ 4/1,000 s.f.
Apartments (Floors 2-3)- 20,800 s.f.
17 Units @ +/- 1,200 s.f. Avg. Cross
30 Spaces @ 1.75/unit

Building P
Amenity- Pool House
1 Story Total
Amenity- 1,500 s.f.

Building Q,R
Apartments
3 Stories Total
35,100 s.f. each - 29 Units each
@ +/-1,200 s.f. Avg. Cross
51 Spaces @ 1.75/unit

Building S
Apartments
3 Stories Total
35,100 s.f. - 29 Units
@ +/- 1,200 s.f. Avg. Cross
51 Spaces @ 1.75/unit

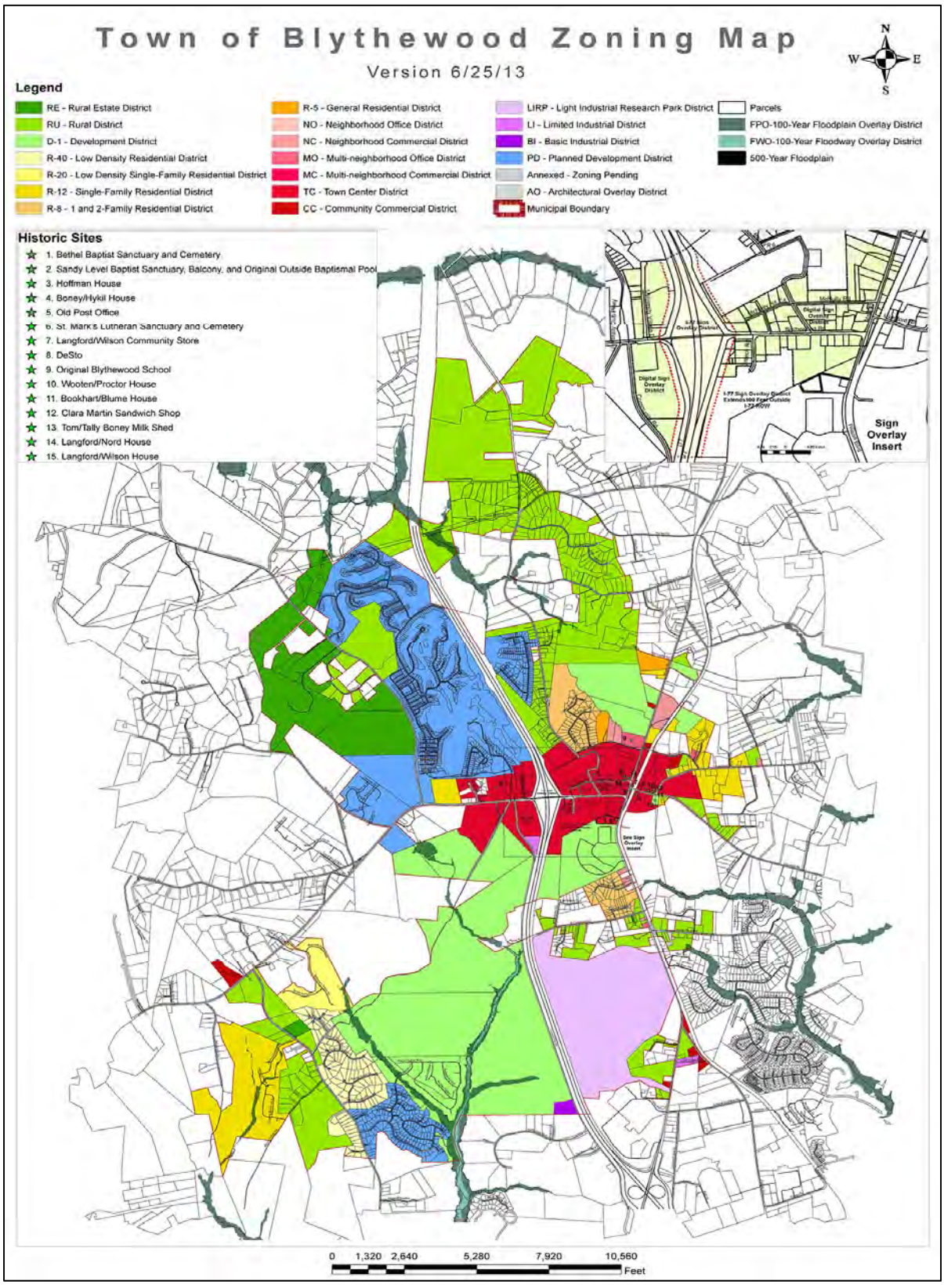
Building T
Amenity
1 Story Total
Amenity- 625 s.f.

Building U
Amenity- Pool House
1 Story Total
Amenity- 3,050 s.f.

Building V
Amenity- Dock
1 Story Total
Amenity- 1,000 s.f.

Building W
Amenity- Tennis Center
1 Story Total
Amenity- 750 s.f.

Exhibit 8.4 Zoning



CHAPTER 9 TRANSPORTATION

9.1 Inventory

Air:
The Town of Blythewood is approximately 25 miles from the Columbia International Airport and 78 miles from the Charlotte Douglas International Airport. Both airports provide domestic flights to major cities, and Charlotte Douglas provides international flights.

Road:
By far, the most important highway running through the Town is I-77. It has reduced the drive time to Columbia and the surrounding communities, but also provides direct access to Charlotte, as well as I-20, and I-26. For those traveling from Charlotte, the Blythewood interchange is the first significant interchange in almost 50 miles.

U.S. 21, which parallels I-77, is a major thoroughfare for local traffic, and provides an alternate route to Columbia. Blythewood road serves as a connector between I-77 and U.S. 21, and as a result, has become the commercial corridor for the Town. Recent improvements to Blythewood Road include sidewalks, a traffic light at Boney Road, and intersection improvements at Highway 21 to help with traffic generated by the new Blythewood High School.

The transportation network, functioning as the circulatory system, brings people and goods into the community and provides the means by which they can move freely from one activity to another. To a large extent, the economic and social well-being of Blythewood is dependent upon such movement with minimum delay, congestion, and hazard, problems generally attributed to narrow pavement, poor alignment, inadequate intersections, or improper parking.

Thoroughfares perform multiple functions by providing roadways for vehicles, access to abutting properties, and corridors for utilities. These functions are served best by rights-of-way that are of adequate width and continuously aligned. Thoroughfares and other streets generally utilize between 20 and 30 percent of developed urban land. This is more land than is utilized by any other urban use except single-family homes and represents a large public investment. It is, therefore, appropriate to carefully select street locations, alignment and width.

The street system in Blythewood is confined to classifications based on traffic volume counts compiled by the South Carolina Department of Transportation. Thoroughfares with relatively higher traffic volumes are classified as major (interstate, principal arterial and minor arterial), while those with intermediate and lower volumes are designated as collector streets. Minor residential streets are not considered part of the thoroughfare networks. Primarily, the major thoroughfares serve traffic passing through Blythewood. The collector routes pick up traffic from minor residential streets, provide circulation throughout the community, and serve as the supporting framework for the major streets by funneling traffic to them.

> Major thoroughfares (interstate, principal arterial, minor arterial) – Primary purpose of this type of facility is to provide rapid, convenient movement throughout and around the Town. Appropriate characteristics of these streets include: designed for heavy and through traffic;

planned to form boundaries that separate developed incompatible land uses; right-of-way and paved width designed according to traffic-carrying demand and desirable speed.

Collector Streets – Perform the function of collecting minor or local street traffic and carrying through the Town to the major streets. Characteristics of this type of street include: provides connections between various sections of the community; accommodates turning, parking, loading and unloading from all types of transportation vehicles; constructed with a minimum of 60 foot right-of-way.

