

COUNTY COUNCIL OF BEAUFORT COUNTY  
 ADMINISTRATION BUILDING  
 BEAUFORT COUNTY GOVERNMENT ROBERT SMALLS COMPLEX  
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D. PAUL SOMMERVILLE  
 CHAIRMAN

GERALD W. STEWART  
 VICE CHAIRMAN

COUNCIL MEMBERS

CYNTHIA M. BENSCH  
 RICK CAPORALE  
 GERALD DAWSON  
 BRIAN E. FLEWELLING  
 STEVEN G. FOBES  
 ALICE G. HOWARD  
 WILLIAM L. MCBRIDE  
 STEWART H. RODMAN  
 ROBERTS "TABOR" VAUX

GARY T. KUBIC  
 COUNTY ADMINISTRATOR

JOSHUA A. GRUBER  
 DEPUTY COUNTY ADMINISTRATOR  
 SPECIAL COUNSEL

THOMAS J. KEAVENY, II  
 COUNTY ATTORNEY

SUZANNE M. RAINEY  
 CLERK TO COUNCIL

AGENDA  
 COUNTY COUNCIL OF BEAUFORT COUNTY  
 Monday, November 30, 2015  
 5:00 p.m.  
 Council Chambers, Administration Building  
 Beaufort County Government Robert Smalls Complex  
 100 Ribaut Road, Beaufort

Citizens may participate in the public comment periods and public hearings from telecast sites at Hilton Head Island Branch Library as well as Mary Field School, Daufuskie Island.

1. CALL TO ORDER - 5:00 P.M.
2. REGULAR MEETING
3. PLEDGE OF ALLEGIANCE
4. INVOCATION – Chairman Paul Sommerville
5. ADMINISTRATIVE CONSENT AGENDA
  - A. Approval of Minutes – November 9, 2015 [caucus](#) and November 9, 2015 [regular](#)
  - B. Committee Reports (next meeting)
    1. Community Services (January 2015)
    2. Executive (December 14 at 2:00 p.m., ECR)
      - a. Minutes – November 9, 2015 ([backup](#))
    3. Finance (December 21 at 2:00 p.m., BIV #3)
      - a. Minutes –November 16, 2015 ([backup](#))
    4. Governmental (December 7 at 4:00 p.m., ECR)
    5. Natural Resources (December 7 at 2:00 p.m., ECR)
    6. Public Facilities (December 21 at 4:00 p.m., BIV #3)
      - a. Minutes –November 16, 2015 ([backup](#))
  - C. Appointments to Boards and Commissions ([backup](#))
6. INTRODUCTION
  - A. Dr. Al M. Panu, Chancellor, University of South Carolina-Beaufort
7. PUBLIC COMMENT – Speaker sign-up encouraged no later than 4:45 p.m. day of the meeting.



## 8. OLD BUSINESS

A. PEPPER HALL PLANTATION PROPERTY / REQUEST TO CHANGE THE FUTURE LAND USE DESIGNATION AND TO REZONE PORTIONS OF AN ASSEMBLAGE OF 7 PARCELS EQUALING APPROXIMATELY 113 ACRES LOCATED ON THE NORTH SIDE OF U.S. HIGHWAY 278 BETWEEN THE OKATIE RIVER AND GRAVES ROAD FROM RURAL WITH TRANSITIONAL OVERLAY (APPROXIMATELY 33 ACRES FRONTING U.S. HIGHWAY 278) AND RURAL (80 ACRES OF THE REMAINDER OF THE PROPERTIES) TO COMMERCIAL REGIONAL (APPROXIMATELY 65 ACRES FRONTING U.S. HIGHWAY 278) AND SUBURBAN (APPROXIMATELY 48 ACRES AT THE REAR OF THE PROPERTIES)

1. Consideration of denial to occur November 30, 2015
2. Council postponed consideration of denial until its November 30, 2015 meeting
3. Public hearing held October 26, 2015
4. Natural Resources Committee discussion and recommendation to deny the rezoning and future use designation occurred August 10, 2015 / Vote 6:1:1

### County Provided Documents

[Natural Resources Committee minutes – August 10, 2015](#)

[Planning Commission staff report, agenda and minutes – March 4, 2015](#)

(includes Southern Beaufort County Subcommittee recommendation –December 13, 2012

[Planning Commission agenda and minutes – February 4, 2014](#)

[Planning Commission agenda and minutes – January 7, 2013](#)

[Southern Beaufort County Subcommittee agenda and staff report – December 13, 2012](#)

[Letter to Town of Bluffton and other agencies re: summary of Graves’s application – November 30, 2013](#)

[Additional Traffic Study information – February 15, 2013](#)

[Letter Vaux & Marscher re: Pepper Hall Traffic Impact Analysis – January 21, 2013](#)

### Applicant Provided Documents

[Okatie Study Group \(Graves\) Rezoning / Evidence Outline and Book – October 20, 2015](#)

## 9. NEW BUSINESS

A. EMERGENCY RESOLUTION TO WAIVE COUNTY PROCUREMENT PROCEDURES WHICH WILL ALLOW THE COUNTY TO ENTER INTO A CONTRACT WITH JS CONSTRUCTION FOR THE CONSTRUCTION OF THE BERKLEY HALL/ST. GREGORY FRONTAGE ROAD ALONG U.S. HIGHWAY 278, WHICH HAD BEEN DELAYED FOR YEARS IN LITIGATION, TO BE COMPLETED BY AUGUST 15, 2016

## 10. CONSENT AGENDA

A. TEXT AMENDMENT TO COMMUNITY DEVELOPMENT CODE (CDC) TABLE 3.1.60 CONSOLIDATED USE TABLE—OFFICES & SERVICES, #17. RESIDENTIAL STORAGE FACILITY, ADDING “C” (PERMITTED USE WITH CONDITIONS) TO T4-HC (HAMLET CENTER) ([backup](#))

1. Consideration of second reading to occur November 30, 2015

2. Public hearing announcement – Monday, December 14, 2015 beginning at 6:00 p.m. in Council Chambers of the Administration Building, Beaufort County Government Robert Smalls Complex, 100 Ribaut Road, Beaufort
3. First reading approval occurred November 9, 2015 / Vote 11:0
4. Natural Resources Committee discussion and recommendation to approve ordinance on first reading occurred November 2, 2015 / Vote 6:0

B. AN ORDINANCE TO TRANSFER FUNDS IN THE AMOUNT NOT TO EXCEED \$623,280.00 FROM THE 3% LOCAL ACCOMMODATIONS TAX FUND TO THE GENERAL FUND FOR THE BROAD RIVER FISHING PIER REHABILITATION PROJECT ([backup](#))

1. Consideration of first reading to occur November 30, 2015
2. Finance Committee discussion and recommendation to approve ordinance on first reading occurred November 16, 2015 / Vote 6:0

C. CONTRACT AWARD / MASTER SERVICES AGREEMENT FOR BEAUFORT COUNTY AIRPORT AT LADY’S ISLAND AND HILTON HEAD ISLAND ([backup](#))

1. Contract award: Talbert, Bright & Ellington, Charlotte, North Carolina
2. Funding source: Primarily from grant funding for AIP eligible projects (95% covered by the FAA (90%) and SCAC (5%)) and Beaufort County (5%)
3. Finance Committee discussion and recommendation to award the contract occurred November 16, 2015 / Vote 6:0

D. MEMORANDUM OF UNDERSTANDING BETWEEN BEAUFORT COUNTY AND HILTON HEAD HUMANE ASSOCIATION (PARTNERSHIP FOR NEW ANIMAL SERVICES BUILDING) ([backup](#))

1. Public Facilities Committee discussion and recommendation to award the contract occurred November 16, 2015 / Vote 6:0

## 11. PUBLIC HEARING

A. AN ORDINANCE AUTHORIZING THE EXECUTION AND DELIVERY OF AN EASEMENT ENCUMBERING PROPERTY OWNED BY BEAUFORT COUNTY, SOUTH CAROLINA (S.C. HIGHWAY 170 UTILITY EASEMENT FOR PALMETTO ELECTRIC COOPERATIVE, INC.) ([backup](#))

1. Consideration of third and final reading to occur November 30, 2015
2. Second reading approval occurred November 9, 2015 / Vote 11:0
3. First reading approval occurred October 26, 2015 / Vote 10:0
4. Public Facilities Committee discussion and recommendation to grant a ten-foot utility easement to Palmetto Electric Cooperative, Inc. for the underground cables located on parcel R600 029 000 0126 000. Committee action occurred October 19, 2015 / Vote 7:0

12. MATTERS ARISING OUT OF EXECUTIVE SESSION

13. PUBLIC COMMENT - Speaker sign-up encouraged.

14. ADJOURNMENT

Official Proceedings  
County Council of Beaufort County  
November 9, 2015

The electronic and print media duly notified in  
accordance with the State Freedom of Information Act.

A caucus of the County Council of Beaufort County was held Monday, November 9, 2015 beginning at 4:00 p.m. in the Executive Conference Room of the Administration Building, 100 Ribaut Road, Beaufort, South Carolina.

**ATTENDANCE**

Chairman D. Paul Sommerville, Vice Chairman Gerald Stewart and Councilmen Cynthia Bensch, Rick Caporale, Gerald Dawson, Brian Flewelling, Steven Fobes, Alice Howard, William McBride, Stewart Rodman and Roberts "Tabor" Vaux.

**RECEIPT OF COUNTY ADMINISTRATOR'S TWO-WEEK PROGRESS REPORT**

Mr. Gary Kubic, County Administrator, presented his Two-Week Progress Report, which summarized his activities from October 26, 2015 through November 6, 2015.

**RECEIPT OF DEPUTY COUNTY ADMINISTRATOR / SPECIAL COUNSEL'S TWO-WEEK PROGRESS REPORT**

Mr. Joshua Gruber, Deputy County Administrator / Special Counsel, presented his Two-Week Progress Report, which summarized his activities from October 26, 2015 through November 6, 2015.

**DISCUSSION ITEMS**

Mr. Rodman offered his thoughts on the start time of Council meetings, thereby making meetings more convenient for the public and not on any external pressure. He recommended the following schedule: executive session convening at 5:00 p.m. (the Chairman would have the flexibility to begin the session earlier), caucus 5:30 p.m., regular session 6:00 p.m., public hearings 6:30 p.m., and adjourning at 8:00 p.m., unless extended. This is a change from the existing start time of 4:00 p.m. approved February 11, 1985. Mr. Rodman also brought forward a suggested Committee schedule and meeting start time.

Mr. Rodman suggested a Board and Commission appointment process as well as a Council compensation analysis.

Mr. Vaux recused himself, left the room, and was not present for any of the discussion regarding Pepper Hall Plantation. His law firm formerly represented the seller in this same matter.

Mr. Rodman submitted a comparison of the Pepper Hall Plantation Development Agreement between the Planning Commission and Development Agreement Subcommittee.

Mr. Vaux returned to the meeting.

**CALL FOR EXECUTIVE SESSION**

It was moved by Mr. Flewelling, seconded by Mr. Rodman, that Council go immediately into executive session for the purpose of receiving legal advice relating to: (i) discussion of proposed purchase of property pursuant to the Beaufort County Rural and Critical Lands Program, (ii) discussion of negotiations incident to proposed contractual arrangements and proposed purchase or sale of property, and (iii) discussion of employment of a person regulated by Council. The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

**EXECUTIVE SESSION**

**ADJOURNMENT**

Council adjourned at 5:25 p.m.

COUNTY COUNCIL OF BEAUFORT COUNTY

By: \_\_\_\_\_  
D. Paul Sommerville, Chairman

ATTEST:

\_\_\_\_\_  
Suzanne M. Rainey, Clerk to Council

Ratified:

Official Proceedings  
County Council of Beaufort County  
November 9, 2015

The electronic and print media duly notified in  
accordance with the State Freedom of Information Act.

The regular session of the County Council of Beaufort County was held Monday, November 9, 2015 beginning at 5:30 p.m. in Council Chambers of the Administration Building, 100 Ribaut Road, Beaufort, South Carolina.

**ATTENDANCE**

Chairman D. Paul Sommerville, Vice Chairman Gerald Stewart and Councilmen Cynthia Bensch, Rick Caporale, Gerald Dawson, Brian Flewelling, Steven Fobes, Alice Howard, William McBride, Stewart Rodman and Roberts "Tabor" Vaux.

**PLEDGE OF ALLEGIANCE**

The Chairman led those present in the Pledge of Allegiance.

**INVOCATION**

Councilman Roberts "Tabor" Vaux gave the Invocation.

The Chairman passed the gavel to the Vice Chairman in order to receive the Administrative Consent Agenda.

**ADMINISTRATIVE CONSENT AGENDA**

**Review of the Proceedings of the Caucus held October 26, 2015**

This item comes before Council under the Administrative Consent Agenda.

It was moved by Mr. Flewelling, seconded by Mr. Fobes, that Council approve the minutes of the caucus held October 26, 2015. The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. ABSTAIN – Mr. McBride. The motion passed.

**Review of the Proceedings of the Regular Meeting held October 26, 2015**

This item comes before Council under the Administrative Consent Agenda.

It was moved by Mr. Flewelling, seconded by Mr. Fobes, that Council approve the minutes of the regular meeting held October 26, 2015. The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr.

Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. ABSTAIN – Mr. McBride. The motion passed.

## **Committee Reports**

### **Community Services Committee**

#### **Disabilities and Special Needs Board**

Caleb Brown

The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. Mr. Brown garnered the six votes required to serve as a member of the Disabilities and Special Needs Board. This is a partial term appointment that expires February 2019.

Ann Hamilton

The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. Ms. Hamilton garnered the six votes required to serve as a member of the Disabilities and Special Needs Board. This is a partial term appointment that expires February 2017.

### **Executive Committee**

#### **Capital Project Sales Tax Commission**

Joseph Kline

The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. Mr. Kline, replacing Alan Herd, garnered the six votes required to serve as a member of the Capital Project Sales Tax Commission.

#### **Start Time of Council Meetings**

It was moved by Mr. Stewart, as Chairman of the Executive Committee (no second required), that Council approve the start time of Council meetings, effective January 2016, as follows: executive session convening at 5:00 p.m. (the Chairman has the flexibility to begin executive session earlier in the day if more time is needed), caucus 5:30 p.m., regular session 6:00 p.m., public hearings 6:30 p.m. and adjourning at 8:00 p.m., unless a motion to extend is approved by a two-thirds vote. This is a change from the existing start time of 4:00 p.m. approved February 11, 1985. The vote: YEAS – Mrs. Bensch, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. NAYS – Mr. Caporale. The motion passed.

## **Public Facilities Committee**

### **County Transportation Committee**

Joe DeVito

The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. Mr. DeVito, representing Council District 4, garnered the six votes required to serve as a member of the County Transportation Committee. The term expires February 2019.

Kraig Gordon

The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. Mr. Gordon, representing Council District 8, garnered the six votes required to serve as a member of the County Transportation Committee. The term expires February 2019.

Steve Wilson

The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. Mr. Wilson, representing Council District 11, garnered the six votes required to serve as a member of the County Transportation Committee. The term expires February 2019.

The Vice Chairman passed the gavel back to the Chairman in order to continue the meeting.

## **PROCLAMATION**

### **Penn Center Heritage Days Celebration Week**

The Chairman proclaimed the week of November 12 through November 14, 2015 as the 33<sup>rd</sup> Penn Center Heritage Days Celebration Week. Ms. Jaquelyn Williams, Administrative Assistant, Penn Center, accepted the proclamation.

## **INTRODUCTIONS**

### **Gary James, New County Assessor**

Mr. Joshua Gruber, Deputy County Administrator / Special Counsel, introduced Gary James, who will serve as the new County Assessor. He holds a bachelor's degree from Williams College, a master's degree from the University of Colorado, and an MBA degree in Finance and Strategy from Boston University. He is currently a Certified General Real Estate Appraiser in

the states of South Carolina, Maine, New Jersey and Pennsylvania. He has more than 23 years' experience in the field of assessing and has relevant prior experience with Charleston County.

**Andrea Atherton, New Construction and Capital Improvement Projects Manager**

Mr. Joshua Gruber, Deputy County Administrator / Special Counsel, introduced Andrea Atherton, who will serve as the new Construction and Capital Improvement Projects Manager. She holds a Civil Engineering degree from the University of Michigan, She has 36 years of prior experience in engineering and project management, most recently working on several large scale commercial real estate development projects.

**PUBLIC COMMENT**

The Chairman recognized Mrs. Laura Von Harten, who supports the use of County property in order to spread the remains of people who have remained unclaimed in past decades as well as holding ceremonies when ashes are scattered, provided the services are non-creedal in nature.

Mr. Barry Johnson, legal counsel for the Graves Family, looks forward to the opportunity to meet with Mr. Tom Keaveny, County Attorney, as well as any member of Council interested in participating in the rezoning application discussion to try to move this forward in the spirit of good faith and compromise.

Mr. Robert Graves, owner of Pepper Hall Plantation, asked Council to read his option proposal and looks forward to Council's input.

Mr. William Smith, representing Penn Center, invited the community to attend the Heritage Days College Fair event on Friday, November 13, from 10:00 a.m. to 2:00 p.m.

**AN ORDINANCE AUTHORIZING THE EXECUTION AND DELIVERY OF AN EASEMENT ENCUMBERING PROPERTY OWNED BY BEAUFORT COUNTY, SOUTH CAROLINA (S.C. HIGHWAY 170 UTILITY EASEMENT FOR PALMETTO ELECTRIC COOPERATIVE, INC.)**

This item comes before Council under the Consent Agenda. Discussion occurred at the October 19, 2015 meeting of the Public Facilities Committee.

It was moved by Mr. Flewelling, seconded by Mrs. Bensch, that Council approve on second reading an ordinance to authorize the execution and delivery of a ten-foot utility easement to Palmetto Electric Cooperative, Inc. for the underground cables located on parcel R600 029 0000 0126 0000. The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

The Chairman announced a public hearing on Monday, November 30, 2015 beginning at 6:00 p.m. in Council Chambers of the Administration Building, Beaufort County Government Robert Smalls Complex, 100 Ribaut Road, Beaufort.

**TEXT AMENDMENT TO COMMUNITY DEVELOPMENT CODE (CDC) TABLE 3.1.60 CONSOLIDATED USE TABLE—OFFICES & SERVICES, #17. RESIDENTIAL STORAGE FACILITY, ADDING “C” (PERMITTED USE WITH CONDITIONS) TO T4-HC (HAMLET CENTER)**

This item comes before Council under the Consent Agenda. Discussion occurred at the November 2, 2015 meeting of the Natural Resources Committee.

It was moved by Mr. Flewelling, seconded by Mrs. Bensch, that Council approve on first reading a text amendment to the Community Development Code (CDC) Table 3.1.60 Consolidated Use Table - Offices and Services, #17. Residential Storage Facility, adding “C” (Permitted Use with Conditions) to T4-HC (Hamlet Center). The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

**A RESOLUTION TO COMMISSION ANIMAL SERVICE OFFICER TO ENFORCE BEAUFORT COUNTY ANIMAL ORDINANCES FOR BEAUFORT COUNTY PURSUANT TO THE AUTHORITY GRANTED IN SECTION 4-9-145 OF THE CODE OF LAWS OF SOUTH CAROLINA, 1976, AS AMENDED**

It was moved by Mr. Flewelling, seconded by Mrs. Bensch, that Council adopt a resolution to Commission Animal Service Officer Jason Wingle to enforce Beaufort County Animal Ordinances for Beaufort County pursuant to the authority granted in Section 4-9-145 of the *Code of Laws of South Carolina, 1976*, as amended. The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

**PUBLIC HEARINGS**

**TEXT AMENDMENTS TO THE BEAUFORT COUNTY COMMUNITY DEVELOPMENT CODE (CDC), ARTICLES 2, 3, 4, 5, 6, 7 AND 10 (TRANSECT ZONE AMENDMENTS; SIGN AMENDMENTS, DIVISION 5.6; USE AMENDMENTS: USE TABLE, SECTION 3.1.60, LAND USE DEFINITION TABLE, SECTION 3.1.70, AND SPECIFIC TO THE USE STANDARDS, DIVISION 4.1; CORRECTIONS, CLARIFICATIONS AND PROVISIONS FROM THE ZONING AND DEVELOPMENT STANDARDS ORDINANCE)**

The Chairman opened a public hearing beginning at 6:00 p.m. for the purpose of receiving comment regarding text amendments to the Beaufort County Community Development Code (CDC), Articles 2, 3, 4, 5, 6, 7 and 10 (Transect Zone Amendments; Sign Amendments, Division 5.6; Use Amendments: Use Table, Section 3.1.60, Land Use Definition Table, Section 3.1.70, and Specific to the Use Standards, Division 4.1; Corrections, Clarifications and Provisions from

the Zoning and Development Standards Ordinance). After calling three times for public comment and receiving none, the Chairman declared the hearing closed at 6:01 p.m.

It was moved by Mr. Flewelling, as Chairman of the Natural Resources Committee (no second required), that Council approve on third and final reading text amendments to the Beaufort County Community Development Code (CDC), Articles 2, 3, 4, 5, 6, 7 and 10 (Transect Zone Amendments; Sign Amendments, Division 5.6; Use Amendments: Use Table, Section 3.1.60, Land Use Definition Table, Section 3.1.70, and Specific to the Use Standards, Division 4.1; Corrections, Clarifications and Provisions from the Zoning and Development Standards Ordinance). The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

**TEXT AMENDMENTS TO THE BEAUFORT COUNTY COMMUNITY DEVELOPMENT CODE (CDC), SECTION 3.2.100.E (T4 HAMLET CENTER) AND SECTION 3.3.30.C (NEIGHBORHOOD MIX-USE (C3) ZONE) TO ESTABLISH A HEIGHT LIMIT OF 35 FEET FOR INSTITUTIONAL BUILDINGS**

The Chairman opened a public hearing beginning at 6:02 p.m. for the purpose of receiving comment regarding text amendments to Section 3.2.100.E (T4 Hamlet Center) and Section 3.3.30.C, (Neighborhood Mix-Use (C3) Zone) to establish a height limit of 35 feet for institutional buildings. After calling three times for public comment and receiving none, the Chairman declared the hearing closed at 6:03 p.m.

It was moved by Mr. Flewelling, as Chairman of the Natural Resources Committee (no second required), that Council approve on third and final reading text amendments to Section 3.2.100.E (T4 Hamlet Center) and Section 3.3.30.C, (Neighborhood Mix-Use (C3) Zone) to establish a height limit of 35 feet for institutional buildings. The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

**LADY'S ISLAND ZONING MAP AMENDMENT FOR R200 015 000 0165 0000, R200 015 000 0721 0000, R200 015 000 0820 0000, R200 015 000 0866 0000, R200 015 000 0867 0000, R200 015 000 0868 0000, R200 015 000 0869 0000, R200 015 000 0870 0000, R200 015 000 0871 0000, R200 015 000 0872 0000, R200 015 000 0873 0000, R200 015 000 0874 0000, R200 015 000 0875 0000 (13 PARCELS TOTALING 8.75 ACRES, SOUTH SIDE OF SEA ISLAND PARKWAY BETWEEN LADY'S ISLAND COMMONS AND YOUMANS ROAD) FROM T4-HC (HAMLET CENTER) TO T4-HCO (HAMLET CENTER OPEN)**

The Chairman opened a public hearing beginning at 6:04 p.m. for the purpose of receiving comment on a Lady's Island Zoning Map amendment for R200 015 000 0165 0000, R200 015 000 0721 0000, R200 015 000 0820 0000, R200 015 000 0866 0000, R200 015 000 0867 0000, R200 015 000 0868 0000, R200 015 000 0869 0000, R200 015 000 0870 0000, R200 015 000 0871 0000, R200 015 000 0872 0000, R200 015 000 0873 0000, R200 015 000 0874 0000, R200 015 000 0875 0000 (13 parcels totaling 8.75 acres, south side of Sea Island Parkway between

Lady's Island Commons and Youmans Road) from T4-HC (Hamlet Center) to T4-HCO (Hamlet Center Open). After calling three times for public comment and receiving none, the Chairman declared the hearing closed at 6:05 p.m.

It was moved by Mr. Flewelling, as Chairman of the Natural Resources Committee (no second required), that Council approve on third and final reading a Lady's Island Zoning Map amendment for R200 015 000 0165 0000, R200 015 000 0721 0000, R200 015 000 0820 0000, R200 015 000 0866 0000, R200 015 000 0867 0000, R200 015 000 0868 0000, R200 015 000 0869 0000, R200 015 000 0870 0000, R200 015 000 0871 0000, R200 015 000 0872 0000, R200 015 000 0873 0000, R200 015 000 0874 0000, R200 015 000 0875 0000 (13 parcels totaling 8.75 acres, south side of Sea Island Parkway between Lady's Island Commons and Youmans Road) from T4-HC (Hamlet Center) to T4-HCO (Hamlet Center Open). The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

**LADY'S ISLAND ZONING MAP AMENDMENT FOR R200 015 000 111G 0000, R200 015 000 0114 0000, R200 015 000 114B 0000, R200 015 000 114C 0000, R200 015 000 114D 0000, AND R200 015 000 0638 0000 – NORTH OF SEA ISLAND PARKWAY; R200 018 00A 0147 0000, R200 018 00A 0148 0000, R200 018 00A 0149 0000, R200 018 00A 0150 0000, R200 018 00A 0161 0000, R200 018 00A 0162 0000, R200 018 00A 0163 0000, R200 018 00A 0192 0000, R200 018 00A 0193 0000, AND R200 018 00A 0248 0000 – SOUTH OF SEA ISLAND PARKWAY (16 PARCELS TOTALING 19 ACRES, NORTH AND SOUTH SEA ISLAND PARKWAY BETWEEN GAY DRIVE AND DOW ROAD) FROM T3-N (NEIGHBORHOOD) AND T3-HN (HAMLET NEIGHBORHOOD) TO T4-NC (NEIGHBORHOOD CENTER) AND T4-HCO (HAMLET CENTER OPEN)**

The Chairman opened a public hearing beginning at 6:06 p.m. for the purpose of receiving comment on a Lady's Island Zoning Map amendment for R200 015 000 111G 0000, R200 015 000 0114 0000, R200 015 000 114B 0000, R200 015 000 114C 0000, R200 015 000 114D 0000, and R200 015 000 0638 0000 – North of Sea Island Parkway; R200 018 00A 0147 0000, R200 018 00A 0148 0000, R200 018 00A 0149 0000, R200 018 00A 0150 0000, R200 018 00A 0161 0000, R200 018 00A 0162 0000, R200 018 00A 0163 0000, R200 018 00A 0192 0000, R200 018 00A 0193 0000, and R200 018 00A 0248 0000 – south of Sea Island Parkway (16 parcels totaling 19 acres, north and south Sea Island Parkway between Gay Drive and Dow Road) from T3-N (Neighborhood) and T3-HN (Hamlet Neighborhood) to T4-NC (Neighborhood Center) and T4-HCO (Hamlet Center Open). After calling three times for public comment and receiving none, the Chairman declared the hearing closed at 6:07 p.m.

It was moved by Mr. Flewelling, as Chairman of the Natural Resources Committee (no second required), that Council approve on third and final reading a Lady's Island Zoning Map amendment for R200 015 000 111G 0000, R200 015 000 0114 0000, R200 015 000 114B 0000, R200 015 000 114C 0000, R200 015 000 114D 0000, and R200 015 000 0638 0000 – North of Sea Island Parkway; R200 018 00A 0147 0000, R200 018 00A 0148 0000, R200 018 00A 0149 0000, R200 018 00A 0150 0000, R200 018 00A 0161 0000, R200 018 00A 0162 0000, R200 018 00A 0163 0000, R200 018 00A 0192 0000, R200 018 00A 0193 0000, and R200 018 00A

0248 0000 – south of Sea Island Parkway (16 parcels totaling 19 acres, north and south Sea Island Parkway between Gay Drive and Dow Road) from T3-N (Neighborhood) and T3-HN (Hamlet Neighborhood) to T4-NC (Neighborhood Center) and T4-HCO (Hamlet Center Open). The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

### **MATTERS ARISING OUT OF EXECUTIVE SESSION**

#### **Cool Heart Springs Tract**

It was moved by Mr. Flewelling, seconded by Mrs. Howard, that Council purchase in fee title 82 acres +/- known as the Cool Heart Springs tract along Cheechessee Road, near Cheechessee River, specifically identified as tax parcel R600 010 00 0186 000 in the amount of \$1.1 million. Acquisition will be made utilizing \$1.1 million in funds from the Rural and Critical Lands Preservation Program. The vote: YEAS – Mrs. Bensch, Mr. Caporale, Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. McBride, Mr. Rodman, Mr. Sommerville, Mr. Stewart and Mr. Vaux. The motion passed.

#### **Evaluation of County Administrator**

The Chairman stated Council spent the better part of 30 minutes talking with Mr. Kubic about his performance during the year, which, by and large, we found to be exemplary. Obviously, there are some areas where we asked him to consider our suggestions and, he will consider doing that in the future. We appreciate his service and look forward to working with him the next two years.

#### **PUBLIC COMMENT**

There were no requests to speak during public comment.

#### **ADJOURNMENT**

Council adjourned at 6:25 p.m.

COUNTY COUNCIL OF BEAUFORT COUNTY

By: \_\_\_\_\_  
D. Paul Sommerville, Chairman

ATTEST: \_\_\_\_\_  
Suzanne M. Rainey, Clerk to Council

Ratified:

\_\_\_\_\_

## EXECUTIVE COMMITTEE

November 9, 2015

The electronic and print media duly notified in accordance with the State Freedom of Information Act.

The Executive Committee met Monday, November 9, 2015 beginning at 2:00 p.m. in the Executive Conference Room of the Administration Building, Beaufort County Government Robert Smalls Complex, 100 Ribaut Road, Beaufort, South Carolina.

### ATTENDANCE

Chairman Jerry Stewart and members Gerald Dawson, Brian Flewelling, William McBride and Stu Rodman. Non-Committee members Cynthia Bensch, Rick Caporale, Steven Fobes, Alice Howard and Paul Sommerville present. (Paul Sommerville, as County Council Chairman, serves as an *ex-officio* member of each standing committee of Council and is entitled to vote.)

County staff: Allison Coppage, Assistant County Attorney; Joshua Gruber, Deputy County Administrator/Special Counsel; Phil Foot, Assistant County Administrator-Public Safety; Thomas Keaveny, County Attorney; Gary Kubic, County Administrator; and Jim Minor, Solid Waste and Recycling Manager.

Public: Frank Turano, Lowcountry Regional Manager, Alliance Consulting Engineers, Inc.

Media: Joe Croley, *Lowcountry Inside Track*, and Scott Thompson, *Bluffton Today*.

Councilman Jerry Stewart chaired the meeting.