Blythewood is served by Interstate 77 (I-77) and U.S. Highway 21, as well as by a network of farm to market roads maintained by the State Department of Highway and Public Transportation and Richland County. One of the principle characteristics of the downtown area is the limited grid network of roads. The grid network eases congestion by providing multiple routes from one point to another, but also foster alternative modes of transportation such as walking and bicycling. While I-77 and the railroad limit the connections that can be made to this grid, as development continues to occur outside of the downtown area, connections to this grid should be encouraged when feasible.

In November 2012, the voters of Richland County approved a 1 cent sales tax with the proceeds going to transportation projects. Included in the initial list of projects was the widening of Blythewood Road between I-77 and Winnsboro Road for a total distance of 4.2 miles (to be completed in two phases) and a total projected project cost of $29 million. After further analysis the Town of Blythewood decided to change the scope of this road widening project to better reflect local transportation needs. The new project recommends Blythewood Road only be widened from I-77 to Fulmer Road, a total distance of 2.6 miles. The costs savings will then be used to improve traffic circulation and connectivity around the town center by enhancing McNulty Road, constructing the Creech Road/Main Street Connector, and adding two traffic circles at Cobblestone and Creech Roads. This new project proposal was approved by Blythewood Town Council (Town Resolution # 2014.005) and submitted to the Richland County Penny Tax Program for consideration. The proposal was accepted and adopted by Richland County Council on March 17, 2015.

Railroad:
Although an active track owned by Norfolk Southern Railroad passes through the Town limits, Blythewood has no rail service. The closest passenger rail station is in Columbia. There have been discussions of commuter rail and high speed rail service with possible stops in the Town of Blythewood but there have been no steps towards these services.

Public Transit:
Currently, public transit is not available to Blythewood. Central Midlands Regional Transit Authority has studied a possible commuter bus route to downtown Columbia, similar to the SmartRide service from the City of Newberry and the City of Camden.

Bike/Ped:
Sidewalks outside of the downtown area (Main Street and Blythewood Road) are limited to what has been installed as part of subdivisions. There are no formal bicycle facilities in the Town. A bikeway along Wilson Boulevard from I-77 to Farrow Road is included in the Richland county 1 cent sales tax list of projects.

Exhibit 9.1 Roadway Functional Class

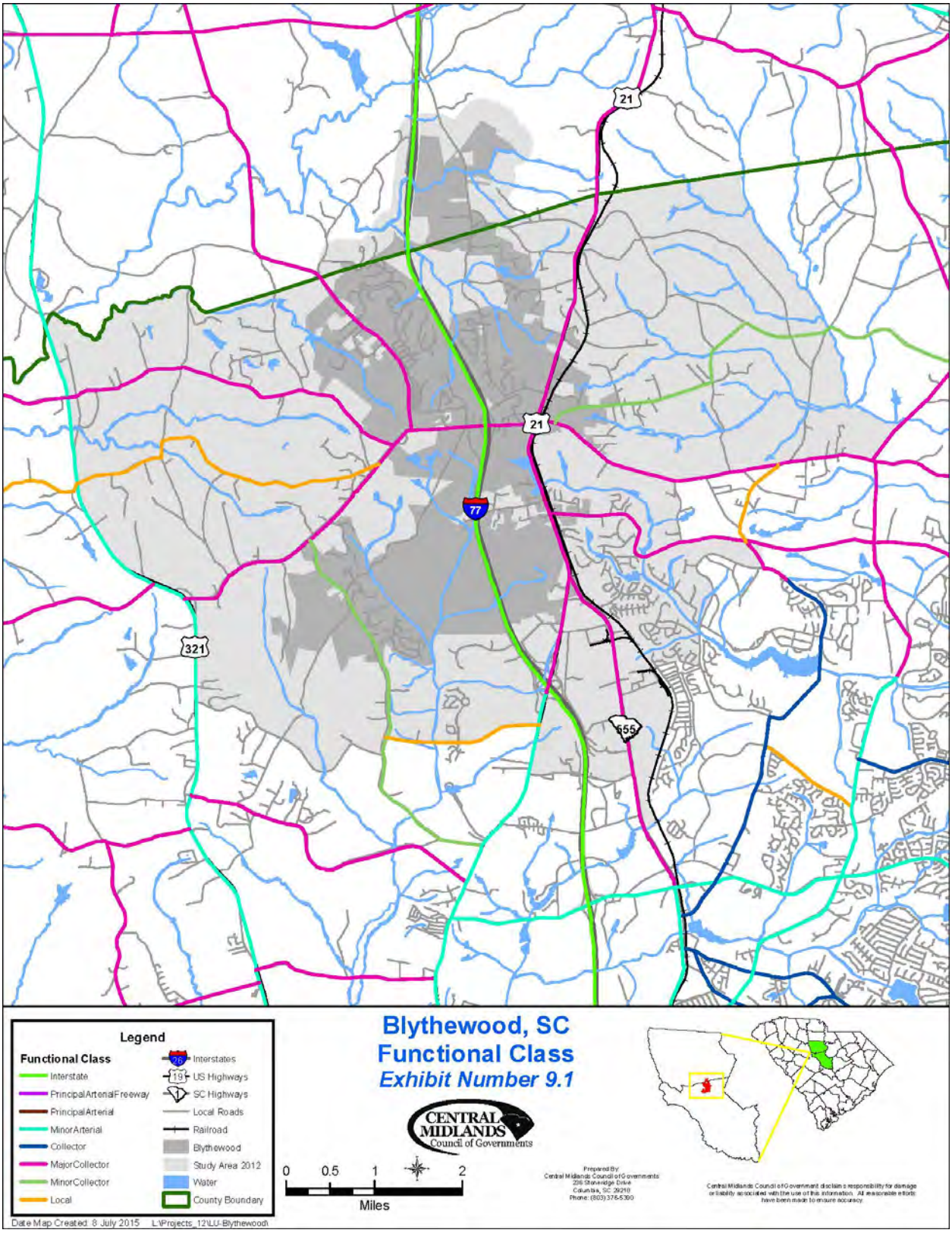
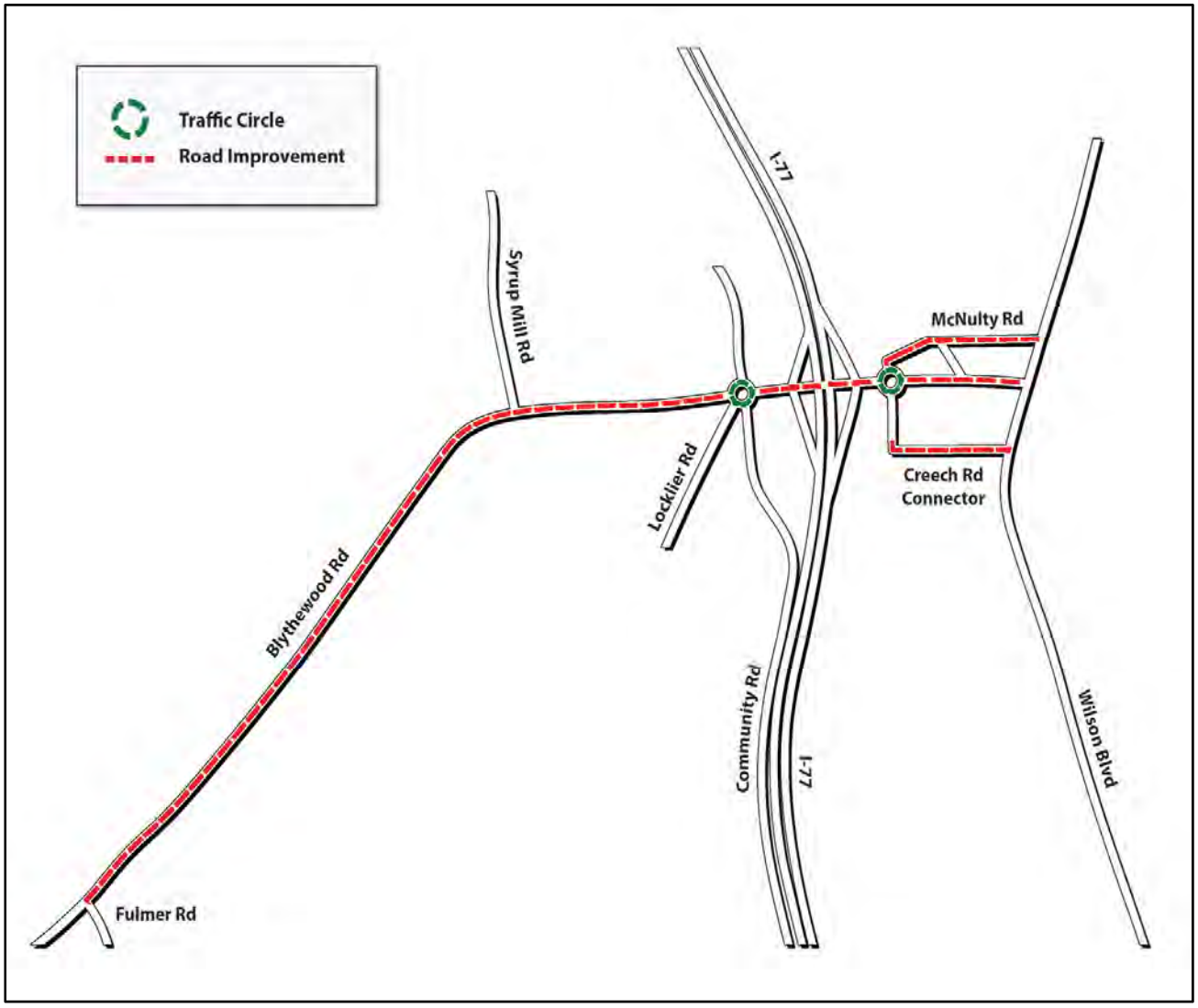


Exhibit 9.2 Richland Penny Transportation Projects in Blythewood



Alternative Fuels:
In 2014 the Town of Blythewood installed five electric vehicle charging stations at specific locations convenient to I-77. As a result the town is becoming part of the growing network of electric vehicle charging stations in the region. Blythewood's chargers will contribute to the environmental, economic, and energy independence benefits of electric vehicle transportation.

9.2 Future Opportunities

Land use and transportation decisions should be related, and since the Town has no direct influence on the transportation system, it should influence those decisions with **land use policy and design criteria**. The policies and criteria that the Town puts into place should **encourage an efficient transportation system** that is **multi-modal, incorporates universal design, extends the existing grid system when feasible, and is context sensitive** towards the rural character of the Town. To address these needs, the master plan recommends the following projects:

- Pedestrian/Bicycle
  - Constructing sidewalks on the Blythewood Road/I-77 overpass;
  - Installing decorative street lights on the Blythewood Road/I-77 overpass;
  - Painting shared bicycle lane markings along Blythewood Road between Locklier Road and Main Street;
  - Implement streetscape improvements along Blythewood Road from I-77 west to Sandy Level Baptist Church;
  - Implement a streetscape project on Blythewood Road from I-77 east to Main Street;
  - Implement streetscape improvements along McNulty Avenue;
  - Implement streetscape improvements along Boney Road;
  - Implement streetscape improvements along Main Street,
  - Install bicycle racks in the town's core;
  - Construct the Boney Road/Town Hall Park multi-use trail connector;
  - Construct the Creech Road Extension trail
  - Construct the Langford-Fulmer Road trail;
  - Construct the Round Top trail;
  - Construct the Beasley Creek Greenway;
  - Construct two new pedestrian/bicycle bridges over the railroad tracks;
  - Amend the town's zoning ordinance to specify sidewalk standards;
- Vehicular
  - Re-design guidelines for new streets as a part of the Master Plan;
  - Enhance Blythewood Road east of I-77;
  - Install a new traffic signal at Creech Road and Blythewood Road;
  - Relocate the Langford Road crossing over the Norfolk Southern tracks to the south;
  - Reconfigure Langford Road;
  - Realign Boney Road to connect to Oakhurst Place
  - Upgrade the existing at-grade railroad rail crossing near Blythewood High School;
  - Construct a roundabout at Blythewood Road and Creech Road;
  - Widen and pave Locklier Road from Blythewood Road southwest to Fulmer Road;
  - Extend Creech Road south behind Blythewood High School to Firetower Road and the proposed new overpass;
  - Construct a bridge across I-77 west of Firetower Road;
  - Link the new overpass with Highway 21 to the east and Locklier Road to the west with a new Bridge Road;
  - Study extending Rimer Pond Road under the railroad;

- Transit
    - Consider a park-and-ride lot and bus waiting area on the land just west of I-77 and on Langford Road, east of the Norfolk Southern railway;
    - Construct a multi-modal transportation center and parking lots as needed.

CHAPTER 10 PRIORITY INVESTMENT

10.1 Current Local Government Funding Sources

General Fund

The General Fund accounts for all funding resources in the Town not otherwise devoted to specific activities. This funding source includes revenues from ad valorum taxes (real estate and personal property), licenses and permits, charges for services, intergovernmental funding, other taxes, and miscellaneous revenue and other funding sources. These funds are generally spent on general government services, public safety, public works and utilities, and health and human services. Expenditures include, but are not limited to, salaries for department employees, supply and fuel costs, and building improvements. Capital and infrastructure are funded in part through the General Funds.

The FY 2014-2015 General Fund Budget for the Town was $1.4 million and the FY 2015-2016 General Fund Budget is projected to decrease to $1.3 million.

C-Funds

C-Funds are allocated to each County within the State by the South Carolina Department of transportation (SCDOT) for the purpose of transportation improvements. The source of the funds is the State gasoline tax and State law requires that these improvements be tied to the transportation system and that at least 25% of the funds be spent on the state highway system. Funds are awarded through a competitive process by a committee designated by the State Legislature, referred to as the County Transportation Committee (CTC). These funds reimburse the Town and County for specified projects approved by the CTC. As a result, C-Funds are restricted for specific uses and cannot be used for all capital projects. More often than not, C-Funds are used for street/road paving and repaving projects.

The town has an intergovernmental agreement with Richland County which uses C-Funds to maintain the roads in the town.

Federal Highway Administration (FHWA) Guideshares

Guideshare funding is available for each of the South Carolina Metropolitan Planning Organizations (MPO) and Councils of Government (COG) for system upgrade projects. This dollar amount is calculated by taking the MPO's or COG's specific proportion of the state population and applying it to the total available funds for system upgrades. The funds are allocated in the Federal Highway Appropriation Bill.

The Town of Blythewood is located in the Columbia Area Transportation Study (COATS) MPO. COATS receives approximately $18 million per year in Guideshare.

Transportation Enhancement Funds

Transportation enhancement funds are available for environmentally related activities that improve the transportation experience, including landscaping, bicycle and pedestrian facilities, historic preservation and other visual amenities related to the transportation system. These funds are administered through COATS, which currently is allocated approximately $700,000 a year.

Lease-Purchase Agreements
Lease-Purchase Agreements allow a local government to acquire capital assets by making a series of lease payments that are considered installments towards the purchase of the asset. Under a lease-purchase agreement, the local government acquires full ownership of the property covered by the lease by making all of the lease payments over the full term of the lease.

The town has used lease-purchase agreements to acquire playground equipment.