### ACTION ITEMS

1. **A resolution to commission animal service officer to enforce Beaufort County Animal Ordinances for Beaufort County pursuant to the authority granted in Section 4-9-145 of the Code of Laws of South Carolina, 1976, as amended**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Motion:** It was moved by Mr. Rodman, seconded by Mr. Flewelling, that Committee approve and recommend to Council the adoption of a resolution to commission animal service officer Jason Wingler to enforce Beaufort County Animal Ordinances for the Beaufort County pursuant to the authority granted in Section 4-9-145 of the Code of Laws of South Carolina, 1976, as amended. The vote: YEAS – Mr. Dawson, Mr. Flewelling, Mr. McBride, Mr. Rodman and Mr. Stewart. The motion passed.

**Recommendation:** Council adopt a resolution to commission animal service officer Jason Wingle to enforce Beaufort County Animal Ordinances for Beaufort County pursuant to the authority granted in Section 4-9-145 of the *Code of Laws of South Carolina, 1976*, as amended.

## 2. Council Meeting Start Time

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Motion:** It was moved by Mr. Rodman, seconded by Mr. Flewelling, that Committee approve and recommend to Council the approval of the start time of Council meetings, effective January 2016, as follows: executive session convening at 5:00 p.m. (the Chairman has the flexibility to begin executive session earlier in the day if more time is needed), caucus at 5:30 p.m., regular session at 6:00 p.m., public hearings at 6:30 p.m. and adjourning at 8:00 p.m., unless a motion to extend is approved by a two-thirds vote. This is a change from the existing start time of 4:00 p.m. approved February 11, 1985. The vote: YEAS – Mr. Dawson, Mr. Flewelling, Mr. McBride, Mr. Rodman and Mr. Stewart. The motion passed.

**Recommendation:** Council approve the start time of Council meetings, effective January 2016, as follows: executive session convening at 5:00 p.m. (the Chairman has the flexibility to begin executive session earlier in the day if more time is needed), caucus 5:30 p.m., regular session 6:00 p.m., public hearings 6:30 p.m. and adjourning at 8:00 p.m., unless a motion to extend is approved by a two-thirds vote. This is a change from the existing start time of 4:00 p.m. approved February 11, 1985.

## 3. Consideration of Reappointments and Appointments

### • Capital Project Sales Tax Commission

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Motion:** It was moved by Mr. Dawson, seconded by Mr. Flewelling, that Committee approve and recommend to Council the appointment of Joseph Kline to serve as a member of the Capital Project Sales Tax Commission. Mr. Kline is replacing Mr. Alan Herd, who is resigning for personal reasons. The vote: YEAS – Mr. Dawson, Mr. Flewelling, Mr. McBride, Mr. Rodman and Mr. Stewart. The motion passed.

**Recommendation:** Council appoint Joseph Kline to serve as a member of the Capital Project Sales Tax Commission. Mr. Kline is replacing Mr. Alan Herd, who is resigning for personal reasons.

## **INFORMATION ITEMS**

### **4. Countywide Curbside Waste and Recycling Services**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Mr. Jim Minor, Solid Waste and Recycling Manager, presented this item to the Committee. Beaufort County government's current waste collection system of Convenience Centers (Centers) for collecting waste in unincorporated Beaufort County cannot keep pace with growth. We are not making progress toward achieving the state's goal of recycling 40% of waste by 2020. The County provides 11 convenience centers and receives approximately 150,000 visits each month. Simmonsville Road, the largest recipient, has 38,000 monthly visits, St. Helena Island 35,000, and 28,000 Hilton Head Island. Traffic at the busiest centers exceed 150 vehicles per hour. Containers at the Centers hold 40 cubic yards of waste or 620 kitchen trash bags.

Additional operational issues impacting the continuation of Convenience Centers:

- Municipal Separate Storm Sewer System (MS4) requirements may render many of the old Center sites either impossible or too expensive to bring into compliance. Closing these Centers will accelerate traffic issues at the larger, more modern Centers.
- The use of compactors enables us to keep pace with the volume by packing more waste into a container. Electric utilities advise that a major hurricane could knock out power for 30 to 45 days; and, since the Centers have no backup for compactors, we could not keep up with volume without them.
- Citizens are getting hurt handling their waste and it is only a matter of time before the high level of traffic results in a serious incident.
- This system of collection contributes to traffic and litter problems.
- Staff is challenged weekly to collect the growing volume of paint, other household hazardous items, tires and batteries.
- Landfills are closed on the weekend and filled containers must be held over the weekend until Monday morning when they reopen.
- This system contributes to a throw-away mentality, disposal of many reusable items, low recycling rates and pilfering.
- The current County policy of paying for disposal of all residential waste is subject to abuse.
- There is no verifiable method for making the determination that the waste actually originated from a resident within Beaufort County.
- The system promotes the perception that waste disposal is free and provides no incentive for anyone to increase waste diversion by promoting reuse or recycling.

National studies suggest more centralized systems, where public entities coordinate services and hire private companies through a public bidding process, result in lower costs for residents and higher recycling rates.

The Solid Waste and Recycling Board recommends that Council direct staff to initiate actions to phase out Convenience Center use in Beaufort County and complete the transition to a sustainable curbside system for waste collection and recycling by 2020. Further, the Board recommends that the County suspend the practice of paying for waste disposal other than waste collected from County Convenience Centers, effective July 1, 2016.

**Status:** Committee asked Staff to commission a study to determine how to best phase out the convenience centers. The study would take approximately six months to complete. There are no funds available in the FY 2015-2016 budget, but Council will make funding a priority in FY 2016-2017.

#### **5. New Business / Fire District Consolidation / Magistrate Salaries**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Status:** Committee will discuss the possible consolidation of the Burton and Lady's Island/St. Helena Island Fire Districts as well as the Magistrate salaries at the December 21, 2015 meeting.

## FINANCE COMMITTEE

November 16, 2015

The electronic and print media duly notified in accordance with the State Freedom of Information Act.

The Finance Committee met Monday, November 16, 2015 beginning at 2:00 p.m. in the Conference Room of Building 3, Beaufort Industrial Village, 104 Industrial Village Road, Beaufort, South Carolina.

### ATTENDANCE

Chairman Jerry Stewart, Vice Chairman Steve Fobes and members Cynthia Bensch, Brian Flewelling, William McBride and Stu Rodman. Committee Member Rick Caporale absent. Non-committee members Gerald Dawson and Paul Somerville present. (Paul Somerville, as County Council Chairman, serves as an *ex-officio* member of each standing committee of Council and is entitled to vote.)

County staff: Allison Coppage, Assistant County Attorney; Joshua Gruber, Deputy County Administrator/Special Counsel; Alicia Holland, Assistant County Administrator, Finance; Tom Keaveny, County Attorney; Gary Kubic, County Administrator; Rob McFee, Division Director, Facilities and Construction Engineering; Jon Rembold, Airports Director; Josh Riley, Web Design and Content Manager; Monica Spells, Assistant County Administrator, Civic Engagement and Outreach; and Dave Thomas, Purchasing Director.

Media: Joe Croley, *Lowcountry Inside Track*.

Councilman Stewart chaired the meeting.

### ACTION ITEMS

#### **1. Consideration of Contract Award / Master Services Agreement with Talbert, Bright, and Ellington**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Purchasing Director David Thomas reviewed this item with the Committee. In August 2010, through the Request for Qualifications solicitation process, Talbert, Bright and Ellington (TBE) was awarded a contract by Beaufort County to provide professional architectural, engineering, and planning consulting services for Beaufort County Airport projects as part of a Master Services Agreement. The resulting contract with TBE is a full service, indefinite delivery type contract with a multiple year renewal option for the County. The scope of services required TBE to oversee, design, develop, and manage the various airport projects as listed in the scope of work. The current contract expired on October 31, 2015 and, the Airports

Director is requesting a multi-year extension to April 30, 2018 due to the multiple projects underway in various phases of design, permitting and construction at both airports.

**Motion:** It was moved by Mr. Rodman, seconded by Mr. Fobes, that Committee approve and recommend Council approve the indefinite delivery contract extension to Talbert, Bright, and Ellington to perform the required consulting services; and, furthermore, to authorize County staff to negotiate contracts with Talbert, Bright, and Ellington depending on the type of Airport project and the availability of the firm to meet the County's schedule and approved budget. The estimated contract value would be up to \$2.25 million, over a period of 2.5 years, and would be funded primarily from FAA grant funding for AIP eligible projects (95% covered by the FAA (90%) and SCAC (5%)) and Beaufort County (5%). The vote: YEAS – Mrs. Bensch, Mr. Flewelling, Mr. Fobes, Mr. McBride, Mr. Rodman and Mr. Stewart. ABSENT – Mr. Caporale. The motion passed.

**Recommendation:** Council approve the indefinite delivery contract extension to Talbert, Bright, and Ellington to perform the required consulting services; and, furthermore, to authorize County staff to negotiate contracts with Talbert, Bright, and Ellington depending on the type of Airport project and the availability of the firm to meet the County's schedule and approved budget. The estimated contract value would be up to \$2.25 million, over a period of 2.5 years and would be funded primarily from FAA grant funding for AIP eligible projects (95% covered by the FAA (90%) and SCAC (5%)) and Beaufort County (5%).

**2. An Ordinance to Transfer Funds in the Amount of \$623,280.00 from the 3% Local Accommodations Tax Fund to the General Fund for the Broad River Fishing Pier Rehabilitation Project**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Mr. Joshua Gruber, Deputy County Administrator/Special Counsel, provided the Committee with a brief overview of this ordinance.

**Motion:** It was moved by Mr. Flewelling, seconded by Mr. Rodman, that Committee approve and recommend Council approve on first reading an ordinance to transfer funds in the amount of \$623,280.00 from the 3% local accommodations tax fund to the general fund for the Broad River Fishing Pier Rehabilitation Project.

**Motion to amend by addition:** It was moved by Mr. Flewelling, seconded by Mr. Rodman, to add the language, “. . . in an amount ‘not to exceed’ \$623,280.00”. The vote: YEAS – Mrs. Bensch, Mr. Flewelling, Mr. Fobes, Mr. McBride, Mr. Rodman and Mr. Stewart. ABSENT – Mr. Caporale. The motion passed.

**Vote on the amended motion, which is now the main motion, and includes the motion to amend by addition:** The vote: YEAS – Mrs. Bensch, Mr. Flewelling, Mr. Fobes, Mr. McBride, Mr. Rodman and Mr. Stewart. ABSENT – Mr. Caporale. The motion passed.

**Recommendation:** Council approve on first reading an ordinance to transfer funds in the amount not to exceed \$623,280.00 from the 3% local accommodations tax fund to the general fund for the Broad River Fishing Pier Rehabilitation Project.

### **3. Consideration of Reappointments and Appointments**

- **Lady's Island/St. Helena Island Fire District Commission**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Motion:** It was moved by Mr. McBride, seconded by Mr. Fobes, that Committee approve and recommend Council nominate Melinda Ellis, representing at-large, to serve as a member of the Lady's Island / St. Helena Island Fire District. This appointment requires approval of the Governor. The vote: YEAS – Mrs. Bensch, Mr. Flewelling, Mr. Fobes, Mr. McBride, Mr. Rodman and Mr. Stewart. ABSENT – Mr. Caporale. The motion passed.

**Recommendation:** Council nominate Melinda Ellis, representing at-large, to serve as a member of the Lady's Island / St. Helena Island Fire District. This appointment requires approval of the Governor.

## **INFORMATION ITEMS**

### **4. Video Demonstration / Proposed New Website for Hilton Head Airport**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Mr. Josh Riley, Web Design and Content Manager, provided the Committee with an overview of the proposed new website for the Hilton Head Island Airport.

**Status:** Information only.

### **5. Discussion / Anticipated 3% Local Accommodations Tax Future Appropriation**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Mr. Joshua Gruber, Deputy County Administrator/Special Counsel, provided the Committee with an overview of potential projects to be funded with 3% local accommodations tax appropriations. The committee discussed the process of applying for funds as well as the potential projects included in the list provided.

**Status:** Information only.

**6. Discussion / Whitehall Plantation Property**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Mr. Joshua Gruber, Deputy County Administrator/Special Counsel, stated this was a carry-over item from the Finance Committee meeting of September 21, 2015. There has been no action or additional requests from the developers of Whitehall Plantation, to date. Any discussion of potential action would occur in conjunction with the City of Beaufort.

**Status:** Information only.

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## PUBLIC FACILITIES COMMITTEE

November 16, 2015

The electronic and print media duly notified in accordance with the State Freedom of Information Act.

The Public Facilities Committee met Monday, November 16, 2015 beginning at 3:00 p.m., in the Conference Room of Building 3, Beaufort Industrial Village, 104 Industrial Village Road, Beaufort, South Carolina.

### ATTENDANCE

Chairman Gerald Dawson and members Cynthia Bensch, Steven Fobes, Alice Howard, William McBride and Roberts "Tabor" Vaux. Committee member Rick Caporale absent. Non-committee member Brian Flewelling present.

County Staff: Allison Coppage, Assistant County Attorney; Phil Foot, Assistant County Administrator, Public Safety; Joshua Gruber, Deputy County Administrator/Special Counsel; Thomas Keaveny, County Attorney; Colin Kinton, Division Director, Transportation Engineering; Gary Kubic, County Administrator; Rob McFee, Division Director, Facilities and Construction Engineering; and Tallulah Trice, Animal Services Director.

Public: Shawn Epps, President F&ME Consultants, Inc.

Media: Joe Croley, *Lowcountry Inside Track*.

Mr. Dawson chaired the meeting.

### ACTION ITEMS

- 1. Consideration of Reappointments and Appointments**
  - County Transportation Committee**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

#### **Nominations:**

- Mr. Dawson nominated Joseph Stroman, representing District 1.
- Mr. Sommerville nominated Mark McCain, representing District 2.
- Mr. McBride (on behalf of Mr. Stewart) nominated Craig Forrest, representing District 6.
- Mr. Fobes nominated Bob Arundell, representing District 10.

**Recommendation:** It was moved by Mr. McBride, seconded by Mr. Fobes, that Committee approve and recommend to Council the nominations of Joseph Stroman, representing District 1; Mark McCain, representing District 2; Craig Forrest, representing District 6; and Bob

Arundell, representing District 10, to serve as members of the County Transportation Committee. The vote: YEAS – Mrs. Bensch, Mr. Dawson, Mr. Fobes, Mrs. Howard, Mr. McBride and Mr. Vaux. ABSENT – Mr. Caporale. The motion passed.

## **INFORMATION ITEMS**

### **2. A Resolution of Beaufort County Council Banning Smoking Tobacco Products on the Robert Smalls Campus**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Committee members discussed any array of pros and cons regarding a possible banning of smoking tobacco products on the Robert Smalls Complex, Beaufort Industrial Village and government centers on Hilton Head Island and Bluffton. The purpose of the resolution is to promote good health among employees. A majority of the members supported banning of all tobacco products at all campuses.

**Status:** Staff will review similar laws throughout the nation for possible legal challenges. The committee will review the resolution again at its next meeting.

### **3. Discussion / Sidewalks in Rural Communities**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Mr. Colin Kinton, Division Director, Transportation Engineering, reviewed a table list of potential sidewalk/pathway locations by Council District. Committee added several projects to the list: Big Road, Seabrook Road, combination County Shed Road/Pine Grove Road/Burton Wells Road, Buck Island Road, Simmonsville Road, Salem Road (including Old Salem Road and Burton Hill Road) and Dr. Martin Luther King Drive.

**Status:** After Mr. Kinton has reworked the table list, he will provide the information to the Committee for vetting and final approval prior to the County Administrator's presentation before the Capital Project Sales Tax Commission in early February 2016.

### **4. Call for Executive Session**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Motion:** It was moved by Mr. Fobes, seconded by Mrs. Bensch, that Committee go immediately into executive session regarding the discussion of negotiations incident to proposed contractual arrangements for Beaufort County Animal Services. The vote: YEAS – Mrs. Bensch, Mr. Dawson, Mr. Fobes, Mrs. Howard, Mr. McBride and Mr. Vaux. ABSENT – Mr. Caporale. The motion passed.

Boards and Commissions

Reappointments and Appointments

November 30, 2015

**1 Finance Committee**

Lady's Island / St. Helena Island Fire District Commission

<u>Nominate</u>	<u>Name</u>	<u>Position/Area/Expertise</u>	<u>Reappoint/Appoint</u>	<u>Votes Required</u>	<u>Term/Years</u>	<u>Expiration</u>
11.30.15	Melinda Ellis	At-Large	Appoint	6 / 11	Partial Term	5/16

**2 Public Facilities Committee**

County Transportation Committee

<u>Nominate</u>	<u>Name</u>	<u>Position/Area/Expertise</u>	<u>Reappoint/Appoint</u>	<u>Votes Required</u>	<u>Term/Years</u>	<u>Expiration</u>
11.30.15	Joseph Stroman	Council District 1	Appoint	6 / 11	1	2/17
11.30.15	Mark McCain	Council District 2	Appoint	6 / 11	3	2/19
11.30.15	Craig Forrest	Council District 6	Appoint	6 / 11	3	2/19
11.30.15	Bob Arundell	Council District 10	Appoint	6 / 11	3	2/19

## NATURAL RESOURCES COMMITTEE

August 10, 2015

The electronic and print media duly notified in accordance with the State Freedom of Information Act.

The Natural Resources Committee met Monday, August 10, 2015 beginning at 2:00 p.m., in the Executive Conference Room, Administration Building, Beaufort County Government Robert Smalls Complex, 100 Ribaut Road, Beaufort, South Carolina.

### ATTENDANCE

Committee Chairman Brian Flewelling, Vice Chairman Alice Howard and members Gerald Dawson, Steve Fobes, William McBride, Jerry Stewart and Tabor Vaux present. Non-committee members Cynthia Bensch, Stu Rodman and D. Paul Sommerville present. (Paul Sommerville, as County Council Chairman, serves as an *ex-officio* member of each standing committee of Council and is entitled to vote.)

County Staff: Tony Criscitiello, Planning Director; Joshua Gruber, Deputy County Administrator/Special Counsel; Thomas Keaveny, County Attorney; Gary Kubic, County Administrator; Eric Larson, Division Director-Environmental Engineering; Rob Merchant, Planner; and Dan Morgan, Division Director-Mapping and Applications.

Media: Joe Croley, *Lowcountry Inside Track*; Zach Murdaugh, *Beaufort Gazette/Island Packet*; and Scott Thompson, *Bluffton Today*.

Public: Reed Armstrong, South Coast Office Project Manager, Coastal Conservation League; George Cobb, Architect; Shawn C. Epps, Vice President, F&ME Consultants, Inc.; Laura McKenzie; Nancy McKenzie; Karen Norwood; Ed Pappas, Chairman, Rural and Critical Lands Preservation Board; and Kate Schaefer, South Coast Director, Coastal Conservation League.

Mr. Flewelling chaired the meeting.

### INFORMATION ITEMS

#### 1. **Discussion / Pepper Hall Plantation Property: Comprehensive Plan Amendment and Zoning Map Amendment**

**Notification:** To view video of full discussion of this meeting please visit [http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)

**Discussion:** Mr. Tony Criscitiello, Planning Director, reviewed this item with the Committee. In 2012 the County received a request to rezone 142 acres to Commercial Regional (64 acres) and Suburban (78 acres). The Planning Commission had a split vote on the rezoning. The application was denied by the Natural Resource Committee and later County Council, largely due to the potential impacts the rezoning would have on water quality and preservation efforts in the Okatie River, as well as potential traffic impacts on U.S. Highway 278.

In a letter dated December 13, 2012, the Town of Bluffton weighed in on the topic of the rezoning and development request, asking that the following items be incorporated into the plan: workforce/affordable housing and/or a Fee-in-Lieu Program, U.S. Highway 278/Hampton Parkway/Pepper Hall Plantation intersection, land dedication, conservation easement, Real Estate Transfer Fee, and Master Plan/Density Capacity.

At the December 13, 2012 meeting of the Southern Beaufort County Subcommittee of the Planning Commission, the committee took no action on the proposed rezoning because no Traffic Impact Analysis had been submitted to staff as part of the application.

Mr. Jim Scheider, lawyer, Vaux and Marscher, P.A., provided the Planning Department with a copy of the Traffic Impact Analysis (TIA) prepared by the Bihl Engineering, as well as amendments to the rezoning application. These amendments are as follows:

- The amended Pepper Hall Rezoning application is just that, a "rezoning application" and not a "pending development application." A detailed "traffic study" will, of course, be required at the time of development.
- As an additional gesture of good faith and compromise, Robert L. Graves has voluntarily agreed to limit the total ground floor commercial space on his parcel to no more than 700,000 square feet.
- Robert L. Graves has also agreed to impose a size limitation on any commercial building with a ground floor area of not more than 75,000 square feet.
- The applicant has further agreed to memorialize these limitations in a Development Agreement negotiated with Beaufort County concurrently with approval of the amended rezoning request by County Council.

This is a request to change the future land use designation and to rezone portions of an assemblage of 7 parcels equaling approximately 113 acres located on the north side of U.S. Highway 278 between the Okatie River and Graves Road. The properties are currently zoned Rural with Transitional Overlay on the 33 acres fronting U.S. Highway 278 and Rural for the remainder of the property. The requested zoning is Commercial Regional, for approximately 65 acres fronting U.S. Highway 278 and Suburban for the 48 acres at the rear of the property. In 2001, County Council approved an application to rezone the 37 acres that front U.S. Highway 278 from Rural to Rural with Transitional Overlay. In 2002, County Council approved the up zoning of a 17.5 acre tract directly east of the proposed rezoning from Rural to Commercial Regional.

The Planning Commission voted to approve the Southern Beaufort County Zoning Map Amendment / Rezoning Request with the following conditions: the 700,000 square feet of commercial development be a total and, not, ground square footage, that there be a guaranteed protection of the Okatie River, and that the buffer area be set aside from development.

After review, staff recommended denial of the property for the following reasons:

- The proposed rezoning is projected to result in a Level of Service E of the intersection of Hampton Parkway and U.S. Highway 278 with failed turning movements during PM peak hours at only 50% - - assumed buildout in 2018. The failed intersection will be difficult and costly to mitigate due to the geographical constraints of the site.
- The current widening of U.S. Highway 278 between Simmonsville Road and S.C. Highway 170 is being implemented to address projected road deficiencies caused by previously approved development. The development enabled by the proposed rezoning would consume 41% of the added capacity created by the road widening and contribute to future failure of U.S. Highway 278 when compounded with existing approved development.
- Allowing intense commercial and moderate-density residential development would contribute to the further degradation of water quality in the Okatie River, and would be a departure from the County's historical commitment to restoring water quality in the Okatie headwaters.
- Proposed rezoning is not supported by the Comprehensive Plan, which was adopted in early 2011 by County Council.

The Chairman opened the floor for the Committee to discuss and review this request.

**Motion:** It was moved by Mr. Sommerville, seconded by Mrs. Howard, that Natural Resources Committee deny the request to change the future land use designation and to rezone portions of an assemblage of 7 parcels equaling approximately 113 acres located on the north side of U.S. Highway 278 between the Okatie River and Graves Road from Rural with Transitional Overlay (approximately 33 acres fronting U.S. Highway 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting U.S. Highway 278) and Suburban (approximately 48 acres at the rear of the properties). The vote: YEAS – Mr. Dawson, Mr. Flewelling, Mr. Fobes, Mrs. Howard, Mr. Sommerville and Mr. Stewart. ABSTAIN - Mr. McBride. RECUSAL – Mr. Vaux. Mr. Vaux recused himself, left the room, and was not present for any of the discussion. His law firm represents the property owner. The motion passed.

**Status:** The Committee denied the request to change the future land use designation and to rezone portions of an assemblage of 7 parcels equaling approximately 113 acres located on the north side of U.S. Highway 278 between the Okatie River and Graves Road from Rural with Transitional Overlay (approximately 33 acres fronting U.S. Highway 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting U.S. Highway 278) and Suburban (approximately 48 acres at the rear of the properties).



COUNTY COUNCIL OF BEAUFORT COUNTY  
**BEAUFORT COUNTY PLANNING DIVISION**  
Multi-Government Center • 100 Ribaut Road, Room 115  
Post Office Drawer 1228, Beaufort SC 29901-1228  
Phone: (843) 255-2140 • FAX: (843) 255-9432

The regular meeting of the Beaufort County Planning Commission (hereinafter "Commission") was held on Monday, March 4, 2013, in County Council Chambers, the Beaufort County Administration Building at 100 Ribaut Road, Beaufort, South Carolina.

**Members Present:**

Mr. Jim Hicks, Chairman	Mr. Robert Semmler, Vice Chairman	Ms. Jennifer Bihl
Mr. Charles Brown	Ms. Diane Chmelik	Ms. Mary LeGree
Mr. Ronald Petit	Mr. Edward Riley III	Mr. Randolph Stewart
Mr. John Thomas		

**Members Absent:** None

**Staff Present:**

Mr. Anthony J. Criscitiello, Planning Director  
Ms. Barbara Childs, Admin. Asst. to Planning Director

**CALL TO ORDER:** Chairman Jim Hicks called the meeting to order at approximately 6:03 p.m.

**PLEDGE OF ALLEGIANCE:** Mr. Hicks led those assembled in the Chambers with the pledge of allegiance to the U.S.A. flag.

**REVIEW OF MINUTES:** The Commission reviewed their February 4, 2013, meeting minutes.  
**Motion:** Mr. Semmler made a motion, and Mr. Thomas seconded the motion, **to accept the February 4, 2013, minutes as written.** The motion was carried **unanimously** (FOR: Chmelik, Hicks, LeGree, Petit, Riley, Semmler, Sutler and Thomas; ABSTAIN: Stewart).

**CHAIRMAN'S REPORT:**

**1. Planning Commission Reappointments and New Appointments:** Mr. Hicks noted the reappointment of Mr. Charles Brown and Mr. Ronald Petit to the Commission. He also noted the parting of Mr. Parker Sutler from the Commission, and thanked him for his banking and small business expertise. Mr. Sutler stated that he enjoyed serving with the Commission, appreciated Mr. Hicks' guidance and patience, and serving the citizens of the County. Mr. Hicks noted that Mr. Randolph Stewart is Mr. Sutler's replacement. Mr. Stewart gave a brief history of his life and work experience. He looks forward to serving on the Commission and thanked County Council for appointing him to the seat.

Mr. Hicks noted this was the last time he would be serving on the Commission and as Chairman. His replacement as a representative of Lady's Island is Ms. Jennifer Biel. She has a master's degree in engineering, has her own engineering company, is a resident of

Lady's Island, is the past president of the Lady's Island Business and Professional Association, and the current president of the South Carolina Engineering Society.

Mr. Hicks explained that Ms. Bihl had a contractual agreement with the Graves, so she would have to recuse herself from discussing and voting on the project being discussed tonight; therefore, she was sitting in the audience.

2. **Annual Election of Officers:** Mr. Hicks noted that the election of chairman and vice-chairman of the Commission would occur at the end of the meeting during the other business portion of the agenda.
3. **Appreciation:** Mr. Hicks expressed his appreciation to:
  - Mr. Gary Kubic, County Administrator.
  - The Planning Staff who was always accessible to answer his questions and give guidance. The Staff do a marvelous and are unsung heroes. He noted Mr. Criscitiello's leadership during the challenging time of growth and the new development code, kindness and professionalism.
  - The Planning Commissioners, both present and past, who were willing to take their voluntary time to see to the betterment of the County. He thanked them for their patience and willingness to listen to his explanations.
  - He noted that the Commission Chairman has a unique relationship with Council chair and vice-chair as they often included him (as Chairman) in discussions on various issues.
  - The Lady's Island residents whom he served. He noted that Lady's Island was the fastest growing area, other than South of the Broad River. It has been a pleasure to serve the residents of Lady's Island. They have been generous, gracious and supportive of him, and he thanks them.

Upon leaving the dais, he passed the gavel to Mr. Robert Semmler, Commission Vice-chairman, who would chair the remainder of the meeting.

**PUBLIC COMMENT** for items other than agenda items: Mr. David Tedder, a local attorney and Lady's Island resident, said that Mr. Jim Hicks was chairman of the Lady's Island Subcommittee and the Community Preservation Committee. Mr. Tedder said that Mr. Hicks has had the best interest of the Lady's Island residents and the entire county in mind when he made his decisions. He has watched Mr. Hicks help guide this County during some turbulent times. Mr. Tedder felt it appropriate to publicly thank Mr. Hicks for his body of work in dealing with the growth issues. Mr. Tedder believed everyone received equal treatment under Mr. Hicks' leadership. Despite not agreeing with every decision made, Mr. Tedder stated he received a fair shake each time he came before the Commission.

**SOUTHERN BEAUFORT COUNTY FUTURE LAND USE MAP AMENDMENT FOR R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 PARCELS TOTALING 113+/- ACRES NORTH OF U.S. 278 AND WEST OF GRAVES ROAD) FROM COMMUNITY COMMERCIAL**

**(APPROXIMATELY 21 ACRES FRONTING US 278) AND RURAL (FOR REMAINDER OF PROPERTY) TO REGIONAL COMMERCIAL (APPROXIMATELY 65 ACRES FRONT US 278) AND NEIGHBORHOOD MIXED-USE (APPROXIMATELY 48 ACRES AT THE REAR OF THE PROPERTIES); OWNERS/APPLICANTS: ROBERT GRAVES, JOHN GRAVES AND PAUL GRAVES**

**--AND--**

**SOUTHERN BEAUFORT COUNTY ZONING MAP AMENDMENT / REZONING REQUEST FOR R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 PARCELS TOTALING 113+/- ACRES NORTH OF U.S. 278 AND WEST OF GRAVES ROAD) FROM RURAL WITH TRANSITIONAL OVERLAY (APPROXIMATELY 33 ACRES FRONTING US 278) AND RURAL (80 ACRES OF THE REMAINDER OF THE PROPERTIES) TO COMMERCIAL REGIONAL (APPROXIMATELY 65 ACRES FRONTING US 278) AND SUBURBAN (APPROXIMATELY 48 ACRES AT THE REAR OF THE PROPERTIES); OWNERS/APPLICANTS: ROBERT GRAVES, JOHN GRAVES AND PAUL GRAVES**

Mr. Criscitiello noted that Mr. Hicks is a gentleman and it always has been a pleasure to work with Mr. Hicks.

Mr. Criscitiello briefed the Commission on the rezoning request. He supports the staff recommendation and introduced Mr. Robert Merchant, the County Long-range Planner.