10.2 Potential Funding Sources

Additional revenue sources are available to the City and County for funding large-scale planning initiatives or capital improvements. Some of these sources require action by City or County Council in accordance with the Code of Laws of South Carolina as amended. A summary of potential funding sources available for recommended projects in the comprehensive plan follows. Individual limitations or conditions for each option have not been reviewed for this document.

Grants
Grants represent discretionary, lump-sum funding secured by the Town for specific one-time projects.

There is no assurance that previous grant monies will be made available again in the future; however, the Comprehensive Plan assumes some growth will continue to be funded with grants.

In many cases, receiving grant monies obligates the Town to spend additional dollars to meet local match requirements for the grant received.

Local Hospitality Tax
A local hospitality tax is levied on consumers purchasing prepared foods and beverages from vendors located within the jurisdiction enacting the tax. Counties in South Carolina are authorized to levy a hospitality tax of up to 2% if approved by a majority of the governing body. This tax limit is reduced to 1% if it is not also approved by municipal governing bodies within the County (see S.C. Code of Laws, Section 6-1-700).

Local Accommodation Tax
A local accommodation tax is levied on the rental of rooms, lodging, or sleeping accommodations. Local governments in South Carolina are authorized to levy an accommodation tax of up to 7% of the gross proceeds derived by business owners renting rooms, lodging, or sleep accommodations. An accommodation tax also imposes a sales tax of up to 5% on additional guest services offered at facilities not otherwise taxed under South Carolina law (see S.C. Code of Laws, Section 12-36-920).

Real Estate Transfer Fees
A real estate transfer fee is a charge on the transfer, sale, or conveyance of real property. It is applied against the purchase price of the property, and can be restricted to certain types of capital expenditures. The South Carolina Legislature has strictly forbidden the

implementation of a real estate transfer fee without expressed authorization from the state legislature (see S.C. Code of Laws, Section 6-1-70).

State Infrastructure Bank

The South Carolina State Infrastructure Bank (SIB) selects and assists in financing major qualified projects by providing loans and other financial assistance for constructing and improving highway and transportation facilities. Funds are awarded on a competitive basis.

State Transportation Improvement Program

The State Transportation Improvement Program (STIP) is a prioritized list of transportation projects prepared by the South Carolina Department of Transportation to be implemented statewide in appropriate stages over several years. The Town of Blythewood monitors the status of the STIP through coordination with SCDOT, the Columbia area Metropolitan Planning Organization (MPO); and Central Midlands Council of Governments (CMCOG).

General Obligation Bonds

General Obligation Bonds (GO Bonds) are backed by the "full faith and credit" of the City and County, and are usually considered a safe investment for bondholders. The principal and interest on general obligation bonds are normally paid through a property tax levy.

Revenue Bonds

Revenue bonds are used when the Town issues a bond and pledges the revenues received from services provided as payments for the debt service. This revenue is used to pay both principal and interest on the bond. While revenue bonds incur slightly higher interest costs than general obligation bonds, they do not use up the Town's bond capacity.

Local Improvement Districts (LIDs)

Counties and municipalities in South Carolina are authorized to create a local improvement district for capital projects. Provisions for assessing and levying property taxes in different areas and at different rates are set forth in the Code of Laws of South Carolina, Section 4-9-30(5)(a). A local improvement district links together the costs and benefits resulting from new or upgraded capital facilities. Generally, property owners in the new tax district must agree to the new assessment. Capital projects in the special benefit tax district can be bond-financed and paid over time by the benefitting property owners to expedite implementation.

Developer In-Kind Contributions

In some instances, the owner(s) of property seeking entitlements for their land may elect during the development review process to donate right-of-way or construct certain "oversized" capital projects simply for the public good as well as to serve their development. The type and/or magnitude of these contributions vary greatly from location to location and owner to owner.

Impact Fees

Impact Fees are intended to enable new growth to pay for the services it generates a need for such as schools, recreation, and public safety. These fees are established based on the capital and operating impacts of new development and are paid by the developer or ownership interest. Work with other local government bodies to establish this in South Carolina.

10.3 CIP Projects

The Town adopted a Capital Improvement Plan (CIP) as part of its budget process and will use the CIP to help program funding for essential short and long term capital improvement projects.

10.4 Priority Investment Areas

The Town has identified the Town Center district as its priority investment areas since it incorporates the target areas listed below from the master plan:

- ***I-77 Interchange at Blythewood Road***
- ***Blythewood Town Hall***
- ***Northwest Corner of Main Street and McNulty Street***

10.5 Intergovernmental Coordination

The Town of Blythewood routinely coordinates with a range of entities and jurisdictions at the local, regional, and state level including but not limited to the following:

- Richland School District 2
- Richland County
- Central Midlands COG
- Columbia Area Transportation Study (COATS)
- City of Columbia
- Town of Winnsboro
- Fairfield County
- Various State and Federal agencies

CHAPTER 11 THE PLAN

SUSTAINABLE BLYTHEWOOD

Vision: *"Blythewood is the model renaissance town of the Midlands that has combined its proud cultural history and traditional values of family and faith with a progressive approach that has achieved a modern infrastructure to accommodate visitors, commerce and a variety of industries - with minimal impact upon the natural environment. Residents safely walk or bike or shop where they choose and participate in local arts, crafts and a wide variety of sport and leisure activities in parks and green spaces."*

Economic/Commercial Development

Goal: Determine gaps in the town's economic market and take steps to encourage development to fill those gaps.

Blythewood serves two distinct economic markets. First, as a town in northern Richland County, it serves the residents not only in the town but of the larger community. Banks, grocery stores, and doctor's offices are just a few examples of the types of development in the town that cater to local customers. The other market Blythewood serves is the interstate traveler thanks to the Blythewood Road interchange on I-77. Hotels, gas stations, and restaurants are examples of the type of development in the town that cater to the travelers.

While the basic services can be found in the town, there are perceived gaps both in the types of goods and services offered but also in the number of choices that are currently available. For examples, there are restaurants in town, but there are only a couple of casual restaurants and there is no fine dining restaurant.

Objectives:

- Update the economic gap analysis that was done in conjunction with the master plan to ensure that it is current with the current economic conditions in the town.
- Develop a marketing campaign that matches the findings of the updated gap analysis.

The Master Plan statements supporting this goal are:

- Focus on attracting knowledge industry jobs that will provide high-quality employment opportunities and attract new residents.
- Preserve and promote Blythewood's local businesses and historic assets.
- Attract a mix of business and housing options to serve as success stories and jump start future development in keeping with the Master Plan.
- Support and retain existing businesses with marketing efforts, financial incentives, distribution of the Master Plan Market Analysis, and a business appreciation program.

- Promote Blythewood's image in the region through presentations, press releases, shopping promotions, welcome baskets, cooperative marketing, and other means, to publicize progress in the town.

Land Use

Goal: Develop and implement land use policy encouraging development that is respectful of the community character.

As a small town in a mostly rural area, the Town of Blythewood is in the fortunate position of balancing growth in the town while preserving the rural character that makes Blythewood a desirable place to live. To achieve this balance, the development that does occur should be as compact as possible with a center focus, provide a wide variety of uses, and be designed to encourage multiple modes of transportation, including walking, biking and transit where available. Pedestrian sheds and transit oriented development are two examples of how to achieve compact, mixed use, developments while respecting the rural character around them.