Mr. Merchant explained the current and proposed future land use and zoning maps. He compared the difference between the former and the current requests. Land along the Okatie River within 300 feet of the critical line will remain rural zoning and is not part of the current request. The applicant is proposing a development agreement to accompany these map amendments that would lock in the zoning for the duration of the agreement, limit the total ground floor to 700,000 square feet of commercial use, limit individual building footprints to 75,000 square feet, require connectivity and a frontage road, and allow transfer of residential and commercial uses as needed. The current total acreage is 113 acres—65 acres will be zoned commercial regional and the rest will be zoned suburban. Staff recommends denial of the requests because of traffic impacts and water quality concerns of the Okatie River. Even at 50% buildout, the traffic level of service will be E at Highway 278 and Hampton Parkway. The issue is the proposed rezoning would consume 41% of the added capacity on the current widening of Highway 278, further compounding the traffic level of service. Additionally, stormwater runoff from the potential development would add further degradation of the Okatie River. The requests are not supported by the Comprehensive Plan. The Applicant's traffic impact analysis uses the current traffic model that assumed a 4% growth of the area. The County asked the applicant to scale down the growth rate to 2-1/2% annually. The Applicant's statement that there was a 22% drop on Highway 278 is likely due to improvements such as the Bluffton Parkway and traffic lighting that had been taken into account by the County's transportation model. That current reduction probably will not remain when growth picks up. The County approved traffic level is D; increase from this rezoning probably would raised it to Level F. It is difficult to mitigate impacts because of the geography of the site. Connectivity is difficult with the only possibility of a connector road with Berkley Hall. The proposed flyover is not funded; it is an expensive opportunity that is not in the pipeline and is simply being considered at this moment. The County already spent \$140-150 million on road development in Southern Beaufort County. After consulting the County stormwater department, the Okatie River is an impaired waterway with high fecal coliform and closed waterbeds. A

study noted a 21-50% reduction to the Okatie headwaters was needed to bring the river to conformance. Runoff from the proposed development will go into the river. Commercial development, although mitigated, will impact the water quality. The County has a commitment policy to preserving the waters through fee simple or development rights purchases. Mr. Merchant noted an error in the map that will be corrected when it goes on to Council. The Okatie Marsh PUD was approved 4 to 5 years ago and has been purchased to preserve the land. The impacts to the river include the current PUDs and developments and road widening. The County is moving to promote mixed-use development and walkable communities with the proposed development code. Staff believes commercial development is not appropriate.

**Applicant's Comments:** Mr. Jim Scheider, the applicant's representative, introduced Mr. Milt Rhodes, Ms. Jennifer Bihl, and two of the applicants who were in the audience. Mr. Scheider noted the on-going discussions about the buffer area. He takes issue on Mr. Merchant's presentation. All of the numbers on the projections were from the 2004 model. When they did their traffic count on 2012, it was below. He used actual counts from South Carolina Department of Transportation (SCDOT), not the model counts--that are 40,414 instead of 32,900. The request is for a rezoning. He noted that the Zoning and Development Standards Ordinance (ZDSO) states that the Development Review Team (DRT) can require design modifications. He noted approved projects that were factored into their equation: Willow Run is dead in the water, the Johnson property at Highways 46 and 278 is not as busy but the developer is scrambling to move forward, and the "Harris Teeter" site is for sale. He noted that the Comprehensive Plan proposing 28 acres as park, and his applicant's buffer park was in keeping with the plan. He noted Mr. Dan Ahern, the County's former stormwater manager, stated that "development can be engineered to not cause problems in waterways." Mr. Scheider noted that the site would contribute to impact fees. He noted the taxes paid by the applicants were higher than the property that County purchased across the street. All we are asking for is fair treatment. Using speculative traffic information is detrimental to the applicant. We must meet Level D or scale down the project, when it comes before the DRT. As part of a balancing act, decide squaring the rights of the public with the rights of property owners. The applicants have cut the size of their commercial buildings and have reduced the requested cost for the buffer park. They believe they have tried to meet the public interest and to meet the County ordinances.

**Public Comment:** None were received.

**Commission discussion included:**

- Traffic count disparities (Mr. Colin Kinton, the County Traffic and Transportation Engineer, noted that the traffic counts at the 2-1/2% growth rate were agreed upon between he and Ms. Bihl. He noted that she used December 2012 rates which were not peak time. One must account for approved development, whether active or not. The analysis presented was Ms. Bihl's analysis, not the County's analysis. Level of service E was still reached with her analysis--the road will fail. Weekday, instead of weekend timeshare, traffic calculations were used in the analysis. Not all approved development sites were included in the analysis. There are frontage road concerns, including construction costs, timeframe, etc.; however, the County is not planning a frontage road to the west of Berkley Hall. Mr. Milt Rhodes, the applicant's representative, noted that there are access points on the east and the west sides of Pepper Hall, and it has been presumed that access would connect across Highway 278.);
- The impact of suburban zoning behind the Commercial Regional portion of the property--how the public would be affected, the safety of children, etc. (Mr. Rhodes noted there was 65 acres of commercial uses and the Code does contain a mixed-use concept. The property to the west of Graves Road would transit to suburban zoning. Mr. Rhodes noted that the Habersham subdivision could be inspirational as a by-right zoning with a walkable mixed-use community.);

- A buffer between Berkley Hall and Pepper Hall (Mr. Rhodes noted that the Berkley Hall general manger spoke at the subcommittee meeting requesting coordination of activities between both subdivisions.); and
- The 28-acre buffer park.

Public Comment: Mr. Reed Armstrong of the Coastal Conservation League is in full agreement with the Planning staff's assessment which basically concludes that this is far too much for this location. He provided the following in comparison to the requested rezoning of 65 acres with 750,000 square feet of commercial use: Cross Creek Plaza at the intersection of Robert Smalls Parkway and Parris Island Gateway that serves as the main regional shopping center for northern Beaufort County that includes Belk, Penney's, Best Buy, TJ Maxx, Pets Mart, numerous other stores and restaurants, and a Super Wal-Mart within 61 acres of 500,000 square feet commercial use; Bluffton Gateway Center at the intersection of Highways 278 and 46 is a 65-acre parcel with 225,000 square feet of commercial space that is compatible with the Future Land Use map and the surrounding area; and the Tanger Outlets I and II combined are 500,000 square feet in about two-thirds of the acreage requested for the Graves property. Numerous studies show that impacts to water quality of the adjacent waterways occur when impervious surfaces exceed 10%. Using current data, if the property were developed in the current rural zoning, there would be 10% impervious surfaces. If the proposed buildout (70 of the 140 acres) occurs, there would be 49.7% of impervious surfaces. DHEC's TMDL (Total Maximum Daily Load) Study stated that because of the existing conditions in the area loads near the river should be reduced by 51%. New development will compound the situation. Additionally, soil maps show that the Pepper Hall soils are poor for infiltration and have the potential for high stormwater runoff. He requests denial of the rezoning request.

Commission discussion included:

- the adaptability of the community to past rezoning where traffic was of considerable concern;
- stormwater management being a best educated guess;
- using bio-filtration systems that can be engineered to protect the river;
- coliform bacteria not necessarily a pollutant, but an indicator that there could be pathogenic problems in the waterways;
- the 10% guide meant degradation of streams without mitigation, however, mitigation and filtration must be used to bring the property back to the level of 10% impervious surface;
- the viability of the stormwater ordinance if it is not sufficient to protect the Okatie;
- the zoning of a property with reasonable use;
- the Commission not being obliged to insure a financial reward for the sale of an owner's property;
- offering respect on the detailed work of the applicants' presentation;
- the property being located in a planned growth area and surrounded by commercial developments;
- acknowledging that the plans may be too intense, but consideration should be given to the rezoning request;
- clarifying the mapping error mentioned in the presentation;
- acknowledging the endless traffic debate, however the Commission must determine the reasonableness of the applicants' request if the stormwater can be engineered to protect the river;
- supporting approval of the rezoning request;
- protecting the water rights now for the future;
- concern for the 300-foot buffer that will remain in rural zoning;
- belief that the applicants have presented a good faith effort to correct the issues;
- concern that County Council will tie the river buffer with the rezoning;
- the balancing act of the applicants trying in all good faith to address the issues and the planning staff trying to protect the Okatie and the public;
- the map amendments having development agreements tied to each; and

- a recommendation to add conditions to the motion to accommodate the County and the applicants.

**Motion:** Mr. Ed Riley made a motion, and Mr. John Thomas seconded the motion, to recommend to County Council to approve the Southern Beaufort County Future Land Use Map Amendment for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Community Commercial (approximately 21 acres fronting US 278) and Rural (for remainder of property) to Regional Commercial (approximately 65 acres front US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties).

Further discussion included adding conditions regarding stormwater, traffic, and density; clarifying the motion process; adding a zero impact condition to the Okatie River; reducing the number of residential units and commercial square footage; agreeing that the land owner had the right to develop his property; believing that the market and not the zoning will drive the traffic impact; and inserting caveats to include development agreements.

**Amended Motion:** Mr. Thomas amended the original motion to add the following conditions:

- that the 700,000 square feet of commercial development be a maximum total and not ground square footage;
- that there be a guaranteed protection of the Okatie River; and
- that the buffer area be set aside from development.

Mr. Randolph Stewart asked to add a buffer that exceeded the current ordinance to protect the privacy of the Berkley Hall residents. Mr. Semmler agreed; however, he noted that the Commission should be concentrating on the Future Land Use Map Amendment instead.

Mr. Riley, accepted the amendments offered by Mr. Thomas, asked that the original motion be so amended.

The motion, as amended, was carried (FOR: Brown, LeGree, Petit, Riley, Semmler, and Thomas; AGAINST: Chmelik and Stewart; RECUSED: Bihl).

**Motion:** Mr. Thomas made a motion, and Mr. Petit seconded the motion, to recommend to County Council to approve the Southern Beaufort County Zoning Map Amendment / Rezoning Request for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting US 278) and Suburban (approximately 48 acres at the rear of the properties) to add the following conditions:

- that the 700,000 square feet of commercial development be a total, and not, ground square footage;
- that there be a guaranteed protection of the Okatie River; and
- that the buffer area be set aside from development.

No further discussion occurred. The motion was carried (FOR: Brown, LeGree, Petit, Riley, Semmler, and Thomas; AGAINST: Chmelik and Stewart; RECUSED: Bihl).

*Note: Mr. Semmler recessed the meeting at approximately 7:54 p.m. and reconvened the meeting at approximately 7:59 p.m. Ms. Jennifer Bihl took a seat on the dais with the Commissioners.*

**OTHER BUSINESS:**

- 1. Joint Code Review Committee:** Mr. Semmler noted that the Committee would meet every other week, on Wednesdays at 3:00 p.m. He noted that Mr. Stewart and Ms. Bihl attended the first meeting. Mr. Stewart volunteered to attend as a non-voting member. Ms. Bihl noted that she was part of the Technical Advisory Board during the earlier review of the Code.
- 2. Election of Commission Officers:**
  - a. Chairman:** Mr. Thomas nominated Mr. Robert Semmler as chairman, and Ms. LeGree seconded the nomination. Mr. Semmler called for other nominations. No other nominations were received. The nominations were closed. With a show of hands, **Mr. Robert Semmler was elected unanimously as Chairman** of the Planning Commission.
  - b. Vice Chairman:** Mr. Petit nominated Mr. John Thomas as vice-chairman, and Mr. Brown seconded the nomination. Mr. Semmler called for other nominations. No other nominations were received. The nominations were closed. With a show of hands, **Mr. John Thomas was elected unanimously as Vice-Chairman** of the Planning Commission.

Mr. Semmler welcomed Ms. Jennifer Bihl to the Commission.

**ADJOURNMENT: Motion:** Ms. Bihl made a motion, and Mr. Stewart seconded the motion, **to adjourn** the meeting. The motion was **carried unanimously** ((FOR: Bihl, Brown, Chmelik, LeGree, Petit, Riley, Semmler, Stewart and Thomas). The meeting adjourned at approximately 8:04 p.m.

**SUBMITTED BY:**

\_\_\_\_\_  
Barbara Childs, Admin. Assistant to the Planning Director

\_\_\_\_\_  
Robert Semmler, Beaufort County Planning Commission Chairman

**APPROVED: June 1, 2013**



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**PLANNING COMMISSION**  
**Monday, March 4, 2013**  
**6:00 p.m.**  
**Council Chambers, Administration Building**  
**100 Ribaut Road, Beaufort, South Carolina**

In accordance with South Carolina Code of Laws, 1976, Section 30-4-80(d), as amended, all local media was duly notified of the time, date, place and agenda of this meeting.

1. **COMMISSIONER'S WORKSHOP – 5:30 P.M.**  
Planning Office, Room 115, County Administration Building
2. **REGULAR MEETING - 6:00 P.M.**  
Council Chambers
3. **CALL TO ORDER – 6:00 P.M.**
4. **PLEDGE OF ALLEGIANCE**
5. **REVIEW OF MINUTES**
  - A. February 4, 2013 (backup)
6. **CHAIRMAN'S REPORT**
7. **PUBLIC COMMENT ON NON-AGENDA ITEMS**
8. **PUBLIC COMMENT AND RECOMMENDATION**
  - A. Southern Beaufort County Future Land Use Map Amendment for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Community Commercial (approximately 21 acres fronting US 278) and Rural (for remainder of property) to Regional Commercial (approximately 65 acres front US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves
  - B. Southern Beaufort County Zoning Map Amendment / Rezoning Request for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting US 278) and Suburban



(approximately 48 acres at the rear of the properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves

9. OTHER BUSINESS

A. Next Meeting – Monday, April 1, 2013, at 6:00 p.m.

10. ADJOURNMENT



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**TO:** Beaufort County Planning Commission  
**FROM:** Anthony Criscitiello, Beaufort County Planning Director  
**DATE:** February 25, 2013  
**SUBJECT:** Proposed Comprehensive Plan and Zoning Map Amendment for Pepper Hall (Graves Property)

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**A. BACKGROUND:**

**Case No.** ZMA-2012-07  
**Applicant/Owner:** Robert Graves, John Graves, and Paul Graves  
**Property Location:** Intersection of U.S. Highway 278 and Graves Road.  
**District/Map/Parcel:** R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000  
**Property Size:** 113 acres  
**Current Future Land Use Designations:** Community Commercial (approximately 21 acres fronting US 278) and Rural (remainder of property)  
**Proposed Future Land Use Designations:** Regional Commercial (approximately 65 acres fronting US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties)  
**Current Zoning Districts:** Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of properties)  
**Proposed Zoning Districts:** Commercial Regional (approximately 65 acres fronting US 278) and Suburban (approximately 48 acres at the rear of the properties)

**B. SUMMARY OF REQUEST:**

The applicants, Robert Graves, John Graves, and Paul Graves, are proposing to change the future land use designation and to rezone portions of an assemblage of 7 parcels equaling approximately 113 acres located on the north side of US 278 between the Okatie River and Graves Road. The properties are currently zoned Rural with Transitional Overlay on the 33 acres fronting US 278 and Rural for the remainder of the property (please refer to the attached map for a summary of the proposed future land use map amendments and zoning amendments). The applicant believes that the proposed amendment is consistent with the surrounding land uses and growth trends and that the current widening of US 278 from 4-lanes to 6-lanes will accommodate the additional traffic that would potentially result from the rezoning. In 2001, County Council approved an application to rezone the 37 acres that front US 278 from Rural to Rural with Transitional Overlay. In 2002, County Council approved the upzoning of a 17.5-acre tract directly east of the proposed rezoning from Rural to Commercial Regional.

C. **PREVIOUS REZONING REQUEST:** On February 6, 2012, the Planning Commission reviewed a proposal (ZMA-2011-17) to rezone 142 acres to Commercial Regional (64 acres) and Suburban (78 acres). This included all of the land within the subject parcels up to the critical line. The Planning Commission had a split vote on the rezoning. The application was denied by the Natural Resources Committee and later County Council largely due to the potential impacts the rezoning would have on water quality and preservation efforts in the Okatie River and potential traffic impacts on US 278.

This application for rezoning is similar to the Graves Rezoning application that the Planning Commission reviewed at its February 6 meeting with the following exceptions:

- Both the future land use designation and the zoning of all lands within the subject parcels that are located within 300 feet of the critical line (Okatie River and marsh) will remain Rural.
- The applicant is proposing to accompany this rezoning application with a Development Agreement with Beaufort County. The development agreement, among other things, is proposed to place restrictions on the total square footage of ground floor commercial to 700,000 and limit the footprint of individual commercial buildings to 75,000 square feet.

D. **TRAFFIC IMPACT ANALYSIS:** The applicant submitted a Traffic Impact Analysis (TIA) utilizing the County's current Travel Demand Model (2005). The County's current traffic model assumes a 4.7% annual growth rate, which is unrealistic given the slower growth experienced by the region over the last 5 years. Therefore, staff requested that Bihl Engineering run the numbers with a reduced annual growth rate of 2.5%. Even with the reduced growth rate in the model, the intersection of Hampton Parkway and US 278 at only 50% assumed buildout will be at a level of service (LOS) E which is below the County's minimally acceptable standard of D.

1. **TIA Assumptions:** The TIA assumes a buildout scenario of 700,000 square feet of commercial and office development and 480 residential units. These growth assumptions are not based on the maximum development potential of the property with the proposed rezoning, but based on the assumption of adopting a development agreement that would limit ground floor commercial development to a maximum of 700,000 square feet (additional commercial square footage could be provided on 2<sup>nd</sup> and 3<sup>rd</sup> floors).
2. **Reduction in Traffic Volume on US 278:** The TIA documents that there has been a 22% drop in traffic volumes on US 278 since 2006. This reduction in volume is likely due to two factors:
  - Improvements to the region's transportation network with the extension of the Bluffton Parkway to SC 170, and the additions of frontage roads along US 278.
  - The economic downturn which has reduced traffic volumes statewide.

It is important to clarify that the road network improvements mentioned above are already factored into the County's Travel Demand Model which forecasts portions of US 278 failing by 2025. While, the economic downturn may have slowed the rate of development, the potential volume of approved development, permitted through PUDs and existing zoning has not diminished.

3. **Projected Failure of US 278/Hampton Parkway Intersection:** The TIA projects that the intersection of US 278 and Hampton Parkway will be at a Level of Service (LOS) E for PM peak hours at 50% assumed buildout, which is projected for 2018. It should be noted that while the overall intersection is projected to be at LOS E, specific movements at this intersection will be LOS F, which will result in greater delays and congestion. For example, left turns from US278

entering the site are projected to experience 115 second delays, potentially resulting in the capacity of left turn lanes to be used up. This could result in stopped traffic in through lanes on US 278 and could increase the potential for accidents. These intersection failings are only compounded at 100% assumed buildout.

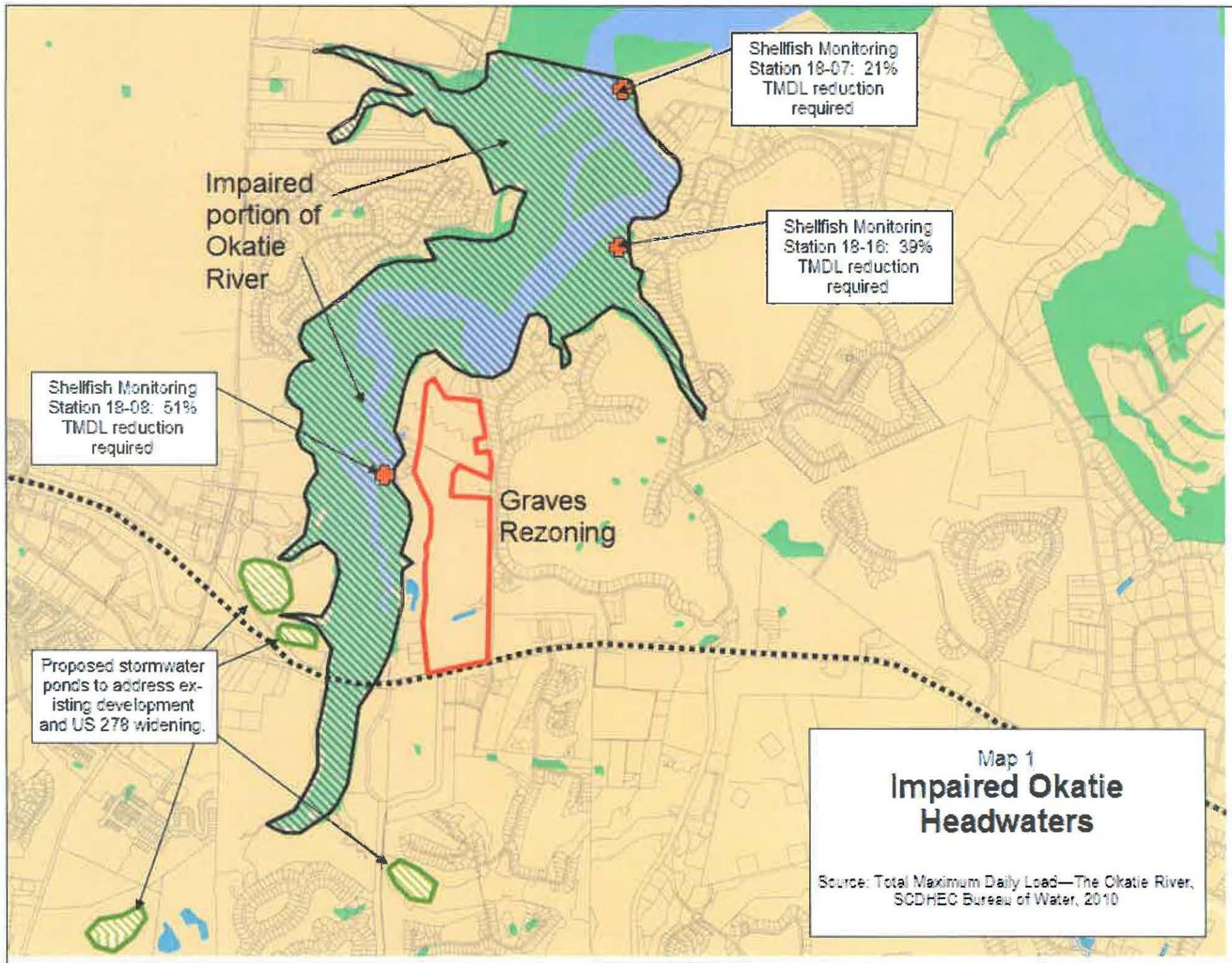
4. **Projected Development will Consume 41% of Additional Capacity Gained by US 278 Widening :** Beaufort County is in the process of constructing two additional lanes to US 278 between Simmonsville Road and SC 170 to provide additional capacity of 18,000 vehicles per day (vpd) at a cost of approximately \$24 million. This road widening project is being implemented to address projected road deficiencies caused by previously approved development. The development enabled by the Graves rezoning, at 100% assumed buildout, would add 7,453 vpd to US 278 which is 41% of the added capacity gained by the road widening.
5. **Limited Opportunities to Mitigate Traffic Impacts:** The projected traffic impacts of this rezoning are difficult to mitigate due to the geography of the site. The site's location between the Okatie River and Berkeley Hall will necessitate all traffic generated by the rezoning to use US 278 or Hampton Parkway for access. It is highly improbable that any future connections will be made west or north of the site across the Okatie River. The only opportunity to relieve traffic from the Hampton Parkway intersection and adjoining right-in/right-out intersections would be to connect to the traffic signal at Berkeley Hall via a frontage road. Another improvement that could reduce overall traffic volumes on US 278 would be to extend the Bluffton Parkway west to Interstate 95 (which is discussed in the cover memo to the TIA). This project, however, is unfunded and is only beginning to be explored as a future network improvement. The Comprehensive Plan projects this extension to cost \$40 million. The cost will likely be much higher due to the environmental constraints of crossing the New River Swamp.

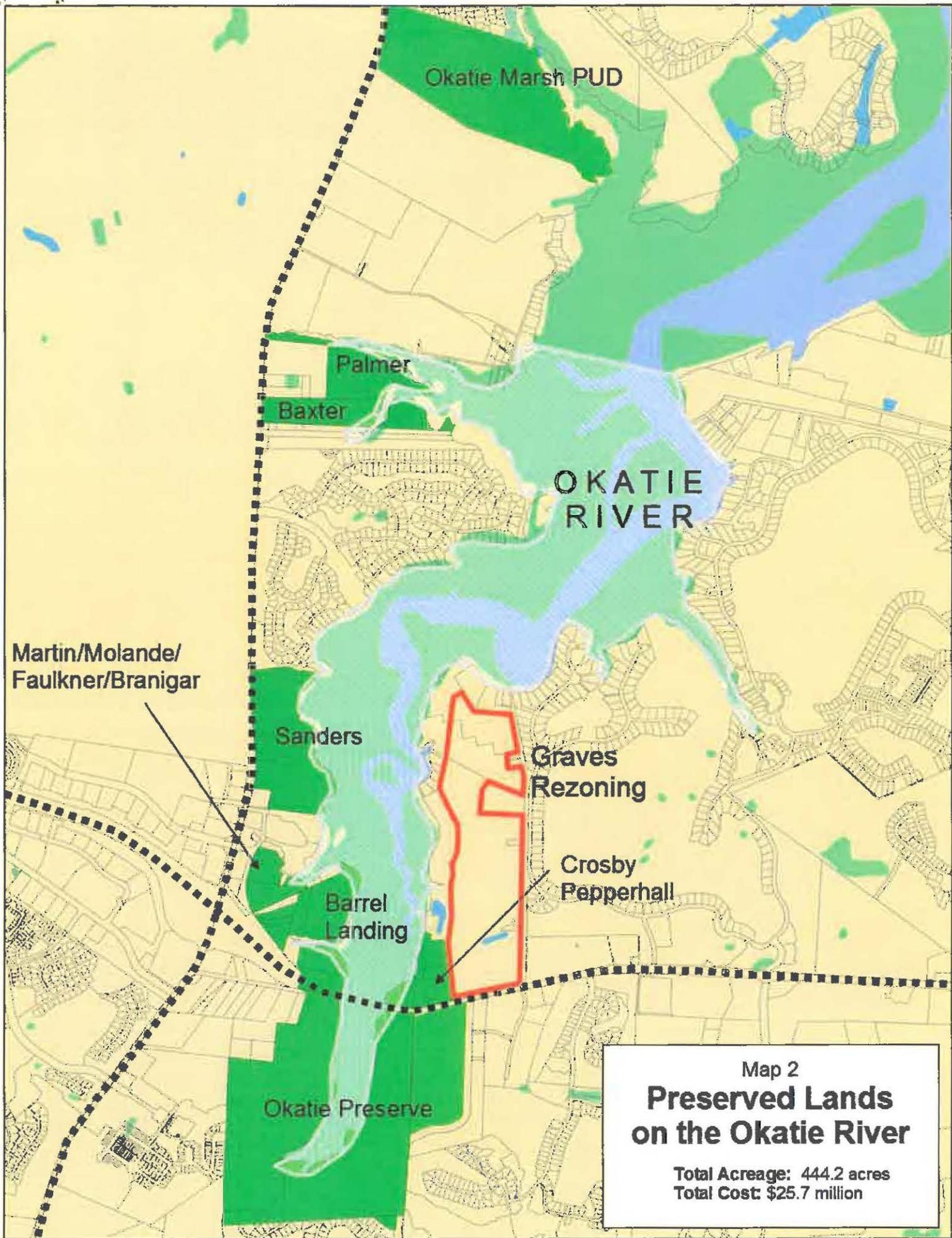
**E. PROJECTED IMPACTS TO WATER QUALITY:** The Graves property is located along the headwaters of the Okatie River, which is classified as an impaired waterway by the SCDHEC. Four of the six shellfish monitoring stations located along the river exceed shellfish fecal coliform water quality standards.

1. **Proposed Rezoning would Further Degrade Water Quality:** The potential quantity of development enabled by this rezoning would result in further degradation to the Okatie headwaters, even with the application of Beaufort County's current stormwater regulations. According to SCDHEC, in order to restore water quality in the Okatie headwaters, a 21% to 51% reduction of Total Maximum Daily Loads (TMDLs) is necessary depending on the water quality monitoring station (see Map 1)<sup>1</sup>. The application of the County's existing stormwater regulations would still result in an addition of TMDLs. The County's current regulations require development to have 10% "effective imperviousness" for runoff volume control. Effective imperviousness means that even if the actual developed area is 50% impervious, stormwater controls must render the volume of stormwater runoff to the equivalent of a site that is 10% impervious. With 700,000 square feet of commercial buildings and accompanying parking areas spread over 65 acres, there will still be significant increases in TMDLs into the Okatie River which will only be partially mitigated by the existing stormwater regulations and the 300 foot strip of rural land along the river. Greater TMDLs result in a greater volume of freshwater runoff

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<sup>1</sup> Source: Total Maximum Daily Load - The Okatie River, SCDHEC Bureau of Water, 2010





into the Okatie River, which has been shown to be a major contributing factor in raising fecal coliform levels.

2. **The County has Shown Commitment to Improve Water Quality in the Okatie River:** Increasing the development potential of the Graves property to the degree that is being proposed goes counter to prevailing County policies and actions in the Okatie watershed over the last 10 years. Beaufort County has shown its commitment to protecting water quality through its policies and expenditures of public funds. Since 2000, Beaufort County has purchased (through fee simple and development rights) approximately 444 acres of land along the Okatie River at a cost of \$25.7 million for the purpose of reducing the amount of development that would further degrade water quality (see Map 2). The most recent purchase of the 97 acre Okatie Marsh PUD reversed a previous action to upzone the property in 2008, demonstrating the level of interest that the County places on preserving water quality in the river. In addition to land preservation efforts, the County plans to spend \$356,000 to construct 4 stormwater ponds (see Map 1) to address the impacts of existing development and to mitigate the impacts of the widening of US 278.

#### **F. ANALYSIS OF COMPREHENSIVE PLAN AMENDMENT**

Section 106-494 of the ZDSO requires the following considerations when reviewing a proposed amendment to the Comprehensive Plan:

1. **Whether capital investments, population trends, land committed to development, density, use or other conditions have changed that justify the amendment.** The proposed rezoning would only add to the potential for future growth and put more strain on the costly capital investments, mainly road improvements that are being made in southern Beaufort County. There was a period of explosive growth in the greater Bluffton area beginning in the early 1990's and continuing until the recent economic downturn. The rapid growth and its accompanying stress on public infrastructure led the County, the Town of Bluffton and the Town of Hilton Head Island to develop a regional plan that assessed the impact of existing and projected growth on public facilities. The plan forecasted that over the next 20 years, the region could expect to double in population due to the quantity of previously approved PUDs and subdivisions. The plan also projected that the region's road network was ill equipped to handle the projected future population growth. The County responded to these infrastructure deficiencies by investing over \$148 million in public funds to address the impacts of previously approved development.
2. **Whether the proposed amendment is consistent with the comprehensive plan's goals and policies.** The purpose of the Community Commercial and Rural future land use designations for the Graves Property is to discourage further sprawl in Southern Beaufort County and to preserve and protect sensitive natural features, such as the Okatie River headwaters. The proposed rezoning goes counter to both of these objectives.
  - a) Discourage Further Sprawl in Southern Beaufort County: This objective is achieved primarily by limiting the spread of moderate-density auto-centric residential and commercial development. The applicant has argued that the proposed comprehensive plan and zoning amendment would enable and encourage walkable mixed-use development which is supported in the comprehensive plan as a way to counter sprawl. However, Commercial Regional zoning in Beaufort County has primarily enabled "auto-centric" development such as shopping centers, factory outlet malls, and car dealerships. While Commercial Regional zoning does have some tools that could be used to create mixed-use, walkable development, it is a much better at facilitating auto-oriented sprawling development that is not supported in

the plan. Additionally, this proposed comprehensive plan amendment would also create a pattern of strip commercial development that is inconsistent with the plan. The comprehensive plan states that commercial uses should focus on key transportation nodes, avoiding strip patterns. Approximately 65 acres of Regional Commercial property would yield on average 700,000 square feet of retail and office space if fully developed. While currently 37 acres on the east side of Graves Road are zoned Commercial Regional, the addition of 65 acres would create a 100 acre regional node less than a mile east of another regional node located at McGarvey's Corner.

- b) **Protect the Okatie River Headwaters:** The second goal was to preserve and protect sensitive natural features in rural areas, in this case the headwaters of the Okatie River. Increasing the future land use to Regional Commercial and Neighborhood Mixed-Use would only further add to the degradation of the Okatie River (see Section E above).

3. **Whether the proposed amendment is necessary to respond to state and or/federal legislation.** Not applicable.

4. **Whether the proposed amendment would result in development that is compatible with surrounding land uses.** The Berkeley Hall PUD adjoins this property directly to the east and is more in character with the development that Rural zoning permits. Berkeley Hall has a total acreage of approximately 1,530 acres and is approved for 712 dwelling units. This gives the PUD a gross density of 1 dwelling unit per 2 acres. The current Rural zoning permits a residential density of 1 dwelling unit per 3 acres. The proposed Suburban zoning allows single-family subdivision with a gross density of 2 dwelling units per acre (four times the density of Berkeley Hall) with the option to increase the density utilizing the Traditional Neighborhood Development and multi-family development options.

5. **Whether and to the extent to which the proposed amendment would affect the capacities of public facilities and services, including roads, utilities, law enforcement, fire, EMS, schools, parks and recreation, solid waste, and drainage facilities.** The applicant has notified and supplied letters from the Beaufort County Sheriff's Department, the Bluffton Fire District, the Beaufort County School District, Beaufort Jasper Water Sewer Authority, Palmetto Electric, and Hargray. In addition, a Traffic Impact Analysis was submitted as part of the application. The applicant argues that the widening of US 278 from 4-lanes to 6-lanes will increase the capacity of the highway to 58,000 vpd (to maintain a level of service D). As mentioned above, this road widening project is being implemented to address projected road deficiencies caused by previously approved development. The development enabled by the Graves rezoning, at 100% assumed buildout, would add 7,453 vpd to US 278 which is 41% of the added capacity gained by the road widening.

6. **Whether, and to the extent to which, the proposed amendment would result in negative impacts to natural resources.** The property is located next to the sensitive headwaters of the Okatie River. Increasing the future land use to Regional Commercial and Neighborhood Mixed-Use would only further add to the degradation of the Okatie River (see Section E above).

**G. ANALYSIS:** Section 106-492 of the ZDSO states that a Zoning Map Amendment may be approved if the weight of the findings describe and prove the following:

1. **The change is consistent with the County's Comprehensive Plan and the purposes of this Ordinance.** See discussion under Section C.

2. **The change is consistent with the character of the neighborhood.** As stated above, the Berkeley Hall PUD adjoins this property directly to the east and is more in character with the development that Rural zoning permits. Although there are commercial regional land uses to the south and east of this property, the comprehensive plan states that commercial uses should focus on key transportation nodes, avoiding strip patterns. The proposed change to Commercial Regional, the County's most intense commercial zoning district would change the character of the surrounding area. Approximately 65 acres of Commercial Regional property would yield on average 700,000 square feet of retail and office if fully developed. This large concentration of commercial development combined with the commercial uses to the south and east would potentially create a huge regional commercial node less than a mile east of another regional node located at McGarvey's Corner.
3. **The extent to which the proposed zoning is consistent with the zoning and use of nearby properties.** See comments for #2.
4. **The suitability of the property for the uses to which it has been restricted.** The 37 acres of the property fronting US 278 is currently zoned Rural – Transitional Overlay. The application of the Transitional Overlay district recognizes that this site is within a developing area and that it may be suitable for additional uses other than those allowed under the current zoning. The comprehensive plan designated the front 21 acres of this property Community Commercial. Therefore, a transition of the front 21 acres of this property to Commercial Suburban would be consistent with the Comprehensive Plan.
5. **Allowable uses in the proposed district would not adversely affect nearby property.** The property is currently zoned Rural – Transitional Overlay. A change to Commercial Regional would substantially affect the uses permitted. Commercial Regional areas are described in the ZDSO as areas that contain large commercial uses that serve "the entire county" and include highway service uses that need to be located on major highways. Commercial Regional Districts are not meant to be a strip along arterial or collector roads. Suburban zoning in the rear of the property could potentially be of a scale and intensity inconsistent with Berkeley Hall.
6. **The length of time a property has remained vacant as zoned, where the zoning is different from nearby developed properties.** This property is being utilized for residential and agricultural purposes. The uses and zoning of adjacent properties are consistent with Berkeley Hall.
7. **The current zoning is not roughly proportional to the restrictions imposed upon the landowner in light of the relative gain to the public health, safety and welfare provided by the restrictions.** Except for three residential PUDs and the area immediately surrounding McGarvey's Corner, the zoning of this property is consistent with the zoning designations of the other properties in the Okatie area.

#### **H. STAFF RECOMMENDATION:**

After review of the guidelines set forth in section 106-492 of the ZDSO, the staff recommends denial of this request for the following reasons:

1. The proposed rezoning is projected to result in a LOS E of the intersection of Hampton Parkway and US 278 with failed turning movements during PM peak hours at only 50% assumed buildout

in 2018. The failed intersection will be difficult and costly to mitigate due to the geographical constraints of the site.

2. The current widening of US 278 between Simmonsville Road and SC 170 is being implemented to address projected road deficiencies caused by previously approved development. The development enabled by the proposed rezoning would consume 41% of the added capacity created by the road widening and contribute to future failure of US 278 when compounded with existing approved development.
3. Allowing intense commercial and moderate-density residential development would contribute to the further degradation of water quality in the Okatie River, and would be a departure from the County's historical commitment to restoring water quality in the Okatie headwaters.
4. Proposed rezoning is not supported by the Comprehensive Plan which was adopted in early 2011 by County Council.

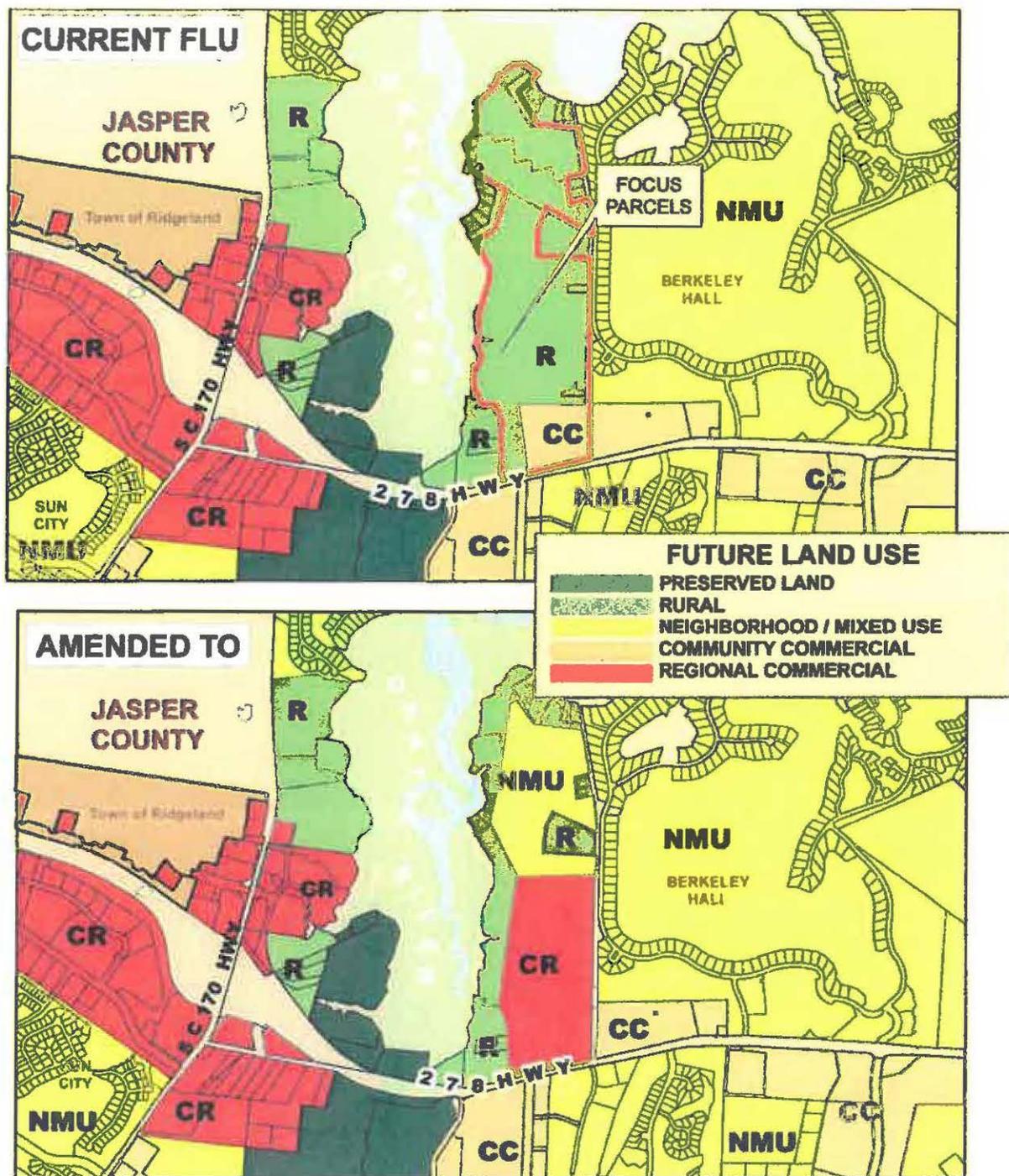
The portion of this property fronting US 278 is currently zoned Rural with Transitional Overlay. The application of the Transitional Overlay district recognizes that this site is within a developing area and that it may be suitable for additional uses other than those allowed under the current zoning. The comprehensive plan designated the front 21 acres of this property Community Commercial. Therefore, a transition of the front 21 acres of this property to Commercial Suburban would be consistent with the Comprehensive Plan and would enable a scale and intensity development that would have far less impacts on traffic and water quality.

#### **I. SOUTHERN SUBCOMMITTEE REVIEW**

The Southern Beaufort County Subcommittee of the Planning Commission reviewed the amendment at their December 13, 2012 meeting. Diane Chmelik, Parker Suttler, and Edward Riley were in attendance. The Subcommittee took no action on the proposed rezoning because no Traffic Impact Analysis had been submitted to staff as part of the application.

#### **J. ATTACHMENTS**

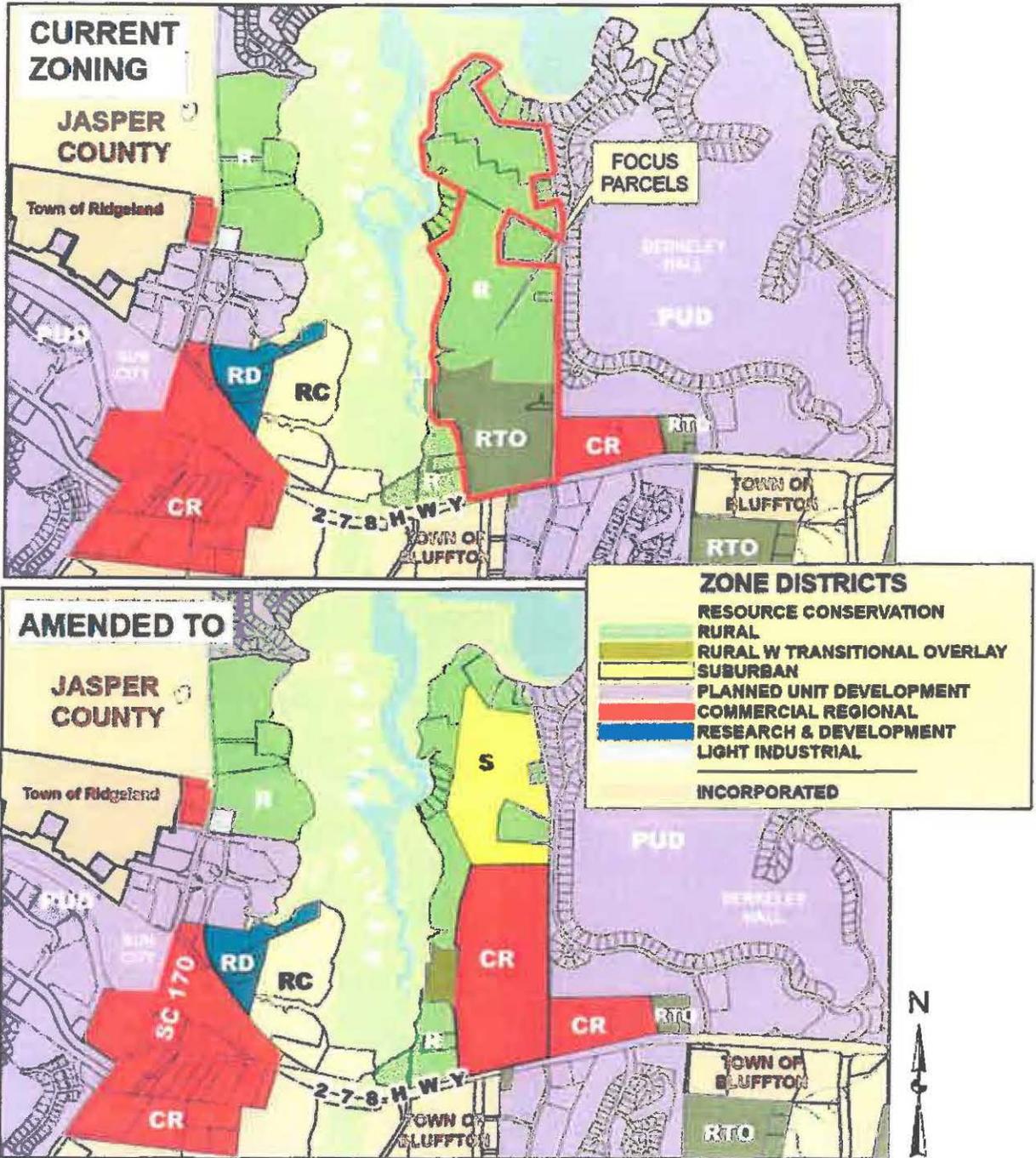
- Maps: Future Land Use and Zoning
- Applications: Future Land Use and Zoning
- Notification: Letter to and List of Abutting Property Owners



**FUTURE LAND USE AMENDMENT  
 INVOLVING PARCELS:**

11/30/12

- R600 021 000 0002 0000; R600 021 000 0075 0000;
- R603 021 000 004A 0000; R603 021 000 0194 0000
- R603 021 000 0195 0000; R603 021 000 006A 0000;
- R603 021 000 007B 0000



**REZONING AMENDMENT  
 INVOLVING PARCELS:**

- R600 021 000 0002 0000; R600 021 000 0075 0000;
- R603 021 000 004A 0000; R603 021 000 0194 0000
- R603 021 000 0195 0000; R603 021 000 006A 0000;
- R603 021 000 007B 0000



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The regular meeting of the Beaufort County Planning Commission (hereinafter "Commission") was held on Monday, February 4, 2013, in County Council Chambers, the Beaufort County Administration Building at 100 Ribaut Road, Beaufort, South Carolina.

**Members Present:**

Mr. Jim Hicks, Chair	Mr. Robert Semmler, Vice Chair	Mr. Charles Brown
Ms. Diane Chmelik	Ms. Mary LeGree	Mr. Ronald Petit
Mr. Edward Riley III	Mr. John Thomas	

**Members Absent:** Mr. E. Parker Sutler

**Staff Present:**

Mr. Anthony J. Criscitiello, Planning Director  
Ms. Barbara Childs, Admin. Asst. to Planning Director

**CALL TO ORDER:** Chairman Hicks called the meeting to order at approximately 6:04 p.m.

**PLEDGE OF ALLEGIANCE:** Chairman Hicks led those assembled in the Chambers with the pledge of allegiance to the flag of the United States of America.

**REVIEW OF MINUTES:** The Commission reviewed their January 7, 2013, meeting minutes. **Motion:** Ms. Chmelik made a motion, and Mr. Thomas seconded the motion, **to accept the January 7, 2013, minutes as written.** No discussion occurred. The motion was carried **unanimously** (FOR: Chmelik, Hicks, LeGree, Petit, Riley, Semmler, Sutler and Thomas).

**CHAIRMAN'S REPORT:** Chairman Hicks noted that the staff had removed the Graves rezoning request that was on tonight's agenda in order to appropriately review the applicants' traffic impact analysis. The Graves rezoning request will be reviewed by the Commission at its next meeting.

**PUBLIC COMMENT** for items other than agenda items: Chairman Hicks noted that there were two meeting attendees—Mr. Bennett McNeal and Councilman Cynthia Bensch; however, no public comment was received.

**ST. HELENA ISLAND ZONING MAP AMENDMENT / REZONING REQUEST FOR R300-018-000-0290-0000 (6.55 ACRES, A PORTION OF 74.72 ACRES; SOUTH OF SEASIDE ROAD) FROM RESOURCE CONSERVATION (RC) TO RURAL (R); OWNER: MCFE LLP, APPLICANT: J. BENNETT MCNEAL, AGENT: DAVID GASQUE**

Mr. Criscitiello briefed the Commission. He noted the 6.4-acre island portion of the parcel was being rezoned from Resource Conservation to Rural, since the island is connected by a bridge in anticipation of development of the island. Staff is in concurrence with the request.

Public Comment: None were received.

Applicant's Comment: None were received.

Discussion by the Commission included:

- the soil percolation of the island (Mr. Bennett McNeal, the applicant, stated the soil perk was good or if needed he would use a force-main system);
- a private driveway to the island; and
- the St. Helena Island Subcommittee recommending approval of the rezoning with a caveat for sufficient access for emergency vehicles (Mr. McNeal noted he had met with the fire department and there would be no issue; however, Mr. Criscitiello noted that the criteria was not germane to the rezoning issue).

**Motion:** Mr. Semmler made motion, and Mr. Thomas seconded motion, to forward a recommendation of approval to County Council on the St. Helena Island Zoning Map Amendment / Rezoning Request for 6.55 acres, the island portion of the 74.72 acres of R300-018-000-0290-0000 that is south of Seaside Road, from Resource Conservation (RC) zoning to Rural (R) zoning. No further discussion occurred. The motion was carried unanimously (FOR: Brown, Chmelik, Hicks, LeGree, Petit, Riley, Semmler, and Thomas).

**TEXT AMENDMENT TO THE BEAUFORT COUNTY ZONING AND DEVELOPMENT STANDARDS ORDINANCE/ZDSO, AMENDMENT TO APPENDIX I. LADY'S ISLAND COMMUNITY PRESERVATION AREA, DIVISION 2., LADY'S ISLAND EXPANDED HOME BUSINESS DISTRICT, SECTION 2.5B., LIMITED AND SPECIAL USE STANDARDS FOR GAS-CONVENIENCE MARTS; DIVISION 3., NEIGHBORHOOD ACTIVITY CENTER, SECTION 3.5, LIMITED AND SPECIAL USE STANDARDS FOR GAS-CONVENIENCE MARTS; AND DIVISION 5, VILLAGE CENTER, SECTION 5.5, LIMITED AND SPECIAL USE STANDARDS FOR GAS-CONVENIENCE MARTS, TO INCREASE THE MAXIMUM SIZE OF CONVENIENCE CENTERS IN THESE DISTRICTS FROM 2,500 TO 4,000 SQUARE FEET**

Mr. Criscitiello briefed the Commission on the rationale for the request. He noted that the proposed increase would more easily allow such stores to meet the community needs. The Lady's Island Community Preservation Committee and the Planning staff felt that such an increase in size was meritorious.

Discussion by the Commission included allowing an inclusion of a fast food entity in the gas convenience store, the need to include various services in the gas convenience stores that led to the logical increase of the building size, whether the increase was desirable despite the buffer and setback standards not changing, the older convenience stores languishing without the increased upgrades in size, the text amendment affecting only certain zoning districts of the Lady's Island Community Preservation, comparing a past project with this request, querying if the car wash

next to Beaufort Academy counted toward the gas convenience store building footprint, noting that the sizes of the property and the building must meet current development standards, and allowing convenience stores to be large enough to be destination spots for the consumers.

**Public Comment:** Mr. Bennett McNeal asked what areas this amendment affected, wondering if his property on Lady's Island was included. He asked if he could apply for a gas convenience store on his property. (Chairman Hicks noted that convenience stores would be allowed in the Expanded Home Business district of which part of Mr. McNeal's property is zoned. Chairman Hicks cautioned Mr. McNeal on whether such placement would affect the rest of his property.)

**Motion:** Mr. Semmler made a motion, and Mr. Thomas seconded the motion, to forward a recommendation of approval to County Council on the Text Amendments to the Beaufort County Zoning and Development Standards Ordinance/ZDSO, Appendix I. Lady's Island Community Preservation Area that are to increase the maximum size of convenience centers in the following zoning districts from 2,500 to 4,000 square feet:

- Division 2., Lady's Island Expanded Home Business District, Section 2.5B., Limited and Special Use Standards for Gas-Convenience Marts;
- Division 3., Neighborhood Activity Center, Section 3.5, Limited and Special Use Standards for Gas-Convenience Marts; and
- Division 5, Village Center, Section 5.5, Limited and Special Use Standards for Gas-Convenience Marts.

No further discussion occurred. The motion was carried unanimously (FOR: Brown, Chmelik, Hicks, LeGree, Petit, Riley, Semmler, and Thomas).

**OTHER BUSINESS:** None were discussed.

**ADJOURNMENT: Motion:** Ms. LeGree made a motion, and Mr. Brown seconded the motion, to adjourn the meeting. The motion was carried unanimously ((FOR: Chmelik, Hicks, Petit, Riley, Semmler, Sutler and Thomas). The meeting adjourned at approximately 6:26 p.m.

**SUBMITTED BY:**

\_\_\_\_\_  
Barbara Childs, Admin. Assistant to the Planning Director

\_\_\_\_\_  
Jim Hicks, Beaufort County Planning Commission Chairman

**APPROVED:** March 4, 2013, as written



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PLANNING COMMISSION  
Monday, February 4, 2013  
6:00 p.m.  
Council Chambers, Administration Building  
100 Ribaut Road, Beaufort, South Carolina

In accordance with South Carolina Code of Laws, 1976, Section 30-4-80(d), as amended, all local media was duly notified of the time, date, place and agenda of this meeting.

1. COMMISSIONER'S WORKSHOP – 5:30 P.M.  
Planning Office, Room 115, County Administration Building
2. REGULAR MEETING - 6:00 P.M.  
Council Chambers
3. CALL TO ORDER – 6:00 P.M.
4. PLEDGE OF ALLEGIANCE
5. REVIEW OF MINUTES  
A. January 7, 2013 (backup)
6. CHAIRMAN'S REPORT
7. PUBLIC COMMENT ON NON-AGENDA ITEMS
8. PUBLIC COMMENT AND RECOMMENDATION
  - A. Southern Beaufort County Future Land Use Map Amendment for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Community Commercial (approximately 21 acres fronting US 278) and Rural (for remainder of property) to Regional Commercial (approximately 65 acres front US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves (backup)
  - B. Southern Beaufort County Zoning Map Amendment / Rezoning Request for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting US 278) and Suburban



(approximately 48 acres at the rear of the properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves ([backup](#))

- C. Text Amendment to the Beaufort County Zoning and Development Standards Ordinance/ZDSO, Amendment to Appendix I. Lady's Island Community Preservation Area, Division 2., Lady's Island Expanded Home Business District, Section 2.5B., Limited and Special Use Standards for Gas-Convenience Marts; Division 3., Neighborhood Activity Center, Section 3.5, Limited and Special Use Standards for Gas-Convenience Marts; and Division 5, Village Center, Section 5.5, Limited and Special Use Standards for Gas-Convenience Marts, to increase the maximum size of convenience centers in these districts from 2,500 to 4,000 square feet ([backup](#))

D. OTHER BUSINESS

- A. Next Meeting – Monday, March 4, 2013, at 6:00 p.m.

E. ADJOURNMENT



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The regular meeting of the Beaufort County Planning Commission (hereinafter "Commission") was held on Monday, January 7, 2013, in County Council Chambers, Beaufort County Administration Building at 100 Ribaut Road, Beaufort, South Carolina.

**Members Present:**

Mr. Jim Hicks, Chair  
Ms. Diane Chmelik  
Mr. Edward Riley III

Mr. Robert Semmler, Vice Chair  
Ms. Mary LeGree  
Mr. E. Parker Sutler

Mr. Charles Brown  
Mr. Ronald Petit  
Mr. John Thomas

**Members Absent:** None

**Staff Present:**

Mr. Anthony Criscitiello, County Planning Director  
Ms. Barbara Childs, Admin. Asst. to County Planning Director

**CALL TO ORDER:** Chairman Hicks called the meeting to order at approximately 6:03 p.m.

**PLEDGE OF ALLEGIANCE:** Chairman Hicks led those assembled in the Chambers with the pledge of allegiance to the U.S.A. flag.

**REVIEW OF MINUTES: Motion:** Mr. Semmler made a motion, and Ms. Chmelik seconded the motion, to accept the October 1, 2012, Planning Commission meeting minutes, as written. No discussion occurred. The motion was carried (FOR: Chmelik, Hicks, Petit, Riley, Semmler, and Thomas; ABSTAINED: Brown, LeGree and Sutler).

**CHAIRMAN'S REPORT:** Chairman Hicks noted an agenda change—that the Graves' map amendments/rezoning request were removed from tonight's agenda by the staff because the application was incomplete since the traffic impact analysis study was missing. The Applicants have requested to present an update of their application. The Commission will not make a decision on these map amendments/rezoning request. With approval from the Commissioners, it would be to the Commissioners interest to hear the differences between the last applications and the revised applications. Chairman Hicks asked about the differences. Mr. Thomas made a motion, and Mr. Semmler seconded the motion, to allow the presentation by the Graves' representatives at tonight's meeting. No further discussion occurred. The motion was unanimously carried (FOR: Brown, Chmelik, Hicks, LeGree, Petit, Riley, Semmler, Sutler, and Thomas).

**PUBLIC COMMENT ON NON-AGENDA ITEMS:** No comments were received.

**TEXT AMENDMENTS TO THE BEAUFORT COUNTY ZONING AND DEVELOPMENT STANDARDS ORDINANCE/ZDSO, ARTICLE V, TABLE 106-1098 – GENERAL USE TABLE AND SECTION 106-1292(3) – BOAT SALES AND SERVICE (TO ALLOW BOAT SALES IN COMMERCIAL SUBURBAN ZONING DISTRICTS); APPLICANT: FRANCES M. RABON**

Mr. Criscitiello briefed the Commission on the application. He noted that the applicant asked him to visit the intended site (formerly Beaufort Glass on Highway 170) that is currently unoccupied. Mr. Criscitiello noted that boat repair, but not boat sales, did not make sense; so he encouraged the applicant to apply for a text amendment. He noted that the boat sales near the boat landing on Lady's Island off Highway 21 was a similar text amendment. Additional requirements were added by staff to the Zoning and Development Standards Ordinance (ZDSO) regarding this text amendment.

Chairman Hicks opened the floor for comments from the applicant. The applicant was not present at the meeting.

Discussion included the intended site being next to, but not including the former Beaufort Fun Park; clarification that the Commission had put limitations on the Lady's Island boat sales site to prevent a line of boats along the major road; specific sites should not be discussed with this text amendment since all commercial suburban districts would be affected by this text amendment; the requirements of adequate screening from the road; clarification that the applicant is currently engaged in boat sales and repairs elsewhere; the occupancy of a vacant building in a constructive way; the applicant being advised to discuss annexation into the Town of Port Royal which could not occur due to the abutting cemetery; and Town of Port Royal planning administration having no objections to the perceived upzoning per its ordinances.

Public Comment: None was received.

**Motion:** Mr. Semmler made a motion, and Mr. Thomas seconded the motion, **to recommend to County Council approval of the staff proposed Text Amendments in Articles V, Table 106-1098 and Section 106-1292(3) that will allow boat sales in Commercial Suburban district with certain requirements.** The motion was carried unanimously (FOR: Brown, Chmelik, Hicks, LeGree, Petit, Riley, Semmler, Sutler and Thomas).

**SOUTHERN BEAUFORT COUNTY FUTURE LAND USE MAP AMENDMENT FOR R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 PARCELS TOTALING 113+/- ACRES NORTH OF U.S. 278 AND WEST OF GRAVES ROAD) FROM COMMUNITY COMMERCIAL (APPROXIMATELY 21 ACRES FRONTING US 278) AND RURAL (FOR REMAINDER OF PROPERTY) TO REGIONAL COMMERCIAL (APPROXIMATELY 65 ACRES FRONT US 278) AND NEIGHBORHOOD MIXED-USE (APPROXIMATELY 48 ACRES AT THE REAR OF THE PROPERTIES); OWNERS/APPLICANTS: ROBERT GRAVES, JOHN GRAVES AND PAUL GRAVES (*Withdrawn by staff due to incompleteness*)**  
—AND—

**SOUTHERN BEAUFORT COUNTY ZONING MAP AMENDMENT / REZONING REQUEST FOR R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 PARCELS TOTALING 113+/- ACRES NORTH OF U.S. 278 AND WEST OF GRAVES ROAD) FROM RURAL WITH TRANSITIONAL OVERLAY (APPROXIMATELY 33 ACRES FRONTING US 278) AND RURAL (80 ACRES OF THE REMAINDER OF THE PROPERTIES) TO COMMERCIAL REGIONAL (APPROXIMATELY 65 ACRES FRONTING US 278) AND SUBURBAN (APPROXIMATELY 48 ACRES AT THE REAR OF THE properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves (*Withdrawn by staff due to incompleteness*)**

**Informational Presentation Only:**

Chairman Hicks noted that there would be no presentation by staff because staff was awaiting the traffic impact analysis from the applicant. However, the applicant's representative has requested time at this meeting to provide an overview of their clients' modified plan.

Mr. Jim Scheider, the applicant's representative, extended thanks to the Planning staff and Chairman Hicks, for allowing the presentation to occur. The Graves Family has sought for years to rezone the properties. They have worked hard and thoughtfully to do what we all think is the most important endeavor—to protect the Okatie River. They have removed the acres along the Okatie River that will be on a separate track in discussion with the County. This month's presentation will be on land use. Next month's presentation will be on traffic only. Essentially, this is a change from rural property to commercial. Mr. Scheider introduced Ms. Jennifer Bihl, their traffic engineer; Mr. Milt Rhodes, their land planner; and Messers. Robert and Lane Graves, two of the three applicants. Tonight's purpose is to show what they have done in concert with the County to scale down the application in relation to land uses. Concerns voiced by staff and the Commissioners such as big box stores, protection of the Okatie, and controlling the proliferation on the property were heard. They have a workable concept plan to present.