The town should encourage specialized open space to soften the impact of development and take steps to help preserve rural land around the town. The open space could be in the form of parks, squares, greenways and conservation areas. While not rural in character, these specialized areas would help to limit the impact that commercial development could have in the community. On the edge of the town, where development meets fields, forests or horse farms, a greenbelt should be established with Richland County's cooperation. Instruments such as "MADA" (minimally acceptable development areas) "PDR" (purchase of development rights) and "TDR" (transfer of development rights) with the strategic areas of the town serving as the receiving zone, would aid property owners in seeing some economic benefit to their land while helping to preserve the rural character of the community.

http://www.cooltownstudios.com/images/tndsprawl.jpg

Objectives:

- Amend the Town's land use policies to place a "community focus" to development, as illustrated in the Master Plan, by requiring a mixture of uses, or in the case of smaller developments, requiring that they are located within walking distances of existing uses and services essential for a neighborhood and have a logical connection to those uses and services.
- Amend the Town's land use ordinances to implement standards for pedestrian sheds in strategic locations throughout the Town.
- Town should plan for transit service by identifying opportunities for transit development. Some examples include installing a park-n-ride near the interchange or in the Town Park near Town Hall to accommodate commuter bus service to downtown Columbia, and identifying transit stops near the center of pedestrian sheds, expanding the area of the shed

beyond the ¼ mile radius, working to establish bus rapid transit service and developing standards for possible TOD's.

- The town should support regional activities such as the possible commuter rail service between Columbia and Charlotte, and the I-77 Alliance to better coordinate the location of rail stops and development in the town.
- Town should make land use decisions with the possibility of bus rapid-transit, commuter bus service and even high-speed rail service in the future. Decisions should range from land use patterns, including the location of transit stops in pedestrian shed, and the creation of Transit Oriented Development (TOD) districts, to "complete streets" designs standards that accommodate multi-modal transportation standards for new and existing streets.
- The Town's zoning ordinance should be amended to establish development and use standards for neighborhood centers. While large development should have neighborhood centers integrated within the development, smaller residential developments can "share" a common neighborhood center if the neighborhood has logical connections to the neighborhood center.
- Amend the Town's land use regulations to require formal open space as part of large developments, particular mixed use. The open space should be strategically located to accommodate use by as many people as possible, and should accommodate active use, not just passive.
- Develop a public space master plan, identifying both active and passive space in the Town with an implementation strategy.
- With input from the rural community, particularly the owners of the horse farms, identify a potential greenbelt around the Town and incorporate this greenbelt in the future land use map. The Town should negotiate with the water and sewer providers to ensure that encroachment in the greenbelt is limited. The Town and the County should also develop a policy of "Minimum Assured Development Area" (MADA) which allows for the development of property with greater protection of natural resources.

The Master Plan statements supporting this goal are:

- Encourage development consistent with the Illustrative Land Use Plan.
- Encourage developers to provide homes at a variety of prices and sizes to allow for a mix of incomes, backgrounds, and ages.
- Support the redevelopment of the entire Blythewood Road corridor from Fulmer Road to the current Town Hall as a walkable town center.
- Prioritize code enforcement to ensure that new development meets applicable building, fire, accessibility, environmental, and zoning codes, and that it is in character with the goals of the Master Plan.
- Encourage cluster development both within the town and nearby to preserve open space. *See the Rural Village Concept Plan for an example of how this might occur.*
- Encourage proximity of land uses, so that non-motorized transportation becomes a viable option for the greatest number of people.
- Require buildings that favor pedestrian access from the sidewalk over vehicular access from driveways or parking lots.
- Promote shared parking arrangements wherever possible to decrease the number of underused parking spaces.

- Encourage density in the town's core, to make future transit service more feasible.
- Direct new developments to provide pedestrian facilities, including sidewalks along streets, and within parking lots.
- Encourage shared driveways to limit curb cuts, which can disrupt the sidewalk environment and contribute to driver confusion.
- Promote town-wide connectivity through a system of multi-use trails.
- Support the redevelopment of the entire Blythewood Road corridor from just west of I-77 to the current Town Hall as a walkable town center.
- Require major developments to provide publicly accessible open space, unless public open space already exists within a short walk.
- Include public art and historic memorials in public open spaces where feasible.
- Place amenities in parks to draw visitors from outside Blythewood.
- Surround parks and open spaces with streets and development. Vacant land adjacent to a park decreases visibility and security.
- Avoid backyards that abut parks. They are screened from visibility and can create security problems.
- Eliminate and avoid barriers and walls surrounding a park or open space that restrict accessibility, reduce the service area, and create security problems along edges.
- Enhance quality of life in the town through new amenities, an improved public realm, increased shopping and dining options, and better employment.
- Concentrate development in areas with existing infrastructure in order to preserve farmland and natural resources elsewhere.

Infrastructure

Goal: Ensure a sufficient level of service for the growing population of the Town of Blythewood

The town provides a limited amount of services to the businesses and residents of the community, choosing to contract with external agencies for services. Coordinating with the service providers is critical to ensure that the level of service is sufficient to meet the needs of the town. Concurrently, the town should explore which of the outside services could be brought "in-house."

Service level, or capacity, is critical to the needs of citizens, but another way to help address service level needs is to reduce demand through conservation methods. This is best seen through water conservation and energy conservation. Implementing standards for best management practices like low impact development (LID) and green building standards such as LEED will help conserve natural resources.

One example of a service that the town has started to provide and should expand is providing parks and open space. This is an important intervention


An example of a neighborhood park

for many public health related issues such as obesity, high blood pressure, and heart disease which are all significant risk factors for residents in the town as demonstrated in Exhibit 2.4 (p.6). A 2014 report County Health Rankings and Roadmaps developed by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health institute indicated that 31% of the adults in Richland County and 32% of the adults in South Carolina were obese. The State of Obesity, developed by Trust for American's Health and the Robert Wood Johnson Foundation indicated that 13.9% of high school students in South Carolina were obese but there is not similar data for students in Richland County.

Providing opportunities to be physically active is one way that the town can help address the health concerns of the residents. In the book *Park, Recreation, Open Space and Greenway Guidelines*, authors James D. Mertes, Ph.D. CLP and James R. Hall, CLP identify three types of parks: Neighborhood Park, Sports Complex, and Community Park.

Neighborhood parks are centrally located in a service area of ¼ to ½ mile uninterrupted by a non-residential road. Another critical component is that the park is easily accessible from throughout the service area via interconnecting trails, low-volume residential roads and/or sidewalks. Generally neighborhood parks are at least 5 acres, while 7-10 acres are optimal. Ideally the park site should be selected for its aesthetic value rather than be a "left-over" piece of property. Ideally, 50% of the park site should be devoted to active recreational facilities with remaining 50% set aside for passive activities. Potential recreational activities include play equipment, playfields, informal open space, play courts (tennis, basketball, etc.) horseshoe area, and wading pools. Passive areas could include trails, picnic/sitting areas, and general open space.

Sports Complexes should be strategically placed in the community so that it is in a reasonable driving distance from the community served. It is preferred that the complex not be adjacent to a residential neighborhood. If it is located next to residential uses, then buffers should be used. Ideally, sports complex sites should be located prior to residential develop to avoid conflicts. Sports complexes should be accessed from major thoroughfares. However, direct access from residential developments should be avoided. Topography and soils are key considerations for site selection. The topography should be able to accommodate the necessary facilities, but some slope is desirable for drainage and to add interest to the site. Soils should also be suitable for drainage. Natural vegetation, particularly along the perimeter of the site, adds visual appeal to the site. Sports complexes are typically designed to accommodate programmed activities such as sports leagues and tournaments. The projected demand for these activities should be the guide for determining which type of facility to build and the size of the facility.

Community parks serve multiple neighborhoods and have a service area between .5 to 3 miles in radius. However, natural features should play a role in the site selection. Community parks should be accessible by either arterials or collectors as well as linked by trails to other parts of the service area. While the optimal size for a community park is between 20 and 50 acres, the needed size can vary due to population density, demographic profiles, recreational needs and unique landscapes. Site selection should take into consideration natural features, accessibility within the service area and physical characteristics such as soils, drainage, topography and a variety of vegetation. Community parks should have a mix of both passive and active recreational uses. The active opportunities should be informal and unstructured, but formal events are compatible and accepted, however, the park is not intended for extensive adult programmed activities and tournaments. Potential recreational activities include play equipment, playfields, informal open space, play courts (tennis,

basketball, etc.) horseshoe area, swimming pools, swimming beaches and disc golf areas. Passive areas could include trails, picnic/sitting areas, and general open space.