Mr. Milt Rhodes thanked Commission. He noted that Rural-Transitional Overlay zoning was placed on the properties when Highway 278 was not over capacity. The Graves Family is interested in high-quality, long-lasting development. In his power point presentation he noted the 300-foot buffer along the Okatie River, called the river protection tract, is not included in the application. The northern end of the property contains a 48-acre suburban tract that will utilize traditional neighborhood design. The 65-acre commercial tract along Highway 278—includes current rural-transitional overlay and part of suburban zonings. The properties will contain form-based code districts T5 main street and transition to T3, with T1 for river protection tract. The Future Land Use (FLU) and Zoning maps will be upzoned. Mr. Rhodes discussed the comments from the municipalities and how the new plan addressed those comments. He stated that the applicants must meet traffic impacts concerns and stormwater regulations. Connectivity, caps on development, and frontage roads will have to be worked out. The applicant is asking to use the existing standards. They are proposing 700,000 square feet of commercial space, 240 residential units, and a 20% transfer component between commercial and residential uses. The individual commercial buildings will not exceed 75,000 square feet. Any other zoning would not work for this property.

Mr. Scheider noted that the applicants have scaled down to 700,000 from 1 million square feet of commercial space, and has limited the size of commercial buildings. If approval is granted by the Commission and County Council, a development agreement will be entered into by the applicants.

Mr. Rhodes noted the differences between the original request and the modified, downsized proposed development.

Chairman Hicks noted that rezoning must be approved outright by the Commissioners. When approved for Commercial Regional the allowable uses according to the current zoning and development standards ordinance (ZDSO) relate to the property, regardless of what has been presented. Until a development agreement is issued/agreed upon, the caveats presented are not part of the rezoning issue. Chairman Hicks reminded Mr. Scheider that development agreements are part of the Natural Resources Committee process, not the Planning Commission process.

Mr. Scheider noted that they have had a development agreement drafted for some time and are prepared for to discuss that agreement at another time. He thanked the Commission for their time.

Discussion included clarification of the Okatie River along the west of the properties

Chairman Hicks noted that the Commission will review and vote on the rezoning request at their February 2013 meeting. He noted that the traffic analysis will be presented then, and that stormwater input was not required at the next meeting. He asked the Commissioners if there was any other information needed for the rezoning request. No comment was received by the Commissioners.

**OTHER BUSINESS:** None were noted.

**ADJOURNMENT:** Mr. Sutler made a motion, and Mr. Thomas seconded the motion, to adjourn meeting. There were no objections to ending the meeting. Chairman Hicks adjourned the meeting at approximately 6:57 p.m.

**SUBMITTED BY:**

\_\_\_\_\_  
Barbara Childs, Admin. Assistant to the Planning Director

\_\_\_\_\_  
Jim Hicks, Beaufort County Planning Commission Chairman

**APPROVED:** February 4, 2013, as written



COUNTY COUNCIL OF BEAUFORT COUNTY  
BEAUFORT COUNTY PLANNING DIVISION

Multi-Government Center • 100 Ribaut Road, Room 115  
Post Office Drawer 1228, Beaufort SC 29901-1228  
Phone: (843) 255-2140 • FAX: (843) 255-9432

PLANNING COMMISSION

Monday, January 7, 2013

6:00 p.m.

Council Chambers, Administration Building  
100 Ribaut Road, Beaufort, South Carolina

In accordance with South Carolina Code of Laws, 1976, Section 30-4-80(d), as amended, all local media was duly notified of the time, date, place and agenda of this meeting.

1. COMMISSIONER'S WORKSHOP – 5:30 P.M.  
Planning Office, Room 115, County Administration Building
2. REGULAR MEETING - 6:00 P.M.  
Council Chambers
3. CALL TO ORDER – 6:00 P.M.
4. PLEDGE OF ALLEGIANCE
5. REVIEW OF MINUTES  
A. October 1, 2012 ([backup](#))
6. CHAIRMAN'S REPORT
7. PUBLIC COMMENT on non-agenda items
8. REVIEW, PUBLIC COMMENT AND RECOMMENDATION
  - A. Southern Beaufort County Future Land Use Map Amendment for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Community Commercial (approximately 21 acres fronting US 278) and Rural (for remainder of property) to Regional Commercial (approximately 65 acres front US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves (*Withdrawn by staff due to incompleteness*)
  - B. Southern Beaufort County Zoning Map Amendment / Rezoning Request for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting US 278) and Suburban



(approximately 48 acres at the rear of the properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves (*Withdrawn by staff due to incompleteness*)

- C. Text Amendments to the Beaufort County Zoning and Development Standards Ordinance/ZDSO, Article V, Table 106-1098 General Use Table (to allow boat sales in Commercial Suburban zoning districts); Applicant: Frances M. Rabon ([backup](#))

9. OTHER BUSINESS

- A. Next Meeting – Monday, February 4, 2013 at 6:00 p.m.

10. ADJOURNMENT



## AGENDA

Southern Beaufort County Subcommittee  
of Beaufort County Planning Commission  
Thursday, December 13, 2012, at 5:30 p.m.  
Rotary Community Center, Oscar Frazier Community Park  
11 Recreation Court, Bluffton, SC 29910  
*Phone: (843) 255-2140 • FAX: (843) 255-9432*

In accordance with South Carolina Code of Laws, 1976, Section 30-4-80(d), as amended, all local media was duly notified of the time, date, place and agenda of this meeting.

1. Call to Order
2. Pledge of Allegiance
3. **PUBLIC COMMENT AND RECOMMENDATION** on a Southern Beaufort County Future Land Use Map Amendment / Request for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Community Commercial (approximately 21 acres fronting US 278) and Rural (for remainder of property) to Regional Commercial (approximately 65 acres front US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves
4. **PUBLIC COMMENT AND RECOMMENDATION** on a Southern Beaufort County Zoning Map Amendment / Rezoning Request for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting US 278) and Suburban (approximately 48 acres at the rear of the properties); Owners/Applicants: Robert Graves, John Graves and Paul Graves
5. Other Business
6. Adjournment

Next Meeting: Thursday, January 11, 2013, at 5:30 p.m. (location to be determined at a later date), Bluffton, SC.



Rotary Community Center



Route from 46/ May River Rd



Route from 278

**Directions from 278:**

Turn onto May River Road/ SC-46

First exit off Roundabout

This is the Bluffton Parkway-westbound

Take your first Left onto Goethe Rd

Take a Right onto Shults Rd (sign says Shults St)

Shults Rd turns into Eighth Ave

Take a Right onto Recreation Court (at park sign)

Parking & building on the Left

**Directions from May River Rd/ 46:**

Turn onto Pin Oak St

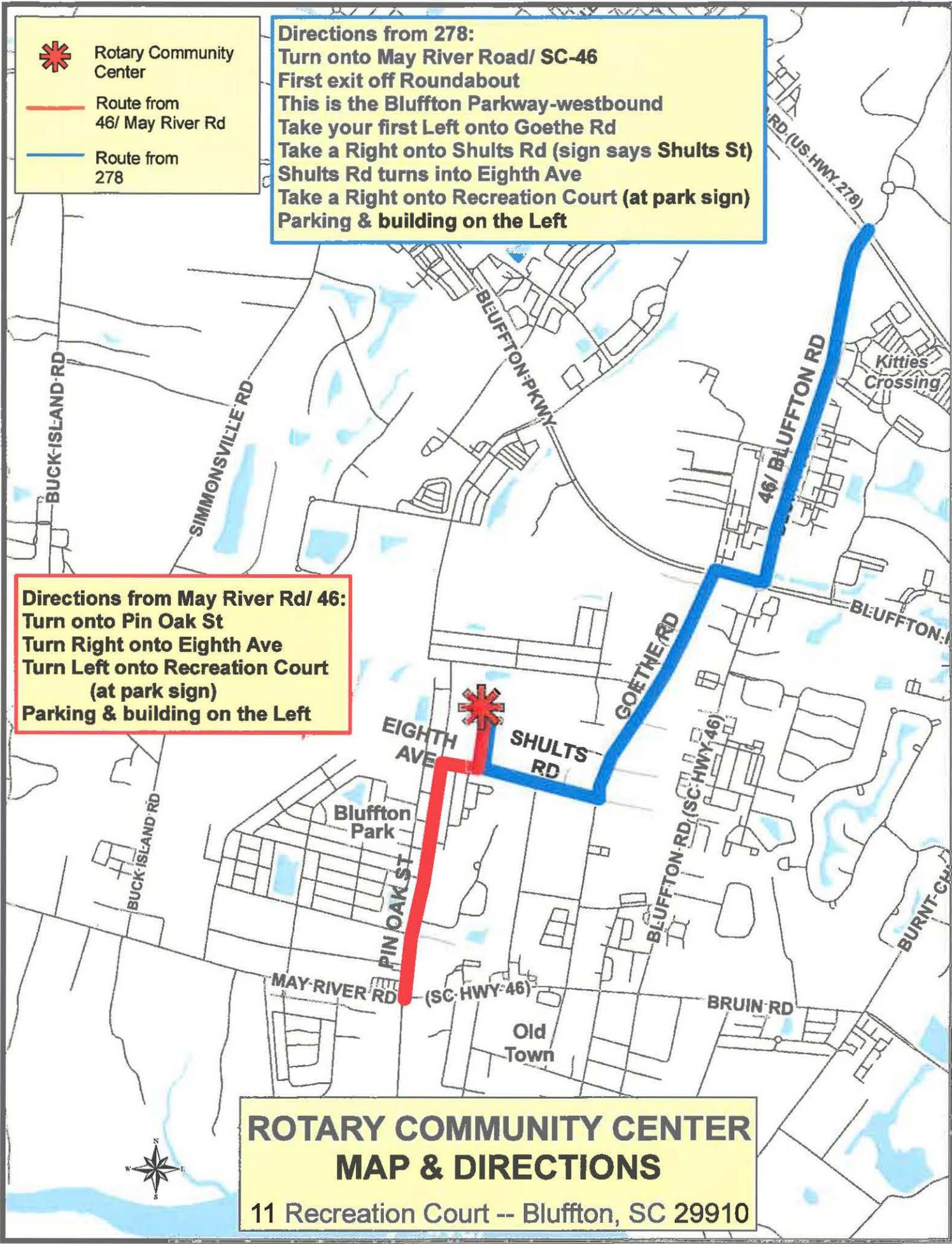
Turn Right onto Eighth Ave

Turn Left onto Recreation Court  
(at park sign)

Parking & building on the Left

**ROTARY COMMUNITY CENTER  
MAP & DIRECTIONS**

11 Recreation Court -- Bluffton, SC 29910





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**BEAUFORT COUNTY PLANNING DIVISION**  
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**TO:** Beaufort County Planning Commission  
**FROM:** Anthony Criscitiello, Beaufort County Planning Director *TC*  
**DATE:** December 6, 2012  
**SUBJECT:** Proposed Comprehensive Plan and Zoning Map Amendment for Pepper Hall (Graves Property)

---

**A. BACKGROUND:**

**Case No.** ZMA-2012-07  
**Applicant/Owner:** Robert Graves, John Graves, and Paul Graves  
**Property Location:** Intersection of U.S. Highway 278 and Graves Road.  
**District/Map/Parcel:** R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000  
**Property Size:** 113 acres  
**Current Future Land Use Designations:** Community Commercial (approximately 21 acres fronting US 278) and Rural (remainder of property)  
**Proposed Future Land Use Designations:** Regional Commercial (approximately 65 acres fronting US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties)  
**Current Zoning Districts:** Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of properties)  
**Proposed Zoning Districts:** Commercial Regional (approximately 65 acres fronting US 278) and Suburban (approximately 48 acres at the rear of the properties)

**B. SUMMARY OF REQUEST:**

The applicants, Robert Graves, John Graves, and Paul Graves, are proposing to change the future land use designation and to rezone portions of an assemblage of 7 parcels equaling approximately 113 acres located on the north side of US 278 between the Okatie River and Graves Road. The properties are currently zoned Rural with Transitional Overlay on the 33 acres fronting US 278 and Rural for the remainder of the property (please refer to the attached map for a summary of the proposed future land use map amendments and zoning amendments). The applicant believes that the proposed amendment is consistent with the surrounding land uses and growth trends and that the current widening of US 278 from 4-lanes to 6-lanes will accommodate the additional traffic that would potentially result from the rezoning. In 2001, County Council approved an application to rezone the 37 acres that front US 278 from Rural to Rural with Transitional Overlay. In 2002, County Council approved the upzoning of a 17.5-acre tract directly east of the proposed rezoning from Rural to Commercial Regional.

C. **PREVIOUS REZONING REQUEST:** On February 6, 2012, the Planning Commission reviewed a proposal (ZMA-2011-17) to rezone 142 acres to Commercial Regional (64 acres) and Suburban (78 acres). This included all of the land within the subject parcels up to the critical line. The Planning Commission had a split vote on the rezoning. The application was denied by the Natural Resources Committee and later County Council largely due to the potential impacts the rezoning would have on water quality and preservation efforts in the Okatie River and potential traffic impacts on US 278.

This application for rezoning is similar to the Graves Rezoning application that the Planning Commission reviewed at its February 6 meeting with the following exceptions:

- Both the future land use designation and the zoning of all lands within the subject parcels that are located within 300 feet of the critical line (Okatie River and marsh) will remain Rural.
- The applicant is proposing to accompany this rezoning application with a Development Agreement with Beaufort County. The development agreement, among other things, is proposed to place restrictions on the total square footage of commercial and total number of residential units.

D. **TRAFFIC IMPACT ANALYSIS:** A traffic impact analysis is required for a rezoning of this magnitude. The applicant is aware of this and plans to submit a full TIA to planning staff before this application is reviewed by the Planning Commission in January.

E. **PROPOSED DEVELOPMENT AGREEMENT**

The applicant is proposing to enter into a development agreement with the county prior to third and final reading of this amendment. An outline of the agreement is included in Attachment 7 of the submittal. Some highlights of the agreement include the following:

- **Limit on Commercial Development:** Commercial development within the 65 acres to be rezoned to Commercial Regional would be limited to a total of 700,000 square feet. Otherwise, the proposed Commercial Regional area could potentially yield up to 1.4 million square feet of mixed retail and office.
- **Residential Development within Commercial Regional:** Residential development within the 65 acres to be rezoned to Commercial Regional would be limited to a total of 240 units.
- **Converting Residential and Commercial Units:** Up to 20% of total residential or commercial development within the 65 acres to be rezoned to Commercial Regional can be converted using a ratio of 1 dwelling unit per 2,400 square feet of commercial. This would allow a maximum of an additional 115,000 square feet of commercial or 58 additional dwelling units.
- **Future Connectivity:** Language will be included in the agreement to address a frontage road along US 278 that would connect the site to Graves Road and eventually a signal at the Berkeley Hall entrance.

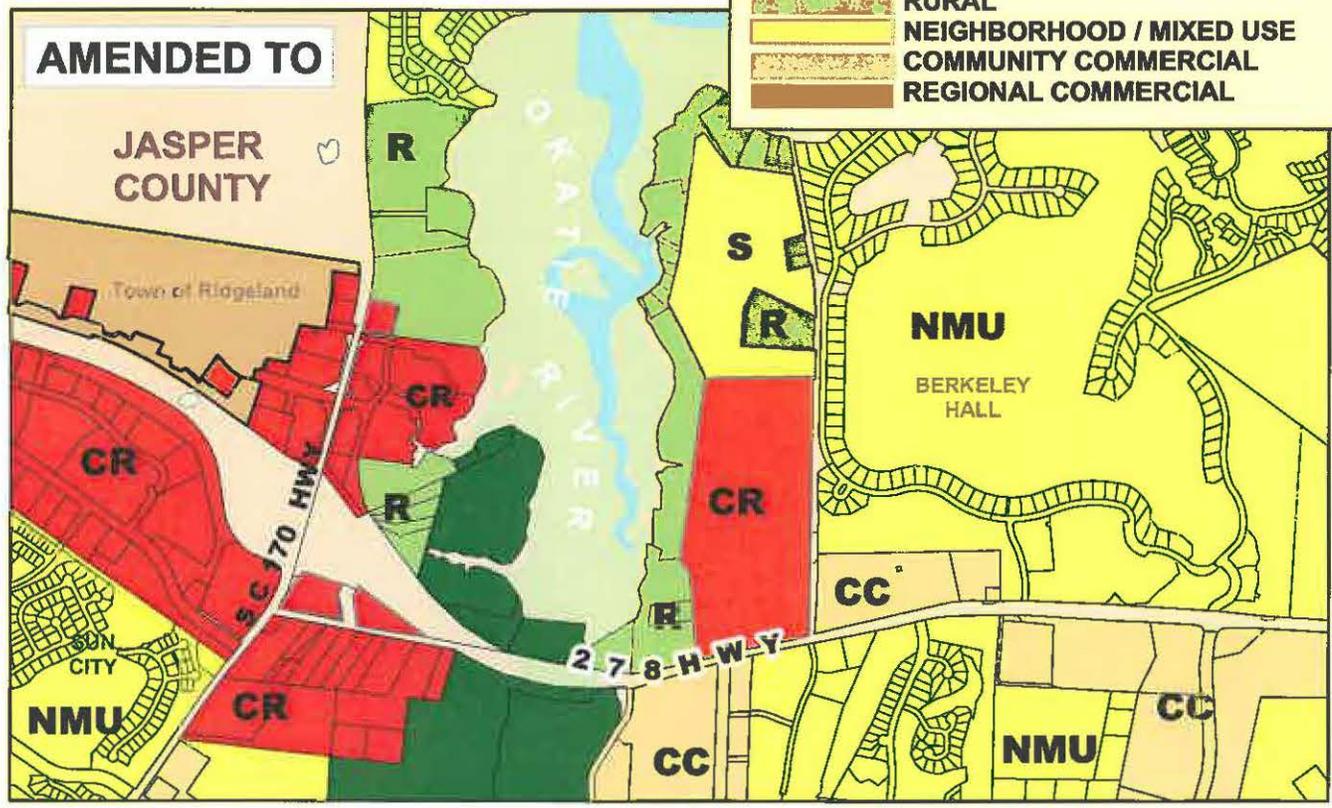
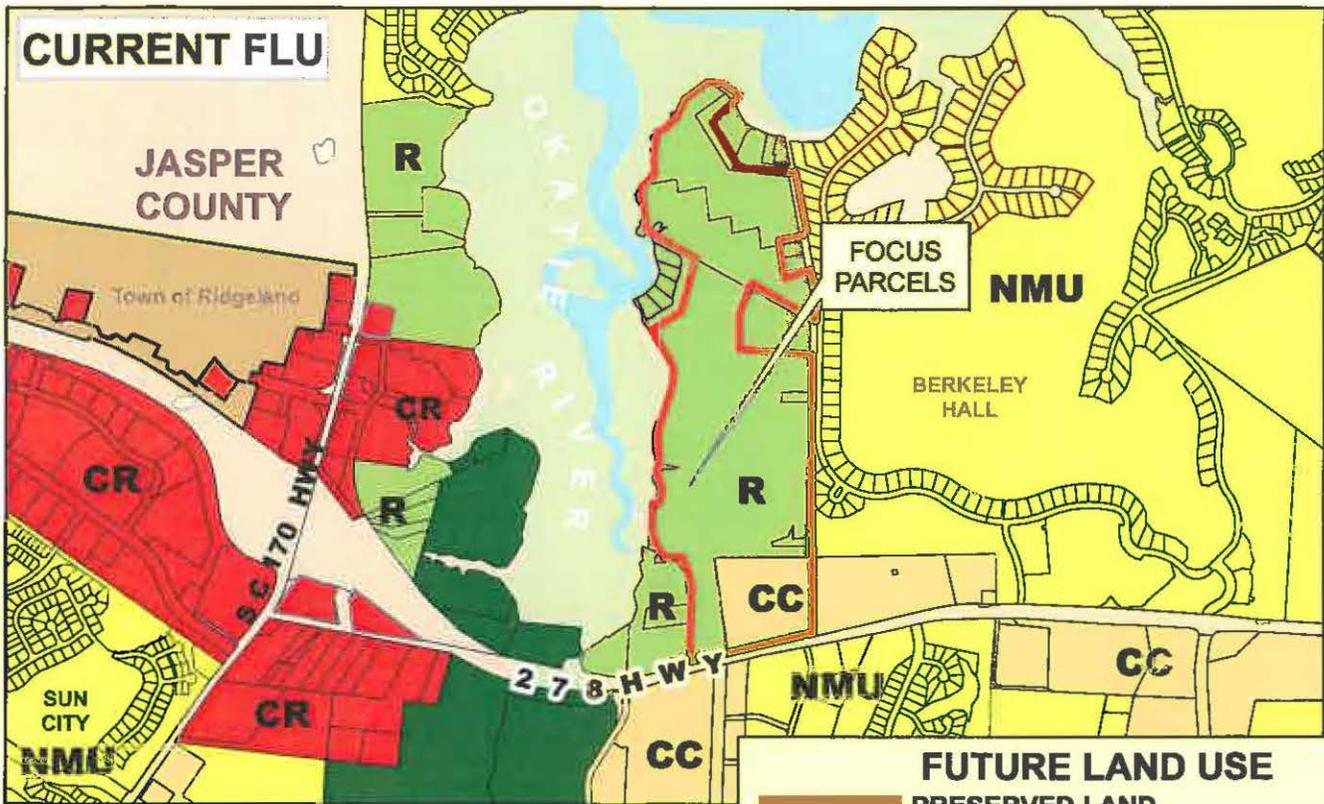
Development agreements in South Carolina are meant to provide certainty to property owners and developers that the laws in effect at the adoption of the agreement remain in effect during the term of the agreement. In exchange, development agreements can be a tool used by local governments to secure dedications of lands, facilities, and road rights-of-way; and additional development restrictions including a cap on the dwelling units and square footage, building height, architectural standards, and environmental standards. Under State law, a development agreement for property equaling 113 acres, would have a maximum term of 5 years, after which, the agreement would be reviewed and potentially renegotiated by both parties.

**F. STAFF RECOMMENDATION:**

Planning Staff looks forward to receiving a complete Traffic Impact Analysis for this rezoning prior to preparing a staff report to the full Planning Commission. Until that time, staff is unable to provide a full review and recommendation of this application.

**G. ATTACHMENTS**

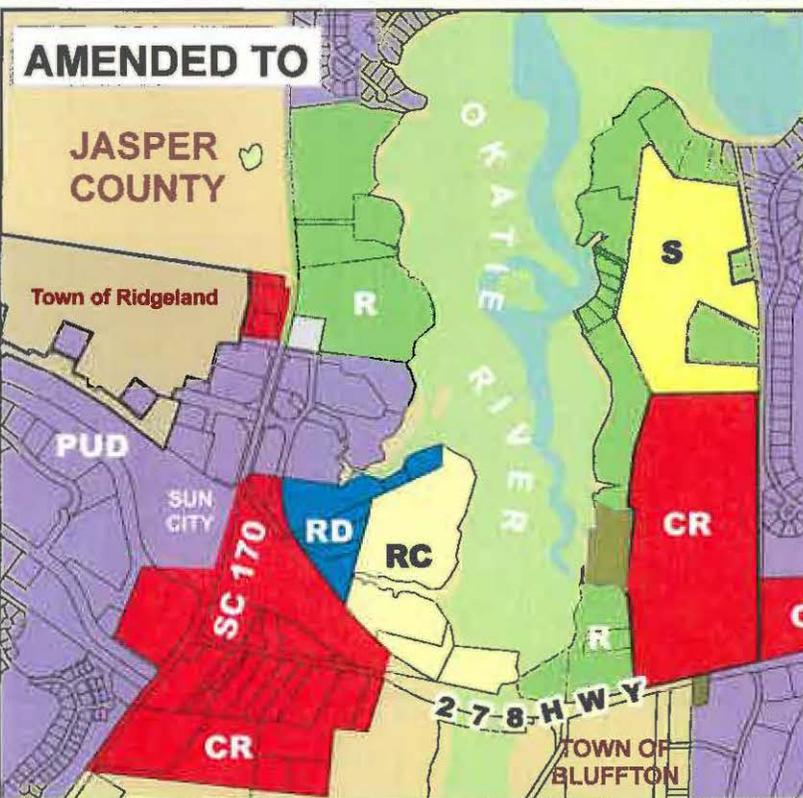
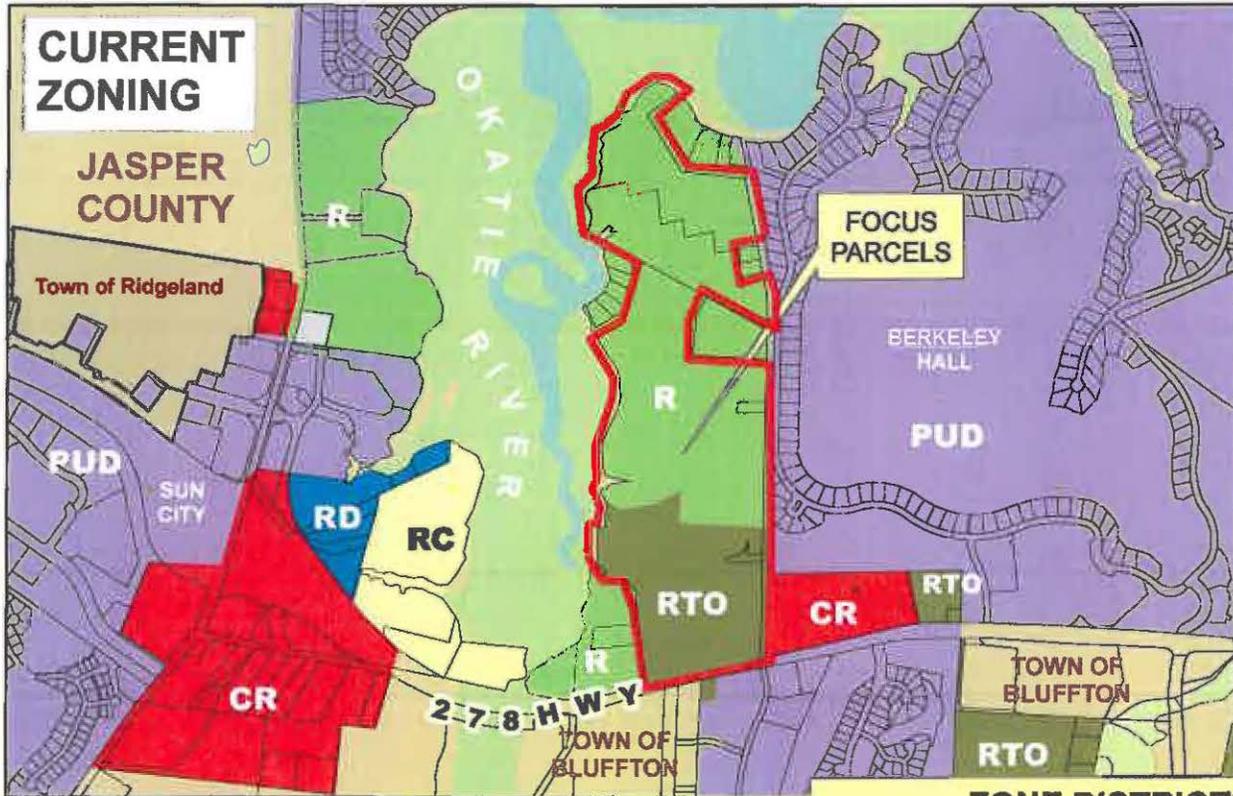
- Maps: Future Land Use and Zoning
- Applications: Future Land Use and Zoning
- Notification: Letter to and List of Abutting Property Owners



**FUTURE LAND USE AMENDMENT  
INVOLVING PARCELS:**

11/30/12

- R600 021 000 0002 0000; R600 021 000 0075 0000;
- R603 021 000 004A 0000; R603 021 000 0194 0000
- R603 021 000 0195 0000; R603 021 000 006A 0000;
- R603 021 000 007B 0000



ZONE DISTRICTS	
[Light Green Box]	RESOURCE CONSERVATION
[Light Green Box]	RURAL
[Olive Green Box]	RURAL W TRANSITIONAL OVERLAY
[Yellow Box]	SUBURBAN
[Purple Box]	PLANNED UNIT DEVELOPMENT
[Red Box]	COMMERCIAL REGIONAL
[Blue Box]	RESEARCH & DEVELOPMENT
[Light Blue Box]	LIGHT INDUSTRIAL
[Tan Box]	INCORPORATED



## REZONING AMENDMENT

INVOLVING PARCELS:

- R600 021 000 0002 0000; R600 021 000 0075 0000;
- R603 021 000 004A 0000; R603 021 000 0194 0000
- R603 021 000 0195 0000; R603 021 000 006A 0000;
- R603 021 000 007B 0000



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Phone: (843) 255-2140 • FAX: (843) 255-9432

December 6, 2012

**RE: Notice of Public Meetings to Consider a Southern Beaufort County Zoning Map Amendments / Rezoning Request for R600-021-000-0002, R600-021-000-0075-0000, R603-021-000-004A, R603-021-000-006A, R603-021-000-007B, R603-021-000-0194, and R603-021-000-0195 (7 parcels totaling 142+/- acres, north of Highway 278/Fording Island Road and west of Graves Road, known as Pepper Hall); Applicants/Owners: Paul B. Graves, John T. Graves, Jr., and Robert L. Graves: from Rural (R) and Rural with Transitional Overlay (R-TO) to Rural (R), Rural with Transitional Overlay (R-TO), Suburban (S) and Commercial Regional (CR) Zoning Districts.**

Dear Property Owner:

In accordance with the Beaufort County Zoning & Development Standards Ordinance, Section 106-402, a public hearing is required by the Beaufort County Council before the above rezoning proposal can be adopted. As an property owner within 500 feet of the properties being considered for rezoning, you are invited to attend the following meetings and public hearings to provide comment on the subject proposed map amendments/rezoning request in your neighborhood. A map of the properties is attached to this letter.

1. The **Southern Beaufort County Subcommittee** of the Beaufort County Planning Commission – **Thursday, December 13, 2012**, at 5:30 p.m. at the Oscar Frazier Community Center, 11 Recreation Court, Bluffton, SC. (See attached map and directions.)
2. **The Beaufort County Planning Commission (public hearing)** – **Monday, January 7, 2013**, at 6:00 p.m. in the County Council Chambers, located on the first floor of the Beaufort County Administration Building, 100 Ribaut Road, Beaufort, SC.
3. **The Natural Resources Committee of the County Council** – **Monday, February 4, 2013** at 2:00 p.m. in the Executive Conference Room, located on the first floor of the Beaufort County Administration Building, 100 Ribaut Road, Beaufort, SC.
4. **Beaufort County Council** – generally meets second and fourth Mondays at 4:00 p.m. in the County Council Chambers of the Beaufort County Administration Building, 100 Ribaut Road, Beaufort, SC. County Council must meet three times prior to making a final decision on this case. Please call (843) 255-2140 to verify the exact dates and locations.

Documents related to the proposed amendment are available for public inspection between 8:00 a.m. and 5:00 p.m., Monday through Friday, in the Beaufort County Planning Department office located in Room 115 of the Beaufort County Administration Building. If you have any questions regarding this case, please contact the Planning Department at (843) 255-2140.