Objectives:

- Amend the Town's land use regulations to incorporate Low Impact Development standards, water harvesting, drought-tolerant landscaping and other water conservation standards. CMCOG has developed a green infrastructure plan to serve as a local government guide to implementing LID standards.
- Amend the Town's land development ordinances to provide incentives for developers and builders to use green building standards. The Town should also serve as a model by ensuring that its projects are designed and built to green building standards. One source of guidance for the town is the Sustainable Energy Plan for the Central Midlands Region.
- Develop a parks and recreation plan that considers both the facility and programmatic needs of the town for the next 20 years. The plan should identify the types of parks that will be needed, their locations and the types of the programs and activities that should be offered. The plan should also consider long-term administration and maintenance of the parks and programs. Since the Richland County Recreation Commission has been the primary provider of recreational activities for the town, there should be coordination with the RCRC to save resources.

The Master Plan statements supporting this goal are:

- Cooperate with Richland County on an agreement to participate in the stormwater management program.
- Cooperate with existing infrastructure providers, neighboring municipalities, and regional planning efforts for input on water quality planning.
- Focus on development in areas already served by water, sewer, electricity, and emergency services. Sprawling, low-density development can create burdensome infrastructure costs.
- Cooperate with existing infrastructure providers, neighboring municipalities, and regional planning efforts for input on water quality planning.

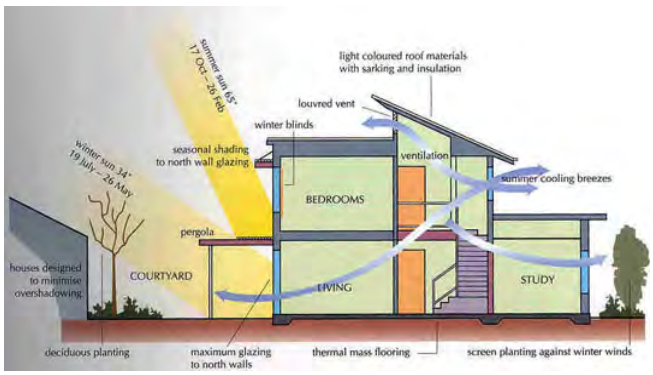
Architecture

Goal: Develop and implement guidelines that require development be respectful of the community character of the town.

Design guidelines are an important tool to help preserve community character, especially for a community that has historically significant buildings, but not a number sufficient to be the basis for historic development guidelines. The town already has established an architecture overlay district which includes the Town Center District plus a portion of Blythewood Road west of the I-77 interchange and a portion of Langford Road east of the railroad tracks. Langford Road has the highest concentration of historically significant structures, most of which are residential in design if not in use.

Requiring that new development respect community character is vitally important to protect the community, but understanding that the character of the community can change over time is just as important. The town's current design guidelines establish what the desired standard was at a specific time (e.g., 3-story buildings in the Town Center District), but those standards no longer may be desirable. Periodic discussion should be held about the community character and how it should be reflected in the design guidelines.

Another example of important standards that should be implemented but can also change over time is the energy efficient standards for construction. Green building standards such as Leadership in Energy and Environmental Design (LEED) which provides a certification process for building projects, provide guidance to make buildings more energy and environmentally efficient. The town should implement requirements for green building standards with the understanding that these standards will change as technology becomes more efficient.



An illustration showing an energy-efficient building
http://static.flickr.com/57/210729465_f17e2aa667_o.jpg

Objectives:

- Amend the Town's land development ordinances to provide incentives for developers and builders to incorporate community character standards. The Town should also serve as a model by ensuring that its projects are designed and built in a way to preserve and enhance community character.

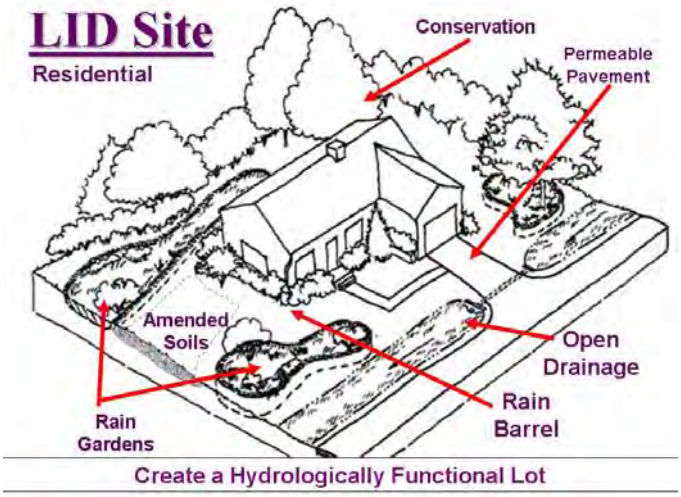
The Master Plan statements supporting this goal are:

- Encourage the use of local architectural styles in new construction.
- Avoid corporate prototype architecture.
- Focus on attracting knowledge industry jobs that will provide high-quality employment opportunities and attract new residents.
- Preserve and promote Blythewood's local businesses and historic assets.
- Expand Town of Blythewood staff with the addition of a full-time town planner/permit reviewer/inspector.
- Increase long-term property values through conscientious planning and responsible redevelopment.
- Attract a mix of business and housing options to serve as success stories and jump start future development in keeping with the Master Plan.
- Support and retain existing businesses with marketing efforts, financial incentives, distribution of the Master Plan Market Analysis, and a business appreciation program.
- Promote Blythewood's image in the region through presentations, press releases, shopping promotions, welcome baskets, cooperative marketing, and other means, to publicize progress in the town.

Environment

Goal: Develop and implement a variety of conservation and preservation standards to protect the environmental resources in the town.

The environment has been a critical feature of the town from the very beginning. Even the names **Doko** and **Blythewood** reflect the natural features in the area. To respect this heritage, the town has taken steps to conserve environmental resources. Some of these steps include adding vehicle charging stations in the Town Center District and constructing the Manor at Doko Meadows to LEED standards. Implementing the greenbelt discussed earlier would help to preserve the rural land around the town. For areas in the town, but outside of the CBD, implementing development standards that preserve the natural terrain, draining and vegetation will soften the suburban development, providing a transition to the rural property around the town.



http://greene.ces.ncsu.edu/content/Continuing+Education+for+Real+Estate+Professionals

Just a few years ago, the town's water supply through the Town of Winnsboro, was severely affected by the drought status experienced in the state. While that drought status has been lifted and steps have been taken to secure a more substantial water supply through the City of Columbia, the importance of water conservation measure through standards such as Low Impact Development (LID) was emphasized.

Central Midlands COG worked with the City of Columbia, Richland County and Lexington County to develop the Sustainable Energy Plan for the Central Midlands Region. While the plan was developed to address the specific needs of Lexington County, Richland County and the City of Columbia, many of the recommendations in the plan were designed to be applicable to most of the jurisdictions in the region.

The plan addressed sustainable energy issues in four general topics:

- **Energy Efficiency:** When looking for ways to conserve energy, the first place the local governments should look is in areas they have the greatest control, specifically their facilities and policies. South Carolina lacks a statewide energy efficiency resource standard, but even in the absence of a statewide standard, there are many actions available to the Central Midlands local governments to improve the energy efficiency of the built environment.
- **Broader Initiatives:** Regional policies such as actions on land use, transportation, procurement, waste management, and drinking/wastewater while still under local government control, require a level of regional cooperation to see significant energy efficiency. The plan focuses on reducing the region's energy footprint through areas over

which local government possesses considerable control and expertise but looks at the cooperative nature of these activities.