Sincerely,



Anthony J. Criscitiello  
Planner Director

Attachments:

- Map Showing Zoning—Current and Proposed
- Oscar Frazier Community Center Map and Directions

**PROPERTY OWNERS NOTIFIED OF MAP AMENDMENT/REZONING REQUEST for R600-21-2 and -75; R603-21-4A, -6A, -194, and -195  
from Rural and Rural-Transitional Overlay to Rural, Suburban, and Commercial Regional (7 parcels, 142.91 acres)**

PIN_	Owner1	MailingAdd	City	State	ZIP
R600 22 696	ANSELMO PHILIP SHEPARD DIANE H JT	110 LANCASTER BLVD	BLUFFTON	SC	29909
R600 22 626	BAKER CHARLES E & MARLENE B	47670 PAULSEN SQ	POTOMAC FALLS	VA	20165
R600 22 620	BAKER KENNETH E	5 OAKLAND PLACE	BLUFFTON	SC	29909
R600 21 660	BEAUFORT COUNTY	PO DRAWER 1228	BEAUFORT	SC	29901
R600 22 629	BELL ROBERT H	2669 WALNUT RIDGE RD	AKRON	OH	44333
R600 13 46; R600 22 852	BERKELEY HALL CLUB INC	366 GOOD HOPE RD	BLUFFTON	SC	29909
R600 22 631	BINKS MALCOLM JILLIAN JTROS	59 TURNBRIDGE DR	HILTON HEAD ISLAND	SC	29928
R600 21 24	BRANNAN TERESA GRAVES JOHN	64 BRANNON POINT ROAD	OKATIE	SC	29909
R600 21 71	BRAVES PAUL BISSELL Jr	2725 ST MARYS ST	RALEIGH	NC	27609
R600 22 628	BULLOCK CHRISTOPHER J DIANE S JTRO	78 LANCASTER BLVD	BLUFFTON	SC	29909
R600 22 635	CERVINO WILLIAM L	29975 N PARK BLVD	OLON	OH	44139
R600 22 625	CHERICHELLA ROBERT E HEATHER JTROS	62 YORKSHIRE DR	HHI	SC	29928
R600 22 640	COREY MICHAEL J	PO BOX 1284	WILLIAMS BAY	WI	53191
R600 21 7	CROSBY VERNA G	71 PEPPERHALL PLANTATION	BLUFFTON	SC	29909
R600 22 622	CSK MANAGEMENT & TRADING LTD SUITE	208 40 WESTMORE DR	ETOBICOKE	ON	M9V 4C2
R600 22 729	CUNNINGHAM JAMES F MUSSELMAN JOYCE A	345 SANLUIS AVE	LOS ALTOS	CA	94024
R600 22 722	DEBORAH S PATTEN REVOCABLE TRUST	3107 BENNETT POINT RD	QUEENSTOWN	MD	21658
R600 22 633	DUGGAN MARIE LYNN	100 BEL AIR DR	OAKVILLE	ON	L6J 7N1
R600 22 728	EMELITA S HARRINGTON TRUST	56 W FORD AVE	WARWICK	RI	02889
R600 21 658	ENMARK STATIONS INC	2112 RANKIN ST	SAVANNAH	GA	31415
R600 21 8	FAULKNER GORDON K	PO BOX 220	BLUFFTON	SC	29910
R600 22 641	FLOYD DEXTER R DEBBIE H JTROS	4325 RIDGEGATE DR	DULUTH	GA	30097
R600 22 695	FRANK JAMES D MANSFIELD PATRICIA J	332 OAKRIDGE DR	VENETIA	PA	15367
R603 21 5	GAY KIRK MARTIN	PO BOX 765	BLUFFTON	SC	29910
R600 21 73	GRAVES JOHN TAMPLET III BARBARA D	PO BOX 1595	BLUFFTON	SC	29909
R600 21 2B,-25,-32,- 75	GRAVES JOHN TAMPLET JR (LIFE ESTATE)	26 MELON HOLE RD	OKATIE	SC	29909
R600 21 3	GRAVES JUDY DEANNE TRUSTEE (JUDY	145 GRAVES RD	BLUFFTON	SC	29909
R600 21 72	GRAVES MICHAEL LLOYD	20542 EMBER LANE	HARRAH	OK	73045
R600 21 2	GRAVES PAUL B Sr	1836 OMNI BLVD	MT PLEASANT	SC	29466
R603 21 195	GRAVES ROBERT L	22 A WIDEWATER RD	HILTON HEAD	SC	29926
R603 21 4A, -194	GRAVES ROBERT L	PO BOX 5818	HILTON HEAD ISLAND	SC	29938-5818
R600 21 2A	GRAVES WILLIAM K LINDA D JTROS	147 GRAVES ROAD	BLUFFTON	SC	29909
R600 22 632	HAWKINS RICHARD J SUSAN JTROS	1 TWIN OAKS CRT	SPARTABURG	SC	29306
R600 22 630	HOLROYDE EVELYN WEST TRUSTEE (EVELYN	82 LANCASTER BLVD	BLUFFTON	SC	29909-3131

**PROPERTY OWNERS NOTIFIED OF MAP AMENDMENT/REZONING REQUEST for R600-21-2 and -75; R603-21-4A, -6A, -194, and -195  
from Rural and Rural-Transitional Overlay to Rural, Suburban, and Commercial Regional (7 parcels, 142.91 acres)**

PIN_	Owner1	MailingAdd	City	State	ZIP
R600 21 74	HOPSON SUSAN GRAVES	1836 OMNI BLVD	MT PLEASANT	SC	29466
R610 21 18, -18A, -18B	HTP BLUFFTON LLC	701 CRESTDALE RD	MATTHEWS	NC	28105
R600 21 7A, -665	HUDSON VERNA G N/K/A VERNA G CROSBY	7 PEPPER HALL PLANT	BLUFFTON	SC	29910
R600 21 663	ISLAND WEST COMMERCIAL ASSOCIATES LL	PO BOX 2395	BLUFFTON	SC	29910
R600 22 623	JELLO DONALD E SCHNEIDER KATHY L JT	4 OAKLAND PLACE	BLUFFTON	SC	29910
R600 22 694	KELLY MICHAEL T BARBARA D TRUSTEES M	9709 HERON AVE NORTH	WHITEBEAR LAKE	MN	55110
R600 22 732	KULLMAN KENNETH G & ELEANOR AVERILL	10180 KINROSS RD	ROSWELL	GA	30076
R600 22 634	LAMBERT PAUL	1352 WAUKAZOO DR	HOLLAND	MI	49424-2689
R600 22 731	LONG MICHAEL DALE MARGARET PHILIPS	10110 CROOKED CREEK CT	FAIRFAX STATION	VA	23039
R600 22 697	MANN LINDLEY S JR KATHLEEN A JTROS	2584 ABINGTON PIKE	RICHMOND	IN	47373
R600 21 3A	MCKIM JANICE ANNE G	143 GRAVES RD	OKATIE	SC	29909
R600 22 866	MILLER RUSSELL R JACQUELINE L JTROS	36 PERSIMMON ST UNIT 203	BLUFFTON	SC	29910
R600 22 618	MOONEY JOHN J III & V PISULA V PAUL	217 FREDERICK ST	HANOVER	PA	17331
R600 22 726	OEYDT KENNETH E LETA ANTONIA L JT	27 TICE LANE	PERKASIE	PA	18944
R600 22 638	PARRISH PATRICIA A	521 MEADOWOOD	JOLIET	IL	60431
R600 22 724	PAUL ALBIN MATHIAS AND MARY ANN MATH	18633 MAPLE LEAF DR	HUDSON	FL	34667
R600 22 698	PETERS CLAUDIA H	12 SHADOW LANE	CHADDS FORD	PA	19317
R600 22 627	PRANCAN ROLAND T KATHI M JTROS	10 HASTY POINT PLACE	BLUFFTON	SC	29909
R600 22 617	PRESOGNA ANTHONY I BARBARA	68 LANCASTER BLVD	BLUFFTON	SC	29909
R600 21 233	PROGRESSIVE VISION INVESTMENT & TRAD	1740 PINE KNOLL AVE	MASSILLON	OH	44646
R600 22 727	ROBERT A POINTON REVOCABLE TRUST	46 GREENWOOD DR	BLUFFTON	SC	29910
R600 22 636	RUFFNER DENNIS LEE MICHELLE WEBB	2109 CEDAR ELM TERR	WESTLAKE	TX	76262
R600 22 637	SAVOURY TERRI EIKO TRUSTEE SAVOURY F	96 LANCASTER BLVD	BLUFFTON	SC	29909
R600 22 624	SCHOLLINS WILLIAM F & LYNN A	70 LANCASTER BLVD	BLUFFTON	SC	29909
R600 22 730	SMITH PETER O SUSAN R JTROS	16 FERNCLIFF BEACH	ERIE	PA	16505
R600 22 642	SPEAR JAMES T ELAINE K JTROS	844 WILLIAMSBURG DRIVE	NAPERVILLE	IL	60540
R600 22 639	SPEARMAN STEPHEN A & JANE L	1102 KIRKEENAN CIR	MORRISVILLE	NC	27560
R600 21 19	SSSB PROPERTIES LLC	3557 TRASK PKWY	BEAUFORT	SC	29906
R600 22 725	STEVER SAMUEL WILLIAMS MAUREEN JTR	5 GEORGETOWN CIRCLE	NEWTON	PA	18940
R600 22 619	VANADIA STEVEN A LYN F JTROS	8 DOBY RD	mendham	NJ	07545
R600 22 621	VOLBECK JENS & HELLE A	7 OAKLAND PLACE	BLUFFTON	SC	29909
R600 22 721	WATERHOUSE PATRICK SCOTT JUDITH CHAR	8427 E HOMESTEAD CIR	SCOTTSDALE	AZ	85266-1377
R600 22 723	WELCH JOHN K MICHELE M JTROS	1328 SKIPWITH ROAD	MCLEAN	VA	22101



COUNTY COUNCIL OF BEAUFORT COUNTY  
**BEAUFORT COUNTY PLANNING DIVISION**  
Multi-Government Center • 100 Ribaut Road, Room 115  
Post Office Drawer 1228, Beaufort SC 29901-1228  
Phone: (843) 255-2140 • FAX: (843) 255-9432

November 30, 2012

Mr. Marc Orlando  
Assistant Town Manager for Growth Management  
Post Office Box 386  
Bluffton SC 29910

**Re: Graves Property / Pepper Hall**

Dear Marc:

As required in the implementation policies of the Southern Regional Plan, I am forwarding to you a full application for a comprehensive plan map amendment, and a zoning ordinance map amendment for seven (7) parcels comprising 142.91 acres in Southern Beaufort County. This application by Mr. Robert Graves and other family members triggers the review of the proposal under the rules governing projects of Regional Significance. I am attaching the governing document that sets forth the criteria for reviewing proposals of this magnitude.

I would like to request a response from the Town of Hilton Head Island by ***Friday, December 14, 2012***, reflecting the concerns and issues you believe are the factors that Beaufort County should consider in the evaluation of this request. The Beaufort County Planning staff will take the comments from all the local governmental entities, and will factor the comments into our staff report to the Beaufort County Planning Commission. The Beaufort County Planning Commission will hear this application on ***Monday, January 7, 2013***.

The Beaufort County Planning Department greatly appreciates your cooperation in this matter. If you have any questions, please contact me at (843) 255-2140 or [barbarac@bcgov.net](mailto:barbarac@bcgov.net).

Sincerely,

Anthony Criscitiello  
Planning Director

cc: Weston Newton, Chairman, Beaufort County Council  
Gary Kubic, County Administrator  
Bryan Hill, Deputy County Administrator

LETTERS WERE ALSO SENT TO THE FOLLOWING AGENCIES:

**Re: Graves Property / Pepper Hall (dated 11/30/12; sent 12/3/12)**

Mr. Charles Cousins  
Hilton Head Island Planning Director  
1 Town Center Court  
Hilton Head Island, SC 29928

Ms. Carol Crutchfield  
Beaufort County School District  
Facilities Planning & Construction  
Post Office Box 309  
Beaufort SC 29901

Ms. Brana Rogerson  
City of Hardeeville Planning Director  
Post Office Box 609  
Hardeeville SC 29927

Mr. LeNolan Edge  
Jasper County Planning & Building Services Director  
Post Office Box 1659  
Ridgeland, SC 29936

November 07, 2012

Tony Criscitiello  
Beaufort County Planning Director  
Post Office Drawer 1228,  
Beaufort SC 29901-1228

Dear Tony,

We are pleased to submit the revised application per specific directive from the Beaufort County Council for reconsideration of the Zoning Map Amendment and Future Land Use Map Amendment by the Beaufort County Planning Commission at its December 3, 2012 meeting for the following parcels:

- R603-021-000-007B
- R603-021-000-0195
- R603-021-000-0194
- R603-021-000-004A
- R603-021-000-06A
- R600-021-000-0075
- R600-021-000-0002

This amended application is submitted for your review and subsequent delivery to the members of the Planning Commission in accordance with all applicable standards set forth in the Beaufort County Zoning and Development Standards Ordinance and those concerns voiced during the previous meetings. The applicants have worked in earnest to prepare this revised application that would satisfy the concerns raised by the Planning Commission and community stakeholders during the review of the initial application submitted in December 2011. The revisions are noted in the application and appropriate attachments. No development for this property is planned for this time, and the applicants are seeking this rezoning in order to establish a long-term planning framework for the property and the family that owns it.

This application has been modified to incorporate the concerns and suggestions regarding protection of the Okatie River, mitigation of future traffic impacts, and management and growth of auto-centric commercial growth voiced by the general public during the previous reviews for zoning modification of these properties. In 2001, Beaufort County Planning Staff advised that new growth in this area should be concurrent with improved capacity on Highway 278 and in a comprehensive manner instead of parcel by parcel.

To this end, the area included in this revised application has been reduced from +/- 142 acres to +/- 113 acres allowing review in a comprehensive manner, but the property included in this application is no longer contiguous to the Okatie River and does not include the +/- 28 acres presently being discussed for conservation purposes. The application maintains the initial request for +/- 65 acres to be rezoned into the Commercial Regional Zoning District with the concurrent change to the Regional Commercial Future

Land Use Map category, and the balance (+/- 48 acres) be rezoned into the Suburban Zoning District with the concurrent change to the Neighborhood Mixed Use Future Land Use Map category. Not only are these changes consistent with area growth and infrastructure conditions, but a change to these designations would enable property owners plan for future high quality mixed use communities that are encouraged by the 2010 Beaufort County Comprehensive Plan and enabled by the Beaufort County Zoning and Development Standards Ordinance.

As such, this amended and revised application is being submitted pursuant to an agreement with County Council and in response to the changing infrastructure and community development conditions in this area including of (a) the widening of US Highway 278 and State Highway 170, (b) the extension of Bluffton Parkway, and other major roadway improvement projects, (c) the removal of development potential due to acquisition of the 65 acre Rowe commercial tract to the immediate south, and (d) the recent acquisition by Beaufort County of the 101 acre Okatie Marsh tract to the northwest. Each of these actions support this Amended Rezoning application and expansion of zoning potential for the properties included in this application. Furthermore, the property described in this application no longer includes the recently platted 4,100 linear foot x 300 foot wide strip of land adjacent to the Okatie River that will be designated as a "River Protection Buffer" upon completion of separate, distinct and concurrent negotiations with Beaufort County.

In addition to all appropriate development standards required by the Beaufort County Zoning and Development Standards Ordinance, this property will be governed by a Development Agreement with specific and additional standards and limitations designed to provide additional protection and safeguards to the Okatie River as well as minimize future impacts on US Highway 278 and other roadways in Beaufort County. This Development Agreement will provide certainty for both the property owners as well as Beaufort County. A summary of the major points of the Development Agreement is included as Attachment 7 to this application narrative.

In the attached package you will find all required material previously submitted including the applications, an explanative narrative (item 9 on the application form), a preliminary Traffic Impact Analysis as referenced by Section 106-492, an Environmental Impact Assessment, and Letters of Service Adequacy required by the ordinance. In addition, Attachment 7 provides a Development Agreement Summary indicating key points pertaining to density, restrictions on land use, and other important factors relating to long-term planning and development on the property that will be more precisely set forth in a future Development Agreement (Development Agreement).

Please do not hesitate to contact me if you should have any questions regarding the material submitted.

Sincerely,



Milt Rhodes

*for Robert Graves, Paul Graves, John Graves*

REVISED APPLICATION

NOVEMBER 7, 2012

**APPLICATIONS FOR THE  
AMENDMENT OF THE OFFICIAL  
ZONING MAP OF BEAUFORT  
COUNTY  
&  
THE AMENDMENT OF THE  
FUTURE LAND USE MAP OF THE  
2010 BEAUFORT COUNTY  
COMPREHENSIVE PLAN**

This document serves as the Narrative for the Pepper Hall Applications for the amendment of the Official Zoning Map of Beaufort County and 2010 Comprehensive Plan - Future Land Use Map amendments and contains all maps, tables, figures, illustrations, and attachments associated with the application for Parcels R603-021-000-007B, R603-021-000-0195, R603-021-000-0194, R603-021-000-004A, R603-021-000-06A, R600-021-000-0075, R600-021-000-0002.

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**APPLICANTS AND PLANNING TEAM**

**Applicants** ..... Robert Graves  
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Paul Graves  
  
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**Surveyor** ..... Coastal Surveying  
  
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Bluffton, SC 29910  
843.757.4466

**Traffic Consultant** ..... SRS Engineering, LLC  
  
Todd Salvagin  
801 Mohawk Dr.  
West Columbia, SC 29169  
803.361.3265

**Intent Statement**

In accordance with the Beaufort County Zoning and Development Standards Ordinance per section 106-491 and per specific directive from the Beaufort County Council for reconsideration, the applicant is submitting this revised application and is seeking to have the Future Land Use Map of the 2010 Beaufort County Comprehensive Plan amended to correct an error in the Future Land Use Map and to make necessary adjustments to the map in light of the changed conditions in the general vicinity of this property. Moreover, the applicant is also seeking amendments to the Official Zoning Map for Beaufort County for the parcels identified listed Table 1. Making these amendments will allow for implementation of the 2010 Beaufort County Comprehensive Plan on this property and assist in executing the specific goals of the Southern Beaufort County Regional Plan (e.g. Objective 3.1) by encouraging the development of mixed use developments in the vicinity of the on-going and planned infrastructure improvements in Southern Beaufort County along the US Highway 278 growth corridor while providing specific site, stormwater, transportation, and development improvements in the western Bluffton Township area in the future. With no development presently planned, this application is submitted because the properties identified in this application meet the criteria for both actions and the applicants desire to establish a long-term planning framework that will allow mixed-use development alternatives on this property that will have a positive economic, environmental and cultural impact on current and future residents of Beaufort County.

**Table 1: Ownership, Parcel Identification, Current and Proposed Future Land Use Map and Zoning Districts**

Ownership	Parcel Identification	Current FLUM	Proposed FLUM	Current Zoning	Proposed Zoning
Robert Graves	R603-021-000-007B*	Community Commercial	Regional Commercial	Rural – TO	Commercial Regional
	R603-021-000-0195	Community Commercial	Regional Commercial	Rural – TO	Commercial Regional
	R603-021-000-0194	Rural	Regional Commercial	Rural	Commercial Regional
	R603-021-000-004A*	Rural	Regional Commercial & Neighborhood Mixed Use*	Rural	Commercial Regional & Suburban
	R603-021-000-06A	Rural	Regional Commercial	Rural	Commercial Regional
John Graves	R600-021-000-0075*	Rural	Neighborhood Mixed Use	Rural	Suburban
Paul Graves, Sr.	R600-021-000-0002*	Rural	Neighborhood Mixed Use	Rural	Suburban

**\*NOTE:** The applicant has amended the application to show that **Parcel R603-021-000-004A** shall have +/- 18 acres rezoned into the Suburban zoning district and remainder of that parcel to be rezoned into the Commercial Regional zoning district. **Parcel R603-021-000-007B** shall have a portion (approximately 7 acres) of it transferred into a newly platted river frontage parcel and shall be combined with a portion of **Parcel R603-021-000-004A** (approximately 11 acres) effectively separating contiguity with the Okatie River. Likewise, **Parcel R600-021-000-0075** & **Parcel R600-021-000-0002** have been reduced by approximately 5 acres each in order to establish newly platted parcels with direct river frontage. All property included in this application shall be governed by the Development Agreement providing specific restrictions on land use, density, and development standards (see Attachment 7: Development Agreement Summary).

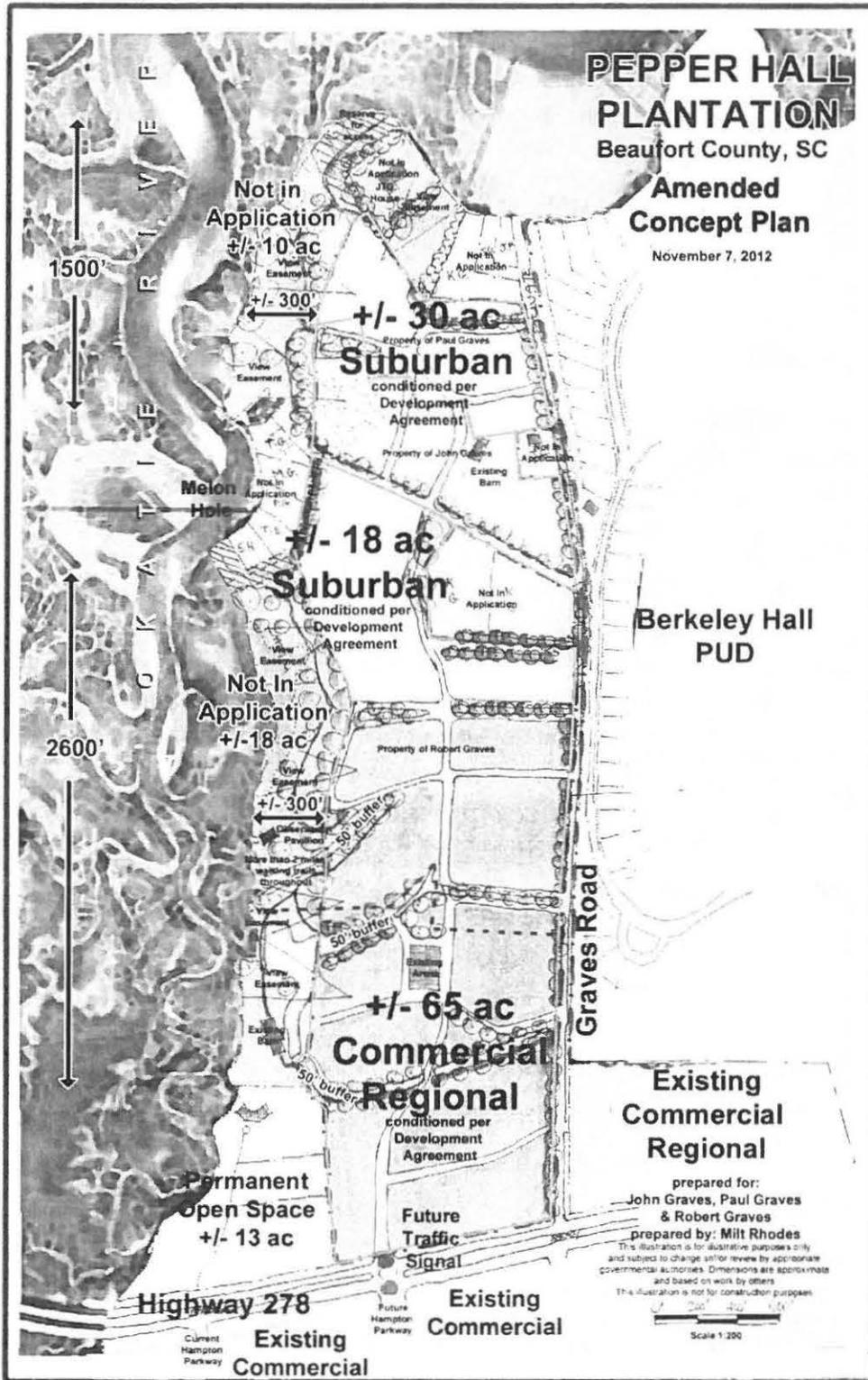


Figure 1: Pepper Hall Proposed Zoning & Concept Plan provide for illustrative purposes (Attachment 2 shows current zoning configuration)

## Background & Description

The property included in this application is bordered by US Highway 278, Graves Road, and several already developed parcels. The property is known as Pepper Hall. The acreage assembled in this application totals approximately 113 acres ~~142.91 acres~~ and includes parcels owned by Robert Graves, John Graves, and Paul Graves. Table 1.1 identifies the parcels included this application. The property is developed and has been occupied by members of the Graves family for many years. Presently the property under consideration in this application contains of numerous houses, shops, barns, a riding ring, and 22,000 square foot covered riding arena and also includes several docks providing access to the Okatie River. A large meadow borders US Highway 278 the balance of the site is wooded. The topography on the property is gently rolling with a combination of soils typically in the Lowcountry.

As indicated in **Attachment 1: Vicinity Map** the adjacent parcels to the west, north and east of the properties included in this application are composed by a number of existing residential lots. This property is bordered on the east by the Berkeley Hall Planned Community (Meggett PUD) and Commercial Regional parcels currently being developed. The Island West Planned Commercial Development is located to the south with buildings presently under construction. Additionally, because of US Highway 278 widening improvements will have a primary access point relocated to the site of the future Hampton Parkway intersection which lies directly south of the subject property connecting to US Highway 278 at the planned traffic signal location. The Town of Bluffton has authorized high intensity commercial development to the immediate south of the subject property which is governed by the Buckwalter Development Agreement and the Town of Bluffton Unified Development Ordinance. US Highway 278 is adjacent to the southern property line of the subject property and is presently being widened into a 6-lane urban divided highway to accommodate planned growth. There are several additional Planned Unit Developments to the south with their primary access being Hampton Parkway. A recent acquisition of property by Beaufort County on the eastern shoreline of the Okatie River headwaters has eliminated approximately 65 acres of commercial & residential development from the immediate vicinity and effectively expanded the planned Okatie River Regional Park.



Figure 2: Habersham Main Street. It is understood that the Habersham community in Northern Beaufort County provides a project of significance and was used to establish standards for Mixed Use Development and Traditional Neighborhood Developments in Beaufort County.

The communities such as Newpoint, Habersham, Stock Farm, and the Calhoun Street Promenade serve as inspiration for future planning at the Pepper Hall site. The multiple revisions to the Beaufort County Zoning and Development Standards Ordinance over the last few years has strengthened the support and enable property owners to create walkable mixed use communities using the provisions contained in Section 106-1098, Section 106-1293, and Section 106-2376. The United States Environmental Protection Agency reports that mixed use communities provide many community benefits including improvements to water quality, traffic management and generation of revenue for community development, and the property owners in this application share this excitement over the potential enabled by the current Beaufort County Zoning and Development Ordinance.

The Beaufort County 2010 Comprehensive Plan indicates that Southern Beaufort County is made up of large amenity based master plan communities which dominate the landscape. The Comprehensive Plan also indicates that mixed use developments are to encouraged for a variety of reasons including pedestrian access, traffic mitigation, and improved inter-parcel connectivity. As such, this application serves to utilize the present standards of the Beaufort County Zoning and Development Standards as a long-term planning framework to work toward fulfilling the overarching community growth goals of the Beaufort County 2010 Comprehensive Plan.

## Current Zoning

As shown in **Attachment 2: Beaufort County Current Zoning** the parcels included in this application are currently zoned under the "Rural" zoning designation. The two southern-most parcels (R603-021-000-007B, R603-021-000-0195) included in this application have the "Transitional Overlay" designation applied to them which occurred as a result of a 2002 zoning decision whereby a parcel formerly owned by the applicant located on the eastern side of Graves Road was rezoned to under the Commercial Regional zoning district. This parcel is currently being developed. The application of the Transitional Overlay designation was authorized to indicate that future growth was forthcoming for this area, but the infrastructure was not fully in place to support commercial development at the time of the zoning action. As such and in accordance with Section 106-991 of the Beaufort County Zoning and Development Standards Ordinance, which states that land under the Transitional Overlay designation "... is anticipated for development in ten to twenty years" reconsideration for a rezoning to Commercial Regional designation and a transition to Suburban district (as advised during the 2002 zoning case – **Attachment 4: September 25, 2001 Beaufort County Planning Commission Staff Report**) is appropriate. Completed, ongoing, and planned capital improvements in the area clearly indicate that this area is within a planned growth corridor. Improvements of note include a) the widening of US Highway 278 from 4 lanes to 6 lanes, b) a connector roadway allowing the residents of Island West to have safe access to US Highway 278 once widened, c) the planned installation of a traffic signal at the location of Future Hampton Parkway located immediately to the south, and d) installation of multiple frontage roads to provide improvements in inter-parcel connectivity along US Highway 278. Also, Beaufort County is in the process of developing a regional park to the south of the properties in this area recognizing the need for recreational opportunities for a growing population.

The aforementioned expansion of US Highway 278 is Phase IV of a planned capital improvement project whereby the road is to be widened from 4-lanes to 6-lanes. Other improvements in the vicinity include an expansion to SC Highway 170 located approximately 1 mile away is also being improved from a 2-lane rural road to a 4-lane divided parkway in order to accommodate planned growth. Furthermore, the completed extension of the Bluffton Parkway (formerly the East/West Connector) and ultimate construction of the US Highway 278 Flyover project will provide for additional movement for traffic to occur off of US Highway 278. It must also be noted that approximately 200 acres has been removed from the development realm due to successful transactions coordinated by the Rural and Critical Lands Program of Beaufort County for purchase of permanent open space in the general vicinity effectively eliminates approximately 1,000 residential units and more than 450,000 square feet of commercial development from area roadways.

## 2010 Comprehensive Plan & Future Land Use Map

The Future Land Use Map of the 2010 Beaufort County Comprehensive Plan included as **Attachment 3: Beaufort County Future Land Use Map** shows that the parcels included in this application are designated with either the Community Commercial or Rural classification. However, the boundaries shown on the Future Land Use Map do not correspond with actual zoning or parcel boundaries at this location as is prescribed in Section 106-924.

The Beaufort County Planning Department Website clearly states with respect to the Comprehensive Plan that,

"This plan is a "living" document and as such should be reviewed and updated on a regular five year basis. However, the plan should also be reviewed on a yearly basis, and the implementation plan defined and updated for the upcoming year." [www.bcgov.net/departments/administrative/beaufort-county-council/comprehensive-plan/](http://www.bcgov.net/departments/administrative/beaufort-county-council/comprehensive-plan/)

The applicant believes that the designation of the Community Commercial future land use has been misapplied for this property and creates an inconsistent situation with the adjacent neighbor to the east. As such the Future Land Use Map of the 2010 Comprehensive Plan should be amended to correct this oversight. Figure 2 below shows the disparity and mapping inconsistency as it applies to parcels R603-021-000-007B and R603-021-000-0195.