- **Renewable Energy:** Renewable energy can improve local air quality and energy security by offsetting the use of conventional energy sources and diversifying the energy portfolio. In addition, alternative energy development positively impacts the region's economic development by generating green collar jobs and keeping spending on energy within the region. The Central Midlands is blessed with a reasonably good endowment of renewable resources. Yet renewable energy projects are relatively rare.
- **Economic Development:** If local governments are successful in their efforts to reduce the energy footprints of Richland and Lexington Counties, then some green jobs will surely be created, but other economic activity might get curtailed. Likewise, the alternative to implementing a sustainable energy plan may also cause some jobs to be created and others to be lost. On balance, pursuing energy sustainability produces greater net benefits for a local economy than the alternative.

Objectives:

- Amend the Town's land development ordinances to require developers to identify natural features, including significant slopes, natural drainage features and significant vegetation (including tree stands) prior to the sketch plan phase to help identify areas of conservation/preservation prior to development plans being made. This step should be included as part of a pre-development meeting with Town staff. The Town should also fund a program to acquire significant environmental features for public open space.
- Amend the Town's land development ordinances to provide incentives for developers and builders to use green building standards. The Town should also serve as a model by ensuring that its projects are designed and built to green building standards. One source of guidance for the town is the *Sustainable Energy Plan for the Central Midlands Region.*
- Amend the Town's land use regulations to incorporate Low Impact Development standards, water harvesting, drought-tolerant landscaping and other water conservation standards. CMCOG has developed a green infrastructure plan to serve as a local government guide to implementing LID standards.
- Adopt and implement energy efficiency standards for new construction and significant renovations based on the US Green Building Council's LEED program or other similar standards.

The Master Plan statements supporting this goal are:

- Cooperate with existing infrastructure providers, neighboring municipalities, and regional planning efforts for input on water quality planning.
- Consider cooperating with Richland County on an agreement to participate in the stormwater management program.
- Focus on development in areas already served by water, sewer, electricity, and emergency services. Sprawling, low-density development can create burdensome infrastructure
- Encourage proximity of land uses, so that non-motorized transportation becomes a viable option for the greatest number of people.

- Concentrate development in areas with existing infrastructure in order to preserve farmland and natural resources elsewhere.

Transportation

Goal: Develop and implement standards that required development accommodate multi-modal transportation options.

Beyond the core area of Town, bicycle and pedestrian connections are sparse; limited to what has been included as part of a residential development. A basic plan for bicycle/pedestrian connections is proposed as part of the future land use plan. A multi-modal transportation system that incorporates the principles of complete streets and universal design gives those people who cannot drive or choose not to drive the opportunity to travel safely and conveniently.

Bus Rapid Transit
http://www.csus.edu/news/imagedownload/trollyreshallslarge.jpg

Currently the Town does not have transit service, either locally or through Central Midlands Transit (The COMET). Transit service would permit those who cannot drive and those who chose not to drive to be able to live in Blythewood but still be able to travel to other parts of the region.

Transit Oriented Development (TOD) is a similar concept to pedestrian sheds in that the TOD is a defined area within a 1/2 mile radius to a transit stop. Development within a TOD is characterized by a mixture of uses, such as civic, office, commercial, and others. Development is also higher in density to take advantage of the proximity to transit. A bus rapid-transit (BRT) system along Highway 21 connecting the core commercial area with the industrial development along the corridor, or even the commercial development at the I-77/Killian Road interchange is a possible long-term goal. The BRT stations should be designed so that they could be converted to commuter-rail stations in the future. Other potential TOD opportunities include high-speed rail and even commuter bus service from a park-n-ride at the interchange.

While regional commuter service to downtown Columbia is many years away, CMCOG has conducted a study of the feasibility of such service. A Winnsboro to Columbia route was one of 6 routes initially studied for commuter rail service, but was not considered for further study. Bus rapid-transit service and high-speed rail service are still options for this corridor.

COMPONENTS OF TRANIST ORIENTED DESIGN

- Walkable design with pedestrian as the highest priority
- Train station as prominent feature of town center
- A regional node containing a mixture of uses in close proximity including office, residential, retail, and civic uses
- High density, high-quality development within 10-minute walk circle surrounding train station
- Collector support transit systems including trolleys, streetcars, light rail, and buses, etc.
- Designed to include the easy use of bicycles, scooters, and rollerblades as daily support transportation systems
- Reduced and managed parking inside 10-minute walk circle around town center / train station

http://www.transitorienteddevelopment.org/tod.html

Objectives:

- Amend the Town's land use ordinances to implement standards for pedestrian sheds in strategic locations throughout the Town.

- Town should facilitate opportunities for well-designed, high density residential development as part of larger developments. These mixed-use developments should be strategically located to take advantage of existing services capable of supporting higher densities. Preference should be given to higher density development in the core commercial district through incentives such as quicker review process, to encourage development that can take advantage of the proximity to the commercial core.
- Town should still make land use decisions with the possibility of bus rapid-transit, commuter bus service and even high-speed rail service in the future. Decisions should range from land use patterns, including the location of transit stops in pedestrian sheds, and the creation of TOD districts, to "complete streets" designs standards that accommodate multi-modal transportation standards for new and existing streets. The illustration below shows the characteristics of a "complete street."
- Develop and implement a bike and pedestrian plan that identifies connections from the furthest edges of Town to the core area. These routes should have additional design standards to ensure they maintain their bike/pedestrian attraction. Connections should be made to the regional bike and pedestrian network as identified in the COATS Bike and Pedestrian Plan.
- Establish a park and ride lot at an appropriate location.

The Master Plan statements supporting this goal are:

- Encourage proximity of land uses, so that non-motorized transportation becomes a viable option for the greatest number of people.
- Require buildings that favor pedestrian access from the sidewalk over vehicular access from driveways or parking lots.
- Promote shared parking arrangements wherever possible to decrease the number of underused parking spaces.
- Encourage density in the town's core, to make future transit service more feasible.
- Direct new developments to provide pedestrian facilities, including sidewalks along streets, and within parking lots.
- Encourage shared driveways to limit curb cuts, which can disrupt the sidewalk environment and contribute to driver confusion.
- Promote town-wide connectivity through a system of multi-use trails.
- Support efforts to establish commuter rail between Charlotte and Columbia, with a station in Blythewood.
- Support the redevelopment of the entire Blythewood Road corridor from just west of I-77 to the current Town Hall as a walkable town center.
- Foster east-west connectivity through new bridges over the railroad tracks and I-77.
- Provide Americans with Disabilities Act (ADA) accessible facilities at the most suitable locations.

CHAPTER 12 IMPLEMENTATION

Goal	Task	Time Frame	Participants	Status
Economic	Commission a Commercial and Economic Development Plan to update the economic gap analysis done in conjunction with the master plan and to provide guidance on the availability of grants, bonds, incentives, etc.	Medium	Staff, Planning Commission, Town Council	
Economic	Commission a marketing plan and campaign that supports the Commercial and Economic Development plan and focuses on attracting new residents, knowledge industry jobs, and other high-quality employment opportunities.	Medium	Staff , Council	
Economic	Support and retain existing businesses with marketing efforts, financial incentives, distribution of the Master Plan Market Analysis, and a business appreciation program.	Ongoing	Staff, Council	
Economic	Promote Blythewood's image in the region through an updated website, weekend events, presentations, press releases, shopping promotions, welcome baskets, cooperative marketing, and other means, to publicize progress in the town.	Ongoing	Staff, Council	
Land Use	Amend the Town's land use policies to place a "community focus" to development, as illustrated in the Master Plan, by requiring a mixture of uses, or in the case of smaller developments, requiring that they are located within walking distances of existing uses and services essential for a neighborhood and have a logical connection to those uses and services.	Short	Staff	
Land Use	Amend the Town's land use ordinances to implement standards for pedestrian sheds in strategic locations throughout the Town.	Medium	Staff, Planning Commission, Town Council	
Land Use	The town should support regional activities such as the possible commuter rail service between Columbia and Charlotte, and the I-77 Alliance to better coordinate the location of rail stops and development in the town.	Long	Staff, Town Council	

Goal	Task	Time Frame	Participants	Status
Land Use	Amend the town's zoning ordinance to encourage the development of neighborhood centers in accordance with the master plan.	Medium	Staff, Town Council	
Land Use	Amend the Town's land use regulations to require formal open space as part of large developments, particularly mixed use. The open space should be strategically located to accommodate use by as many people as possible, and should accommodate active use, not just passive.	Medium	Staff, Town Council	
Land Use	Develop a public space/park master plan, identifying both active and passive space in the Town with an implementation strategy.	Medium	Staff, Town Council	
Land Use	Identify a potential greenbelt around the Town and incorporate this greenbelt in the future land use map.	Long	Staff	
Land Use	Amend the Town's land use regulations to support the redevelopment of the entire Blythewood Road corridor from Fulmer Road to the current Town Hall as a walkable town center.	Ongoing	Staff, Planning Commission, Council	
Land Use	Prioritize code enforcement to ensure that new development meets applicable building, fire, accessibility, environmental, and zoning codes, and that it is in character with the goals of the Master Plan.	Ongoing	Staff, Council	
Land Use	Encourage cluster development both within the town and nearby to preserve open space.	Ongoing	Staff, Planning Commission, Council	
Land Use	Encourage proximity of land uses, so that non-motorized transportation becomes a viable option for the greatest number of people.	Ongoing	Staff, Planning Commission, Council	
Land Use	Amend the town's land use regulations to encouraged shared parking arrangements wherever possible to decrease the number of underused parking spaces.	Ongoing	Staff, Planning Commission	
Land Use	Encourage density in the town's core, to make future transit service more feasible.	Ongoing	Staff, Planning Commission, Council	

Goal	Task	Time Frame	Participants	Status
Land Use	Direct new developments to provide pedestrian facilities, including sidewalks along streets, and within parking lots.	Ongoing	Staff, Planning Commission, Council	
Land Use	Amend the town's land use regulations to encourage shared driveways to limit curb cuts.	Ongoing	Staff, Planning Commission	
Land Use	Require major developments to provide publicly accessible open space, unless public open space already exists within a short walk.	Ongoing	Staff, Planning Commission, Council	
Land Use	Include public art and historic memorials in public open spaces where feasible.	Ongoing	Staff, Planning Commission, Council	
Land Use	Place amenities in parks to draw visitors from outside Blythewood.	Ongoing	Staff, Council	
Land Use	Surround parks and open spaces with streets and development. Vacant land adjacent to a park decreases visibility and security.	Ongoing	Staff, Planning Commission, Council	
Land Use	Eliminate and avoid barriers and walls surrounding a park or open space that restrict accessibility, reduce the service area, and create security problems along edges.	Medium/Ongoing	Staff	
Land Use	Enhance quality of life in the town through new amenities, an improved public realm, increased shopping and dining options, and better employment.	Ongoing	Staff, Council	
Land Use	Make future zoning decisions that concentrate development in areas with existing infrastructure in order to preserve farmland and natural resources elsewhere.	Ongoing	Staff, Planning Commission, Council	
Infrastructure	Amend the Town's land use regulations to incorporate Low Impact Development standards, water harvesting, drought-tolerant landscaping and other water conservation standards.	Medium	Staff	
Infrastructure	Cooperate with existing infrastructure providers, neighboring municipalities, and regional planning efforts for input on water quality planning.	Ongoing	Staff, Council	

Goal	Task	Time Frame	Participants	Status
Infrastructure	Move forward with implementing recommended road and storm drain improvements in the town.	Short	Staff	
Architecture	Amend the Town's land development ordinances to provide incentives for developers and builders to incorporate community character standards. The Town should also serve as a model by ensuring that its projects are designed and built in a way to preserve and enhance community character	Short	Staff, Town Council	
Architecture	Amend the Town's land use regulations to encourage the use of local architectural styles in new construction.	Short	Staff, Planning Commission, Board of Architectural Review, Council	
Architecture	Amend the Town's land use regulations to avoid corporate prototype architecture.	Short	Staff, Planning Commission, Board of Architectural Review, Council	
Architecture	Amend the Town's land use regulations to preserve and promote Blythewood's local businesses and historic assets.	Short	Staff, Planning Commission, Board of Architectural Review, Council	
Architecture	Expand Town of Blythewood staff with the addition of a full-time town planner/permit reviewer/inspector.	Medium	Staff, Council	
Architecture	Increase long-term property values through conscientious planning and responsible redevelopment.	Ongoing	Staff, Planning Commission, Council	
Environment	Amend the Town's land development ordinances to require developers to identify natural features, including significant slopes, natural drainage features and significant vegetation (including tree stands) prior to the sketch plan phase to help identify areas of conservation/preservation prior to development plans being made.	Medium	Staff, Planning Commission, Town Council	

Goal	Task	Time Frame	Participants	Status
Environment	Amend the Town's land development ordinances to provide incentives for developers and builders to use green building standards.	Medium	Staff, Planning Commission, Town Council	
Environment	Adopt and implement energy efficiency standards for new construction and significant renovations based on the US Green Building Council's LEED program or other similar standards.	Long	Staff, Planning Commission, Town Council	
Environment	Cooperate with existing infrastructure providers, neighboring municipalities, and regional planning efforts for input on water quality planning	Ongoing	Staff, Council	
Environment	Consider cooperating with Richland County on an agreement to participate in the stormwater management program.	Short	Staff, Council	
Environment	Amend the Town's land use regulations to focus on development in areas already served by water, sewer, electricity, and emergency services.	Short	Staff, Council	
Transportation	Amend the Town's land use ordinances to implement standards for pedestrian sheds in strategic locations throughout the Town.	Medium	Staff, Planning Commission, Town Council	
Transportation	Town should facilitate opportunities for well-designed, high density residential development as part of larger developments in strategic locations	Medium	Staff, Planning Commission, Town Council	
Transportation	Town should still make land use decision with the possibility of bus rapid-transit, commuter bus service and even high-speed rail service in the future.	Long	Staff, Town Council	
Transportation	Develop and implement a bike and pedestrian plan that identifies connections from the furthest edges of Town to the core area.	Long	Staff, Town Council	
Transportation	Establish a park and ride lot at an appropriate location.	Short	Staff	
Transportation	Amend the Town's land use regulations to require buildings that favor pedestrian access from the sidewalk over vehicular access from driveways or parking lots.	Short	Staff, Planning Commission, Council	

Goal	Task	Time Frame	Participants	Status
Transportation	Amend the Town's land use regulations to encourage density in the town's core, to make future transit service more feasible.	Short	Staff, Planning Commission, Council	
Transportation	Amend the Town's land use regulations to encourage shared driveways to limit curb cuts.	Short	Staff, Planning Commission, Council	
Transportation	Develop a multi-use trail plan to promote town-wide connectivity.	Long	Staff, Planning Commission, Council	
Transportation	Support efforts to establish commuter rail between Charlotte and Columbia, with a station in Blythewood.	Ongoing	Staff, Council	
Transportation	Identify future east-west connections through new bridges over the railroad tracks and I-77.	Long	Staff, Council, COATS, SCDOT	
Transportation	Provide Americans with Disabilities Act (ADA) accessible facilities at the most suitable locations.	Ongoing	Staff, Council	
	NOTE: Short term = 1-3 years; Medium term = 3-5 years; Long term = 5-10 years			