In addition and with specific respect to the relationship between zoning districts in the Beaufort County Zoning and Development Standards Ordinance and Land Use Designations of the Future Land Use Map, the Community Commercial Future Land Use designation corresponds to the Commercial Suburban zoning district which was previously recommended by the Beaufort County Planning Department as the recommended zoning for a portion of the property included in this application, however, per Section 106-961, the subject property does not meet the standards prescribed in the Beaufort County Zoning and Development Standards Ordinance, thus not allowing application of said district. More specifically, in order to meet the standards of the Commercial Suburban zoning designation, the property would need to be less than 20 acres (which it is not) and be located further than 1 mile away from other commercial development (also which it is not). Therefore, per the limitations imposed by the Beaufort County Zoning and Development Standards Ordinance this zoning district is not authorized for use and may not be considered.

Consistency between the Official Zoning Map and the Comprehensive Plan is critical for successful implementation of County-wide goals. The parcel to the immediate east has been zoned Commercial Regional since 2002 establishing a zoning precedent on an adjacent property. As such, the Future Land Use Map erroneously demarcates the same parcel as Community Commercial which is inconsistent with the guidelines and standards set forth in the 2010 Comprehensive Plan creating another inconsistency for both the Future Land Use Map and the 2010 Comprehensive Plan. **If this inconsistency is not corrected, the parcel immediately to the east will be out of compliance with the 2010 Comprehensive**

Plan continuing the disparity possibly creating additional hardships on both property owners and future decision makers during future development and zoning deliberations. The proposed Development Agreement will help to both mitigate concerns regarding expansion of regionally significant commercial development, and bring these properties and the Future Land Use Map into consistency with both existing conditions and future growth.



Figure 3: Comparison of Current Zoning Districts and Future Land Use Map Designations

The 2010 Beaufort County Comprehensive Plan states that Community Commercial areas have “uses [that] typically serve nearby residential areas, such as a shopping district anchored by a grocery store.” However, the built commercial development on the property immediately east does not meet that criteria and is regional in character, thus furthering the misapplication of the Community Commercial designation. The Comprehensive Plan also states that “Regional Commercial uses are those uses due to their size and scale that will attract shoppers and visitors from a larger area of the county...” It has been determined that US Highway 278 is considered as a major regional road and carrying a significant amount of regional traffic with users from inside and outside of Beaufort County. Phase IV of the planned improvements to US Highway 278 identified in Chapter 10 of the Beaufort County Comprehensive Plan and scheduled to begin construction in early 2012 firmly identifies US Highway 278 as the dominant regional transportation feature in southern Beaufort County. Seven frontage road projects are identified in the Comprehensive Plan along US Highway 278 to help achieve the goals identified in the Comprehensive Plan including “inter-parcel connectivity,” enhance regional travel speeds and reduce congestion. In addition, a traffic signal is planned for a full access intersection at the location of Future Hampton Parkway and is identified in the Beaufort County Capital Improvement Plan. Considering the road improvement actions (built or scheduled) and other statements in the 2010 Comprehensive Plan, the “Regional Commercial” Future Land Use Map designation is more appropriate for parcels R603-021-000-007B, R603-021-000-0194, R603-021-000-004A, R603-021-000-06A and R603-

021-000-0195. With respect to traffic impacts, the 2010 Beaufort County Comprehensive Plan also states on page 10-3 that “it is not feasible or practical to provide LOS “D” conditions on all roads” recognizing that additional measures will be necessary to reduce congestion in certain areas.

As stated in the 2010 Comprehensive Plan for Beaufort County, the preservation of rural property has been a long-term planning goal for Beaufort County. These parcels have been owned for generations by members of the Graves Family and this property has been used for a variety of purposes, including pasture and grazing lands. However, the property included in this application is not rural by the definition used by Beaufort County. Page 4-19 of the 2010 Comprehensive Plan defines “Rural” with a collection of attributes that include the following:

- Places where people live, including clusters of unincorporated and unofficial communities with local place names
- Places with cultural roots and heritage where multi-generational families live, many of whom live on “heirs” property
- Small scale services and businesses that serve rural areas
- Small institutions such as churches, schools, community centers, and post offices
- Agricultural and timbering operations
- Forested and wooded areas
- Low density residential
- Pristine Lowcountry natural environment
- Fishing villages

The parcels included in this application share little in common with the attributes used to define “rural” areas. There are no “unofficial” communities, “heirs” property/tenure issues, small scale businesses serving rural areas, churches, community centers, schools or post offices. There is no fishing village, and the Lowcountry environment has been cut over, planted, harvested, and grazed many times over during the 130 year ownership history. While portions of the property may share some characteristics that is typical of a Lowcountry environment, the parcels included in this application are surrounded on three sides by intense suburban and urban development and represents the western edge of growth in the Bluffton Township area.

It is important to note that the applicants have attempted to rezone parts of this property before. That previous application was denied in part because the existing transportation infrastructure was not sufficient to service the potential growth enabled by the zoning district change. The application, filed in 2001, was submitted prior to implementation of the current Zoning and Development Standards Ordinance and the 2010 Comprehensive Plan for Beaufort County, and sought to rezone a large portion of the property owned by Robert Graves into the Commercial Regional zoning district. The September 2001 Planning Commission Staff Report noted that the Beaufort County Short-term Needs Study for US Highway 278 showed that widening of the highway to 6 lanes and installation of the then referred to, E-W connector would adequately accommodate traffic concerns raised by the rezoning and accommodate additional Commercial Regional development on Highway 278.

The preliminary Traffic Impact Assessment (TIA) included with this application indicates that there is sufficient capacity to handle trips generated from this site. Furthermore, through the use of restrictive covenants and a Development Agreement, commercial and residential development shall be limited to that identified in **Attachment 7: Development Agreement Summary**. Regional precedent on US Highway 278 shows that “pass-by” traffic is a dominant component of total traffic. Furthermore, since the action sought in this application will support the creation of mixed use development it can be anticipated that a high degree of internal trip capture will be achieved (ranges are estimated between 15% and 35% based on regional precedents). Given the close proximity to single-use residential developments it can be anticipated that some percentage of total trips will be accounted for by pedestrian and bicycle trips. Other traffic mitigation efforts such as continued planning for inter-parcel connectivity, implementation of bike and pedestrian facilities, and improvement in both local and regional transit will help to maximize the reduction of total traffic. These measures are consistent with specific goals of the 2010 Comprehensive Plan. Additionally, the TIA reports that other planned improvements for area roadways, in particular the signalized intersection at Future Hampton Parkway will help disperse this potential traffic throughout the network.

With regard to specific land use and zoning recommendations, during the unsuccessful rezoning request for the parcels adjacent to US Highway 278 in 2001, it was identified by Beaufort County planning officials that a transition to Suburban for the parcel on the west side of Graves Road would be appropriate. The staff report from that case states that, “a transition to a mixed-use zoning district would better implement the Comprehensive Plan. Generally, Commercial Regional areas are surrounded by less intense mixed-use districts either Urban or Suburban...” page 4, September 25, 2001 Beaufort County Planning Commission Staff Report. This report is included as **Attachment 4: September 25, 2001 Beaufort County Planning Commission Staff Report**.

The mixed use district options identified in the 2010 Comprehensive Plan are Urban Mixed Use and Neighborhood Mixed Use. Considering the regional growth, the on-going and planned capital improvements identified for this region and immediate vicinity and the previous recommendation by the Beaufort County Planning Department specific to mixed use designation, a Mixed Use category is a more appropriate designation than Rural and a change to the Future Land Use Map is warranted.

## Summary

This application has been revised to address the concerns voiced during review of the previous application. The revisions indicate the specific directive of Beaufort County Council for reconsideration. This application for the parcels identified and addressed in this narrative seek an amendment to the Official Zoning Map of Beaufort County and an amendment to the Future Land Use Map of the 2010 Comprehensive Plan of Beaufort County into the Suburban and Commercial Regional Zoning Districts established by Beaufort County in the Zoning and Development Standards Ordinance and governed by a Development Agreement specific to the property. The summary table (Table 1) indicates the proposed Future Land Use Map and Zoning District changes requested in this application.

While no development is planned for this property, and as stated earlier, the applicants desire to establish a long-term planning framework for future growth on this property, it must be noted that all applicable standards with regard to landscape, lighting, corridor review, stormwater management, connectivity, open space, pathways, sidewalks, density and others would apply to any and all future development activities on this site.

The parcels are an assemblage of tracts that are presently zoned Rural and Rural with the Transitional Overlay designation. Because of existing and planned improvements in the vicinity, the ability to provide adequate service for proposed future growth as provided in the Letters of Service, the Traffic Impact Assessments findings of sufficient capacity, and satisfying all other requirements established in the criteria of the Beaufort County Zoning and Development Standards Ordinance for Zoning Map Amendments and Future Land Use Map Amendments, the requested changes should be approved.

## **Criteria for Amending the 2010 Comprehensive Plan Future Land Use Map (Section 106-494)**

### **Criteria 1. Whether capital investments, population trends, land committed to development, density, use, or other conditions have changed to justify the amendment.**

Planned capital investments and other improvements in the vicinity including the widening of US Highway 278, installation of frontage roads, improvements to intersections to improve traffic flow and safety, and elimination of development entitlements in other areas of this general vicinity through the purchase of development rights, fee simple acquisition or other mechanisms, have established that a change to the future land use map (and subsequent official zoning map) for these properties are warranted and justify the amendment.

### **Criteria 2. Whether the proposed amendment is consistent with the comprehensive plan's goals and policies.**

A change in the Future Land Use Map for this property is consistent with the overall goal of the 2010 Comprehensive Plan by encouraging growth of mixed use centers in Beaufort County and providing opportunity to provide development options including the provision of diverse and affordable housing, work centers, and further supporting existing and planned capital improvements. Furthermore, as a portion of this application seeks to correct the misapplication of certain Use Designations, an amendment would help to reduce uncertainty and clarify a current inconsistency in the Future Land Use Map.

### **Criteria 3. Whether the proposed amendment is necessary to respond to state and/or federal legislation.**

There is no state or federal legislation that is pertinent to development activities at this location. This criteria does not apply.

### **Criteria 4. Whether the proposed amendment would result in development that is compatible with surrounding land uses.**

Changes in future land use designations for the parcels included in this application will result in development that is compatible with surrounding land uses because the current land uses in this general area are already developed at high commercial intensities and are supported by existing and planned upgrades to regional infrastructure.

**Criteria 5. Whether, and the extent to which, the proposed amendment would affect the capacities of public facilities and services. Letters of Verification shall be provided from the appropriate agency to determine the adequacy of current facilities. A traffic impact analysis shall be required.**

Letters of Service provision and adequacy are provided in Attachment 5. A preliminary Traffic Impact Analysis was performed for the parcels based on maximum development capacity as no development is planned for this property at this time and the applicants are not seeking a PUD zoning map amendment for this property. Maximum development capacity for the property shall be governed by a Development Agreement for the property and in accordance with the provisions of state and local enabling rules and ordinances. A summary is included as **Attachment 7: Development Agreement Summary**. A full Traffic Impact Analysis shall be performed at time of development permitting. The preliminary Traffic Impact Assessment determined that with the current improvements on US Highway 278, the Bluffton Parkway and other regionally significant roadways, that there is sufficient capacity to support the proposed zoning changes. Furthermore, with the reductions in average daily traffic due to the acquisition of property through the Rural and Critical Lands program of Beaufort County, a significant amount of development has been eliminated from the regional road network.

**Criteria 6. Whether and the extent to which the proposed amendment would result in negative impacts to natural resources. A protected resources survey and environmental impact assessment shall be required for all land use map amendments.**

Natural resources will be protected by adherence to and application of the current Beaufort County Zoning and Development Standards. An environmental impact assessment is provided. A site study by Sligh Environmental of Savannah Georgia has established that there are no threatened or endangered species on this site and none are known to exist within 500 feet of the project area. **Attachment 5: Threatened and Endangered Species Report** documents the findings. No development is planned for this property at this time, and a protected resources survey is premature. A full protected resources survey will be performed as part of development planning on this property.

## **Criteria for Amendments to the Official Beaufort County Zoning Map (106-492)**

This application has been prepared with the acknowledgement that mapping errors are represented on the Future Land Use Map of the 2010 Beaufort County Comprehensive Plan and that correction will be made as a matter of course. Considering that the appropriate revisions are made to the Future Land Use Map as requested in order to correct those mapping errors on the basis presented in this application, the proposed application meets or exceeds the criteria required for amending the Official Zoning Map of Beaufort County.

Section 106-492 of the Beaufort County Zoning and Development Standards Ordinance provides the criteria for amending the Official Zoning Map for Beaufort County. Each Criteria is identified below and an explanative statement as to why this application meets each requirement.

### **Criteria 1. Change is consistent with the Comprehensive Plan**

The 2010 Comprehensive Plan for Beaufort County identifies two conditions for the parcels included in this application on the Future Land Use Map (**Attachment 3: Beaufort County Future Land Use Map**). The Future Land Use Map shows that Parcel R603-021-000-007B-0000 is designated as Community Commercial, thus supporting the notion that commercial development is appropriate for this location. However, the designation of Community Commercial is inappropriate for this location and it should be changed to Regional Commercial because of the surrounding existing land uses and ongoing commercial development that is regional in character. The remainder of the property included in this application should be designated as Neighborhood Mixed Use as the property is not rural and does not meet the Comprehensive Plan's definitions of a rural area. Neighborhood Mixed Use supports the development of mixed use communities and the Suburban zoning District. Since these properties are adjacent to a major regional thoroughfare (US Highway 278) and serves the entire region with respect to work-place, residential and recreational environments, the Zoning District – Commercial Regional – based upon regional services is appropriate and a transition to a Suburban Zoning District serves to be consistent with a modified Future Land Use Map and stated goals of the 2010 Beaufort County Comprehensive Plan. This application is consistent with the Comprehensive Plan Recommendation 4-9 in that these tracts of land have been developed and rezoning of this parcel would allow for the infill and redevelopment of an important parcel in Southern Beaufort County. The zoning districts sought in this application (Commercial Regional and Suburban) enable and incentivize mixed use development.

### **Criteria 2. Change is consistent with Character of the Neighborhood**

The neighborhoods of Southern Beaufort County are characterized by the 2010 Beaufort County Comprehensive Plan as large, low-density, amenity based planned communities. The immediate neighborhoods (Island West & Berkeley Hall) adjacent and nearby to the properties in this application include high density commercial development with regional commercial as well as suburban residential characteristics. Single family development, civic uses, auto dealerships, convenience stores and other high intensity commercial uses are planned or

already constructed on adjacent parcels and in the immediate vicinity thus making the change consistent with the overall character of this area.

**Criteria 3. The extent to which the proposed zoning and use of the property is consistent with zoning and use of nearby properties.**

The zoning on the eastern boundary of the property along Graves Road is Commercial Regional and PUD (Attachment 2). The zoning on the southern boundary is also Planned Unit Development with regional commercial uses. The Town of Bluffton is also located to the south and consists of several Planned Unit Developments with high density regional commercial uses allowed. The property on the immediate western property boundary has been placed under a "Conservation Easement" using funds from the Rural and Critical Lands Program of Beaufort County and zoned Rural. As such, change of zoning at this property will be consistent with adjacent and nearby properties.

**Criteria 4. The suitability of the property for the uses to which it has been proposed.**

The land on these parcels is well suited to development and exhibits characteristics that are typical of many sites throughout southern Beaufort County. Since this site has been used as pasture land much of the site is cleared of trees. Soils are generally good with a low water table making development activities suitable for that property. An Environmental Impact Analysis has been prepared in accordance with the requirements of this section and is included with this document.

This property is also served by necessary infrastructure at considerable public investment and was recognized as having a rapidly changing character when a portion was designated as transitional. Public roads, water and sewer infrastructure, schools, emergency services, and other important community resources are of sufficient service capacity to be adequately provided for at this location.

**Criteria 5. Allow uses in the proposed district would not adversely affect nearby property.**

The uses allowed by the zoning districts sought on these parcels would not adversely affect nearby property because adjacent properties are zoned in a similar way and have not adversely affected properties in the area. Adjacent property on the east, south and west are presently zoned for high intensity commercial development and are in the process of construction. It should be noted that the Beaufort County Zoning and Development Standards Ordinance and the established review procedures will ensure that incompatibility issues be addressed during the time of development permitting.

**Criteria 6. The length of time a property has remained vacant as zoned, where the zoning is different from nearby developed properties.**

As previously stated, this property is not vacant and has been used for a variety of different purposes for many years. This criteria does not apply.

**Criteria 7. The current zoning is not roughly proportional to the restrictions imposed upon the landowner in light of the relative gain to the public health, safety and welfare provided by the restrictions**

The current zoning of these parcels offers no demonstrable gain to the public health, safety and welfare of the citizens of Beaufort County and represents an unwarranted burden for the applicants. It should be noted that there is presently no stormwater management for the existing uses on the site, and the existing properties are on well and septic sanitary systems. Improvements in both those conditions would occur with future development should it occur. New development developed in the proposed zoning districts will be subject to the current standards of the Beaufort County Zoning and Development Standards Ordinance including the more stringent volume based stormwater requirements all new development is subject to. Furthermore, because of TMDL requirements designed to improve conditions of the nearby Okatie River, future development will be required to meet the parameters for reducing pollutants including fecal coliform. Under current zoning where well and septic systems are the norm for low density rural development which have a high propensity for failure and additional fecal coliform contamination. Providing connection to regional water and sewer infrastructure, (identified in the Okatie River TMDL Strategy submitted by the South Carolina Department of Health and Environmental Control as a recommended strategy for meeting TMDL goals in this watershed) will offer water quality improvements while maximizing regional water and sewer infrastructure investments. The Okatie River TMDL published in September 2010 states that the most significant contributors of contamination by SC DOT maintained roads, non-regulated animal facilities, failing septic tanks and uncontrolled runoff. (pg. 30, SC DHEC Okatie River TMDL). As such, the current zoning does not offer a gain to public health, safety and welfare by the zoning restrictions of the Rural zoning district and a change to the mixed use districts proposed will.

**Criteria 8. A Traffic Impact Analysis (TIA) indicates that the rezoning request to a higher intensity will not adversely impact the affected street network and infrastructure in the higher zoning classification.**

A preliminary Traffic Impact Assessment (TIA) was prepared to evaluate traffic concerns associated with the proposed changes in zoning districts. As stated, no development is planned for this site and the applicants are proposing this rezoning to establish a long-term planning framework for this property. Furthermore, future development on this property would be governed by the limits established in a Development Agreement for the property. In order to assess potential traffic impacts associated with new development the following development program was used to determine potential traffic impacts associated with new development at this location.

- 700,000 square feet of high intensity commercial uses,

- 100,000 square feet of general office uses
- 500 residential units

This program provides a realistic estimate of development potential for these parcels and is based on regional trends in commercial and residential real estate and serves as the basis for the Development Agreement conditions. Site constraints associated with current Beaufort County Development Standards such as required parking, stormwater management, and landscape regulations were also taken into consideration to establish these baseline figures. The preliminary Traffic Impact Assessment is provided as **Attachment 6**. The findings contained in the TIA shows that transportation infrastructure will have adequate capacity for new development on these parcels. Existing, "pass-by" traffic makes up a significant number of trips reported in the preliminary TIA. Additionally, it should be noted that mixed-use zoning districts with a high degree of residential development will high rates of internal trip capture opportunities reducing overall impacts from new vehicle trips on roadways compared to single use zoning districts further reducing vehicle miles traveled (another recommendation of the 2010 Comprehensive Plan). Furthermore, during 2012, a significant amount of development has been removed from the surrounding vicinity through the use of permanent conservation easements or purchase of development rights by the Rural and Critical Lands program. A full Traffic Impact Analysis conducted at time of development planning will need to be conducted prior to approval of future development plans.

**Criteria 9. With respect to Rural – Transitional Overlay, water, sewer, police, fire, and emergency service demands must all be adequately served by providers.**

Letters of Adequate Service are provided starting on page 17 of this narrative. The letters provided indicate that there is sufficient ability to provide adequate service for future development of these parcels.

**Criteria 10. An Emergency Evacuation Analysis must show that new development does not result in lengthened evacuation times.**

As indicated by the Traffic Impact Assessment, there is sufficient capacity in planned improvements to the regional road network to sufficiently serve planned growth at this location. Future development activities will comply with Beaufort County Zoning and Development Standards with regard to evacuations in the event of emergencies. An analysis of Emergency Evacuation measures in place in Beaufort County indicates that development at this site will have multiple options and evacuation routes for evacuation in the event of an emergency. The parcels identified in this application are close to several principal arterials currently being expanded as part of planned growth, and close proximity to the Beaufort County line should allow for occupants of any new development at this location to evacuate the county quickly. Beaufort County emergency service professionals should continue to work with adjacent counties to make improvements in evacuation procedures.

## Environmental Impact Assessment

### Background:

The 113 acre ~~142 acre~~ assemblage of property in this application has been owned for several generations by the Graves Family. The property has been used for a variety of uses including grazing lands, residential property, and equipment storage. There are several houses, outbuildings, storage structures, barns, a covered riding arena, and a riding ring in addition to ancillary features including docks, silos, and boat storage areas.

### Site Conditions:

The property included in this application lies adjacent to three separate and distinct parcels and is more than approximately 300 feet away from the Okatie River which is described by SCDHEC as a "is a riverine tidal estuary with extensive intertidal salt marshes, sinuous channeling, barriers." (pg. 1, SCDHEC-Okatie River TMDL) and has been listed as an impaired water body since 2008 due to fecal coliform contamination. SCDHEC scientists have identified that sources of fecal coliform bacteria are commonly diffuse or nonpoint in nature and may originate from stormwater runoff, failing septic systems, agricultural runoff, leaking sewers, wildlife, and pets.

The property included in the application is typical of the Lowcountry and includes a combination of cut-over fields, former development sites, pasture land and partially cleared areas. There are several drainage ditches which carry water from the Berkeley Hall and Island West subdivisions traversing the property and breaking up the front portion of this property. There is a large lagoon near the center of the property that dates from the middle of the 20<sup>th</sup> century. Most trees are either planted pine or volunteer mixed hardwoods, and there are several large oaks scattered throughout the property with many being in and around existing house and barn plots. There are several known wetland areas on this property and an initial wetland assessment has been performed for the site identifying approximately 4 acres of wetlands. A wetland delineation survey has not been conducted for each property in the application because no immediate development is planned, but any new development activities would be subject to an Army Corps of Engineers determination before a development permit could be issued as is the standard of the Beaufort County Zoning and Development Standard Ordinance where applicable.

The property is characterized by gently sloping topography with several areas with notable elevations. Approximately ½ of the site is located in Flood Zones B & C with the remainder in Flood Zone AB. There are numerous private dirt roads located on this property and it is accessed via Graves Road which runs north to south and Brannan Point Road providing interior access to several private developed lots not included in this application. There are no known or perceived environmental safety concerns on this property.

No development is planned at this time. As with all development in Beaufort County and in accordance with the Beaufort County Zoning and Development Standards Ordinance, a Site Capacity Analysis will be

required at the time of development plan application. Resources subject to analysis and protection include those listed in Beaufort County Zoning and Development Standards Ordinance Section 106-1782, but generally includes non-tidal wetlands, river buffer areas, mature mixed-hardwood and pine forests and areas with threatened or endangered species. As previously stated, new development will be subject to full regulatory oversight where non-tidal wetlands are involved, but at a minimum a detailed threatened and endangered species study will be needed prior to issuance of any permit. No threatened or endangered species are known to be on the properties included in this application. A preliminary check of the regional database supports this assertion. A detailed Protected Resources Survey will be conducted at time of development permit application and subject to development standards of the Beaufort County Zoning and Development Standards Ordinance.

**Planning Considerations:**

The Okatie River TMDL published in September 2010 states that the most significant contributors of contamination by SC DOT maintained roads, non-regulated animal facilities, failing septic tanks and uncontrolled runoff. (page 30, SC DHEC Okatie River TMDL) and provides recommended implementation strategies for consideration by area local governments.

Changing the zoning district designation on this property into one that authorizes mixed-use development planning will allow for future development activities to utilize and enhance the environmental characteristics of the property and region to meet or exceed Beaufort County's stated goals of river protection, environmental preservation, neighborhood interconnectivity, reduction in vehicular miles traveled and regional economic development.

A site study by Sligh Environmental of Savannah Georgia has established that there are no threatened or endangered species on this site and none are known to exist within 500 feet of the project area. A Bald Eagle's nest has been identified in an adjacent parcel. Bald Eagles are no longer on the Threatened and Endangered Species list. However, as required by State and Federal legislation, management measures will be used to mitigate potential impacts.

No development is currently planned for these parcels included in this Environmental Impact Analysis prepared as part of this application. A detailed Protected Resources Survey will be prepared at the time of development planning and follow the method established in Section 106-1814 and 106-1815 of the Beaufort County Zoning and Development Standards Ordinance.

Stormwater management will occur in a manner that meets or exceeds all applicable standards required by Beaufort County, South Carolina or Federal water quality standards, rules, ordinances or other requirements.

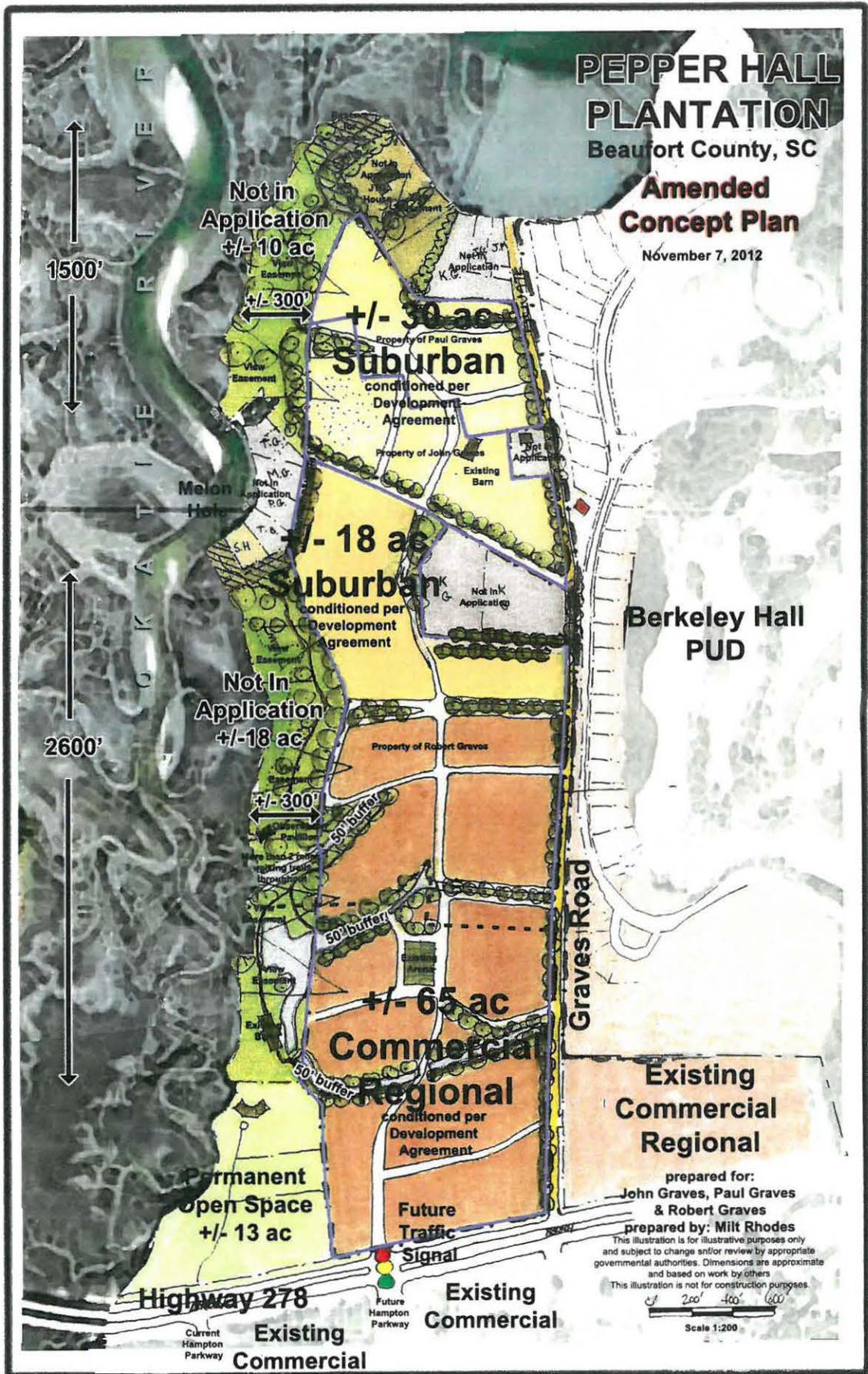
Future development proposed for this site will conform to all applicable standards of the Beaufort County Zoning and Development Standards Ordinance.

# PEPPER HALL PLANTATION

Beaufort County, SC

## Amended Concept Plan

November 7, 2012



prepared for:  
John Graves, Paul Graves  
& Robert Graves  
prepared by: Milt Rhodes  
This illustration is for illustrative purposes only  
and subject to change and/or review by appropriate  
governmental authorities. Dimensions are approximate  
and based on work by others.  
This illustration is not for construction purposes.  
Scale 1:200



**Memorandum**

To: Colin Kinton  
Beaufort County Traffic Engineering

From: Jennifer T. Bihl, PE, President *JTB*  
Bihl Engineering, LLC

Date: February 15, 2013

Subject: Additional requested information on the 01/22/13 Pepper Hall traffic study

This memo provides the requested follow-up information on the 01/22/13 Pepper Hall traffic study regarding growth rate, internal capture and daily site traffic.

**Growth Rate**

Based on discussions with staff, the 2018 and 2023 analysis was run for the following intersections with a 2.5% per year growth rate and with the removal of additional trips added for developments without specific development plans at this time. 2018 and 2023 background and buildout conditions were reviewed.

- US 278 at Buckwalter Parkway
- US 278 at Graves Road
- US 278 at Hampton Parkway

Project trips and distribution were developed as discussed in the 01/22/13 traffic study for this analysis. **Figures 1 – 4** show the resulting 2018 AM, 2018 PM, 2023 AM and 2023 PM peak hour traffic volumes (background, project and total traffic volumes), respectively.

The intersections above were analyzed using the Synchro 8 traffic analysis program to determine the projected level of service and delay.

**Table 1** shows the results of this analysis.

**Table 1: Level of Service and Delay**

	Traffic Control	2018 Background Conditions		2018 Phase 1 Conditions		2023 Background Conditions		2023 Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 278 at Buckwalter Parkway	S	D (48.0)	C (34.6)	E (57.9)	D (43.8)	F (84.6)	D (52.6)	F (88.8)	E (58.3)
US 278 at Graves Road	U	B (14.6) – SB	C (18.4) – SB	C (15.1) – SB	E (35.0) – SB	C (15.2) – SB	C (20.2) – SB	C (18.6) – SB	F (78.6) – SB
US 278 at Hampton Parkway	S	B (18.3)	C (27.8)	C (33.3)	E (60.5)	C (30.2)	E (58.1)	D (51.2)	F (175.2)

### Internal Capture

Internal capture for the site was applied based on Institute of Transportation Engineers (ITE) Handbook standards. These internal capture matrices are attached. The resulting internal capture is shown in Table 1 and Table 2 of the 1/22/13 report.

As noted in the report, internal capture was also applied between the project's commercial area and the Crosland development located across US 278 at the Hampton Parkway intersection. These internal capture trips were applied to the intersection as through trips. This internal capture is included in the attached matrices.

### Daily Traffic

Table 2 and Table 3 below show the daily entering and exiting traffic for Phase 1 and Buildout. Internal capture was based on ITE standards and limited to 25% overall between capture within the site and with the Crosland development across the street when applied. Internal capture matrices are attached with the unrestricted internal capture calculation. Daily pass-by for the shopping center was assumed to be 20% daily compared to the 30% calculated rate using ITE equations for the 820 Shopping Center land use for the PM peak hour.

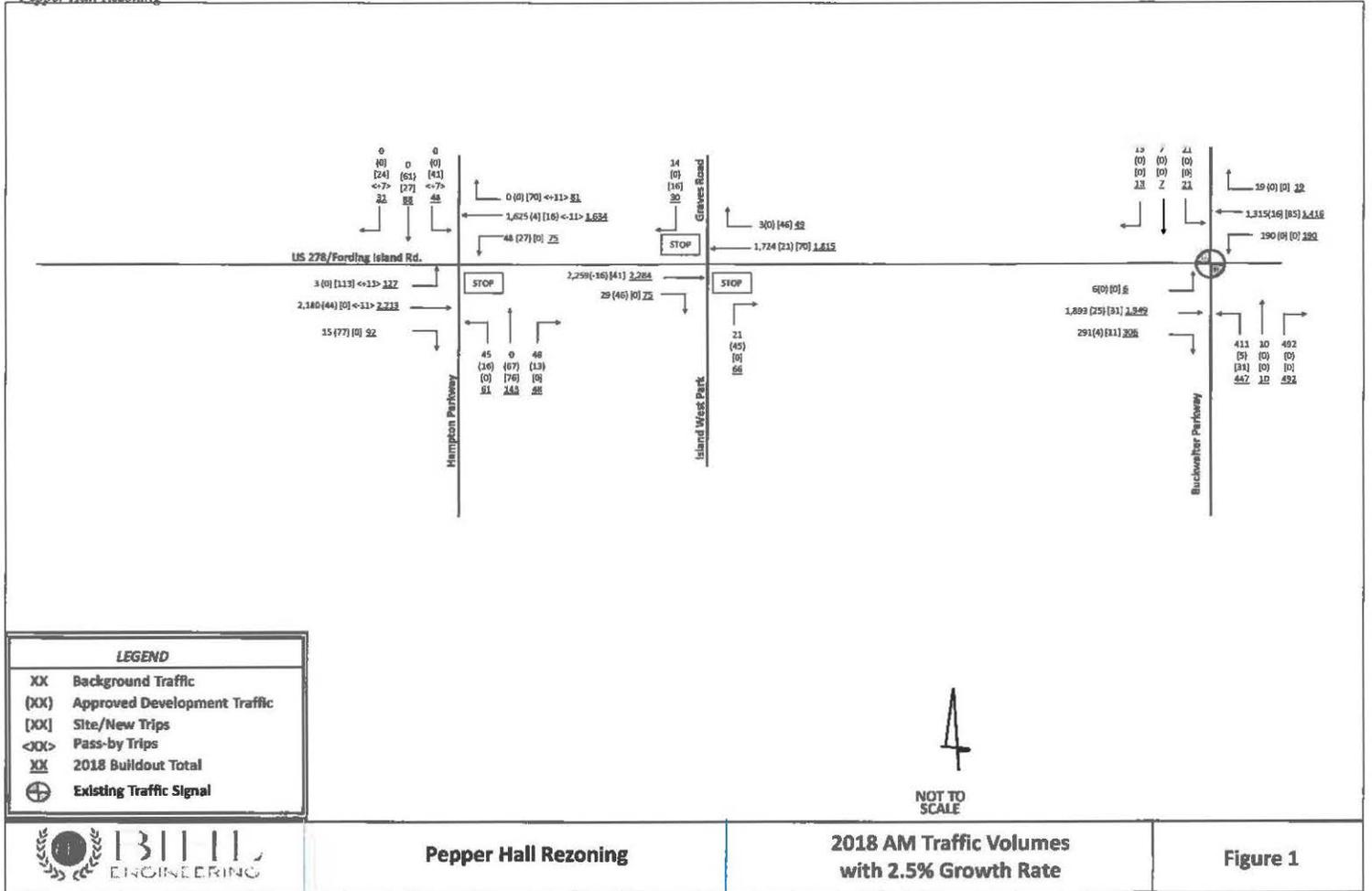
Table 2: Phase 1 Daily Trip Generation						
Land Use	Intensity		Daily Total Trips	Entering Trips	Exiting Trips	
<b>Proposed Site Traffic</b>						
820	Shopping Center	240	ksf	11,997	5,998	5,998
210	Single Family Residential	120	DU	1,242	621	621
710	General Office	140	ksf	1,695	847	848
230	Condo/Townhome	120	DU	754	377	377
<b>Gross Trips</b>				<b>15,688</b>	<b>7,843</b>	<b>7,844</b>
<b>Internal Capture</b>					<b>811</b>	<b>811</b>
<i>Driveway Volumes</i>					<i>7,032</i>	<i>7,033</i>
<i>Interaction with Crosland Site</i>					<i>1,150</i>	<i>1,150</i>
<i>Passby Trips</i>					<i>1,086</i>	<i>1,157</i>
<b>New Trips</b>					<b>4,796</b>	<b>4,726</b>

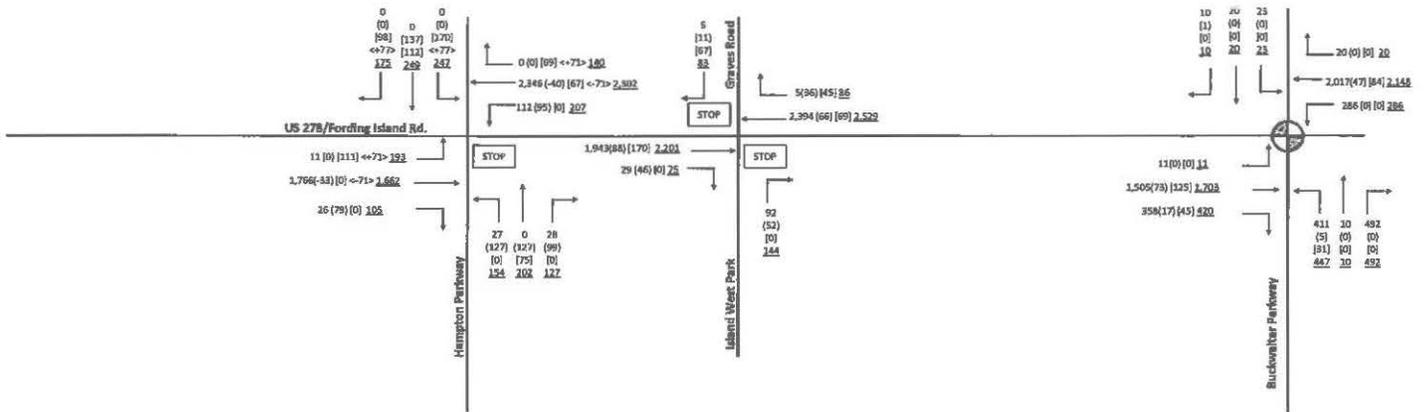
Table 3: Buildout Daily Trip Generation						
Land Use	Intensity		Daily Total Trips	Entering Trips	Exiting Trips	
<b>Proposed Site Traffic</b>						
820	Shopping Center	420	ksf	17,260	8,630	8,630
210	Single Family Residential	240	DU	2,871	1,175	1,175
710	General Office	280	ksf	2,350	1,435	1,436
230	Condo/Townhome	240	DU	1,378	689	689
<b>Gross Trips</b>				<b>23,859</b>	<b>11,929</b>	<b>11,930</b>
<b>Internal Capture</b>					<b>1,458</b>	<b>1,458</b>
<i>Driveway Volumes</i>					<i>10,471</i>	<i>10,472</i>
<i>Interaction with Crosland Site</i>					<i>1,524</i>	<i>1,525</i>
<i>Passby Trips</i>					<i>1,521</i>	<i>1,649</i>
<b>New Trips</b>					<b>7,426</b>	<b>7,298</b>

Based on the trip distribution presented in the report, the US 278 roadway link west of the site (west of Hampton Parkway) has 37% of the entering and exiting new trips assigned to it. For Phase 1 that is 3,523 total trips (2-way) and for buildout that is 5,448 total trips (2-way). The US 278 roadway link east of the site (east of Graves Road) has 38% of the entering and exiting trips assigned to it. For Buildout that is 3,618 total trips (2-way) and for buildout that is 5,595 total trips (2-way).



The assumed capacity for the 6-lane divided US 278 is 58,000 based on the capacity previously established for the County. The development would result in projected use of approximately 6% of the total capacity in Phase 1 and approximately 9% of the total capacity at Buildout. Of the increase of capacity due to the widening of US 278 from 4 lanes to 6 lanes, we expect an increase of 18,000 vehicles daily. The development would result in projected use of approximately 20% of the added capacity in Phase 1 and approximately 31% of the added capacity at Buildout. Note that though link volume to capacity ratio is a level of service metric, on a corridor like US 278 the intersection operations drive the efficiency of the corridor.





LEGEND	
XX	Background Traffic
(XX)	Approved Development Traffic
[XX]	Site/New Trips
<XX>	Pass-by Trips
<b>XX</b>	2018 Buildout Total
⊕	Existing Traffic Signal

4  
NOT TO SCALE

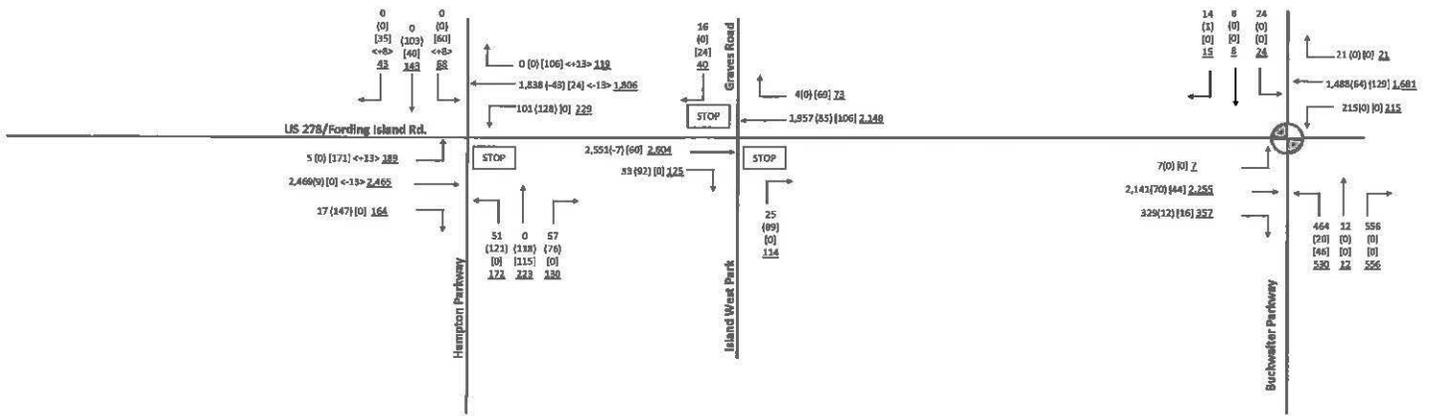


Pepper Hall Rezoning

2018 PM Traffic Volumes  
with 2.5% Growth Rate

Figure 2

Pepper Hall Rezoning



LEGEND	
XX	Background Traffic
(XX)	Approved Development Traffic
[XX]	Site/New Trips
<XX>	Pass-by Trips
XX	2023 Buildout Total
⊕	Existing Traffic Signal



NOT TO SCALE

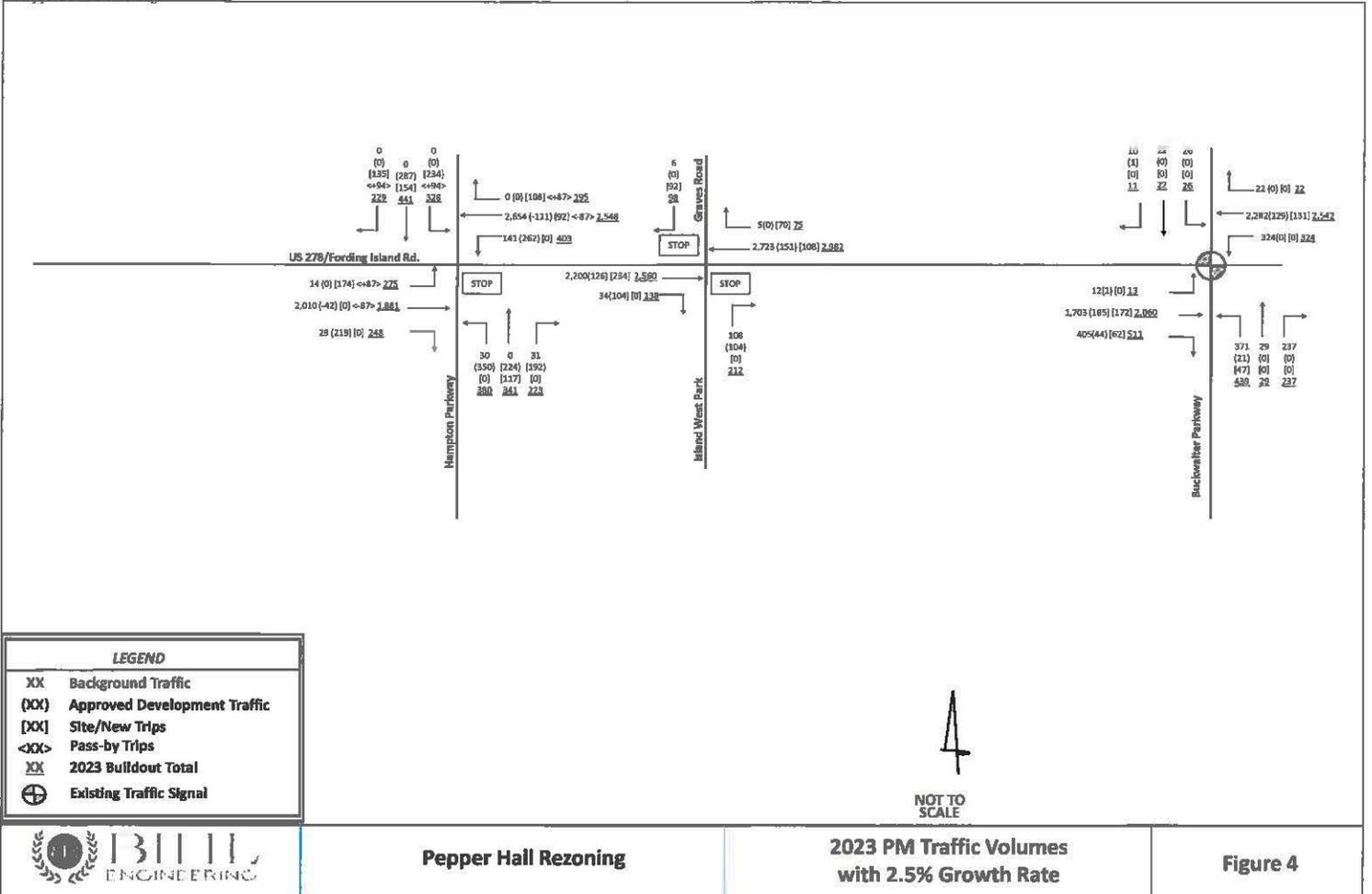


Pepper Hall Rezoning

2023 AM Traffic Volumes  
with 2.5% Growth Rate

Figure 3

Pepper Hall Rezoning



**INTERSECTION VOLUME DEVELOPMENT**

**Hampton Parkway at US 278  
AM PEAK HOUR**

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	0	0	41	0	0	0	0	1,882	13	0	1,401	0
Heavy Vehicle %	2%			2%			7%			5%		
Peak Hour Factor	0.85			0.92			0.95			0.83		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160
2018 Background Traffic	45	0	48	0	0	0	3	2,180	15	48	1,625	0
Approved Development Traffic	16	67	13	0	61	0	0	44	77	27	4	0
<b>New Trips</b>												
Trip Distribution IN		25%						37%				23%
Trip Distribution OUT				38%	25%	22%					15%	
<b>Pass-by Trips</b>												
Trip Distribution IN							50%	-50%			-50%	50%
Trip Distribution OUT				50%		50%						
New Trips	0	76	0	41	27	24	113	0	0	0	16	70
Pass-by Trips	0	0	0	7	0	7	11	-11	0	0	-11	11
Total Project Trips	0	76	0	48	27	31	124	-11	0	0	5	81
<b>2018 Buildout Total</b>	<b>61</b>	<b>143</b>	<b>61</b>	<b>48</b>	<b>88</b>	<b>31</b>	<b>127</b>	<b>2,213</b>	<b>92</b>	<b>75</b>	<b>1,634</b>	<b>81</b>

2AMa  
2AMc

**PM PEAK HOUR**

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	0	0	24	0	0	0	0	1,532	22	0	2,023	0
Heavy Vehicle %	17%			2%			2%			4%		
Peak Hour Factor	0.82			0.92			0.95			0.91		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160
2018 Background Traffic	27	0	28	0	0	0	11	1,766	26	112	2,346	0
Approved Development Traffic	127	127	99	0	137	0	0	-33	79	95	-40	0
<b>New Trips</b>												
Trip Distribution IN		25%						37%				23%
Trip Distribution OUT				38%	25%	22%					15%	
<b>Pass-by Trips</b>												
Trip Distribution IN							50%	-50%			-50%	50%
Trip Distribution OUT				50%		50%						
New Trips	0	75	0	170	112	98	111	0	0	0	67	69
Pass-by Trips	0	0	0	77	0	77	71	-71	0	0	-71	71
Total Project Trips	0	75	0	247	112	175	182	-71	0	0	-4	140
<b>2018 Buildout Total</b>	<b>154</b>	<b>202</b>	<b>127</b>	<b>247</b>	<b>249</b>	<b>175</b>	<b>193</b>	<b>1,662</b>	<b>105</b>	<b>207</b>	<b>2,302</b>	<b>140</b>

2PMa  
2PMc

## INTERSECTION VOLUME DEVELOPMENT

### Graves Road at US 278 AM PEAK HOUR

Description	Island West Park Northbound			Graves Road Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	7	0	10	5	0	6	2	1,948	25	20	1,445	3
Heavy Vehicle %	12%			36%			8%			5%		
Peak Hour Factor	0.94			0.88			0.71			0.55		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160
2018 Background Traffic	0	0	21	0	0	14	0	2,259	29	0	1,724	3
Approved Development Traffic	0	0	45	0	0	0	0	-16	46	0	21	0
<b>New Trips</b>												
Trip Distribution IN											23%	15%
Trip Distribution OUT						15%		38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	16	0	41	0	0	70	46
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	16	0	41	0	0	70	46
<b>2018 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>66</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>2,284</b>	<b>75</b>	<b>0</b>	<b>1,815</b>	<b>49</b>

### PM PEAK HOUR

Description	Island West Park Northbound			Graves Road Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	28	0	47	2	0	2	7	1,677	26	44	1,968	4
Heavy Vehicle %	3%			2%			2%			4%		
Peak Hour Factor	0.75			0.50			0.93			0.98		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160
2018 Background Traffic	0	0	92	0	0	5	0	1,943	30	0	2,394	5
Approved Development Traffic	0	0	52	0	0	11	0	88	52	0	66	36
<b>New Trips</b>												
Trip Distribution IN											23%	15%
Trip Distribution OUT						15%		38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	67	0	170	0	0	69	45
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	67	0	170	0	0	69	45
<b>2018 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>144</b>	<b>0</b>	<b>0</b>	<b>83</b>	<b>0</b>	<b>2,201</b>	<b>82</b>	<b>0</b>	<b>2,529</b>	<b>86</b>

**INTERSECTION VOLUME DEVELOPMENT**

**Buckwalter Parkway at US 278  
AM PEAK HOUR**

Description	Buckwalter Parkway Northbound			Berkeley Hall Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	354	9	424	18	6	11	5	1,632	251	164	1,134	16
		3%			2%			6%			5%	
Peak Hour Factor		0.85			0.73			0.96			0.86	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160
2018 Background Traffic	411	10	492	21	7	13	6	1,893	291	190	1,315	19
Approved Development Traffic	5	0	0	0	0	0	0	25	4	0	16	0
New Trips												
Trip Distribution IN	10%										28%	
Trip Distribution OUT								28%	10%			
Pass-by Trips												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	31	0	0	0	0	0	0	31	11	0	85	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	31	0	0	0	0	0	0	31	11	0	85	0
2018 Buildout Total	447	10	492	21	7	13	6	1,949	306	190	1,416	19

**PM PEAK HOUR**

Description	Buckwalter Parkway Northbound			Berkeley Hall Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	283	22	181	20	17	8	9	1,298	309	247	1,739	17
Heavy Vehicle %		2%			2%			2%			2%	
Peak Hour Factor		0.89			0.94			0.94			0.91	
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160	1.160
2018 Background Traffic	328	26	210	23	20	9	10	1,505	358	286	2,017	20
Approved Development Trips	8	0	0	0	0	1	1	73	17	0	47	0
New Trips												
Trip Distribution IN	10%										28%	
Trip Distribution OUT								28%	10%			
Pass-by Trips												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	30	0	0	0	0	0	0	125	45	0	84	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	30	0	0	0	0	0	0	125	45	0	84	0
2018 Buildout Total	366	26	210	23	20	10	11	1,703	420	286	2,148	20

**INTERSECTION VOLUME DEVELOPMENT**

**Hampton Parkway at US 278  
AM PEAK HOUR**

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	0	0	41	0	0	0	0	1,882	13	0	1,401	0
Heavy Vehicle %	2%			2%			7%			5%		
Peak Hour Factor	0.85			0.92			0.95			0.83		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312
2023 Background Traffic	51	0	54	0	0	0	5	2,469	17	101	1,838	0
Approved Development Traffic	121	118	76	0	103	0	0	9	147	128	-43	0
New Trips												
Trip Distribution IN		25%						37%				23%
Trip Distribution OUT				38%	25%	22%					15%	
Pass-by Trips												
Trip Distribution IN							50%	-50%			-50%	50%
Trip Distribution OUT				50%		50%						
New Trips	0	115	0	60	40	35	171	0	0	0	24	106
Pass-by Trips	0	0	0	8	0	8	13	-13	0	0	-13	13
Total Project Trips	0	115	0	68	40	43	184	-13	0	0	11	119
2023 Buildout Total	172	233	130	68	143	43	189	2,465	164	229	1,806	119

2AMa  
2AMc

**PM PEAK HOUR**

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	0	0	24	0	0	0	0	1,532	22	0	2,023	0
Heavy Vehicle %	17%			2%			2%			4%		
Peak Hour Factor	0.82			0.92			0.95			0.91		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312
2023 Background Traffic	30	0	31	0	0	0	14	2,010	29	141	2,654	0
Approved Development Traffic	350	224	192	0	287	0	0	-42	219	262	-111	0
New Trips												
Trip Distribution IN		25%						37%				23%
Trip Distribution OUT				38%	25%	22%					15%	
Pass-by Trips												
Trip Distribution IN							50%	-50%			-50%	50%
Trip Distribution OUT				50%		50%						
New Trips	0	117	0	234	154	135	174	0	0	0	92	108
Pass-by Trips	0	0	0	94	0	94	87	-87	0	0	-87	87
Total Project Trips	0	117	0	328	154	229	261	-87	0	0	5	195
2023 Buildout Total	380	341	223	328	441	229	275	1,881	248	403	2,548	195

2PMa  
2PMc

**INTERSECTION VOLUME DEVELOPMENT**

**Graves Road at US 278  
AM PEAK HOUR**

Description	Island West Park <u>Northbound</u>			Graves Road <u>Southbound</u>			US 278 <u>Eastbound</u>			US 278 <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	7	0	10	5	0	6	2	1,948	25	20	1,445	3
Heavy Vehicle %	12%			36%			8%			5%		
Peak Hour Factor	0.94			0.88			0.71			0.55		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312
2023 Background Traffic	0	0	25	0	0	16	0	2,551	33	0	1,957	4
Approved Development Traffic	0	0	89	0	0	0	0	-7	92	0	85	0
<b>New Trips</b>												
Trip Distribution IN											23%	15%
Trip Distribution OUT						15%		38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	24	0	60	0	0	106	69
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	24	0	60	0	0	106	69
<b>2023 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>114</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>2,604</b>	<b>125</b>	<b>0</b>	<b>2,148</b>	<b>73</b>

**PM PEAK HOUR**

Description	Island West Park <u>Northbound</u>			Graves Road <u>Southbound</u>			US 278 <u>Eastbound</u>			US 278 <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	28	0	47	2	0	2	7	1,677	26	44	1,968	4
Heavy Vehicle %	3%			2%			2%			4%		
Peak Hour Factor	0.75			0.50			0.93			0.98		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312
2023 Background Traffic	0	0	108	0	0	6	0	2,200	34	0	2,723	5
Approved Development Traffic	0	0	104	0	0	0	0	126	104	0	151	0
<b>New Trips</b>												
Trip Distribution IN											23%	15%
Trip Distribution OUT						15%		38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	92	0	234	0	0	108	70
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	92	0	234	0	0	108	70
<b>2023 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>212</b>	<b>0</b>	<b>0</b>	<b>98</b>	<b>0</b>	<b>2,560</b>	<b>138</b>	<b>0</b>	<b>2,982</b>	<b>75</b>

## INTERSECTION VOLUME DEVELOPMENT

### Buckwalter Parkway at US 278 AM PEAK HOUR

Description	Buckwalter Parkway Northbound			Berkeley Hall Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	354	9	424	18	6	11	5	1,632	251	164	1,134	16
	3%			2%			6%			5%		
Peak Hour Factor	0.85			0.73			0.96			0.86		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312
2023 Background Traffic	464	12	556	24	8	14	7	2,141	329	215	1,488	21
Approved Development Traffic	20	0	0	0	0	1	0	70	12	0	64	0
<b>New Trips</b>												
Trip Distribution IN	10%										28%	
Trip Distribution OUT								28%	10%			
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	46	0	0	0	0	0	0	44	16	0	129	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	46	0	0	0	0	0	0	44	16	0	129	0
<b>2023 Buildout Total</b>	<b>530</b>	<b>12</b>	<b>556</b>	<b>24</b>	<b>8</b>	<b>15</b>	<b>7</b>	<b>2,255</b>	<b>357</b>	<b>215</b>	<b>1,681</b>	<b>21</b>

### PM PEAK HOUR

Description	Buckwalter Parkway Northbound			Berkeley Hall Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	283	22	181	20	17	8	9	1,298	309	247	1,739	17
	2%			2%			2%			2%		
Peak Hour Factor	0.89			0.94			0.94			0.91		
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312
2023 Background Traffic	371	29	237	26	22	10	12	1,703	405	324	2,282	22
Approved Development Trips	21	0	0	0	0	1	1	185	44	0	129	0
<b>New Trips</b>												
Trip Distribution IN	10%										28%	
Trip Distribution OUT								28%	10%			
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	47	0	0	0	0	0	0	172	62	0	131	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	47	0	0	0	0	0	0	172	62	0	131	0
<b>2023 Buildout Total</b>	<b>439</b>	<b>29</b>	<b>237</b>	<b>26</b>	<b>22</b>	<b>11</b>	<b>13</b>	<b>2,060</b>	<b>511</b>	<b>324</b>	<b>2,542</b>	<b>22</b>

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2018 AM Bkgd  
 2/15/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	1918	295	190	1331	19	416	10	492	21	7	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl't Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Fl't Permitted	0.13	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	243	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	6	2040	314	209	1463	21	467	11	553	22	7	14
RTOR Reduction (vph)	0	0	115	0	0	10	0	0	121	0	0	13
Lane Group Flow (vph)	6	2040	199	209	1463	11	467	11	432	22	7	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	65.8	64.8	64.8	11.3	75.1	75.1	39.3	39.3	39.3	6.0	6.0	6.0
Effective Green, g (s)	65.8	64.8	64.8	11.3	75.1	75.1	39.3	39.3	39.3	6.0	6.0	6.0
Actuated g/C Ratio	0.44	0.43	0.43	0.08	0.50	0.50	0.26	0.26	0.26	0.04	0.04	0.04
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	116	2196	683	258	2545	792	908	492	418	70	74	63
v/s Ratio Prot	0.00	c0.40		c0.06	c0.29		0.13	0.01		c0.01	0.00	
v/s Ratio Perm	0.02		0.13			0.01			c0.27			0.00
v/c Ratio	0.05	0.93	0.29	0.81	0.57	0.01	0.51	0.02	1.03	0.31	0.09	0.01
Uniform Delay, d1	24.5	40.4	27.7	68.3	26.3	18.8	47.2	41.1	55.4	70.0	69.4	69.1
Progression Factor	1.26	0.93	1.24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	7.3	0.9	17.2	1.0	0.0	0.5	0.0	52.9	2.6	0.6	0.1
Delay (s)	31.0	44.8	35.3	85.5	27.2	18.9	47.7	41.1	108.2	72.6	69.9	69.2
Level of Service	C	D	D	F	C	B	D	D	F	E	E	E
Approach Delay (s)		43.5			34.3			80.1			71.0	
Approach LOS		D			C			F			E	

Intersection Summary

HCM 2000 Control Delay	48.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2018 AM Bkgd  
 2/15/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	2224	122	95	1629	0	122	0	125	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7		7.7		7.9			
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97		1.00			
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd Flow (prot)	3433	5085	1583	3367	4988		2993		1380			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd Flow (perm)	3433	5085	1583	3367	4988		2993		1380			
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	3	2341	128	104	1790	0	163	0	167	0	0	0
RTOR Reduction (vph)	0	0	20	0	0	0	0	0	71	0	0	0
Lane Group Flow (vph)	3	2341	108	104	1790	0	163	0	96	0	0	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	1.2	106.1	117.7	10.0	114.9		11.6		21.6			
Effective Green, g (s)	1.2	106.1	117.7	10.0	114.9		11.6		21.6			
Actuated g/C Ratio	0.01	0.71	0.78	0.07	0.77		0.08		0.14			
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7		7.7		7.9			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	27	3596	1242	224	3820		231		198			
v/s Ratio Prot	0.00	c0.46	0.01	0.03	c0.36		c0.05		c0.03			
v/s Ratio Perm			0.06						0.04			
v/c Ratio	0.11	0.65	0.09	0.46	0.47		0.71		0.48			
Uniform Delay, d1	73.9	11.9	3.7	67.4	6.4		67.5		59.1			
Progression Factor	1.00	1.00	1.00	0.87	2.22		1.00		1.00			
Incremental Delay, d2	1.8	0.9	0.0	1.4	0.4		9.4		1.9			
Delay (s)	75.7	12.8	3.8	60.1	14.6		77.0		60.9			
Level of Service	E	B	A	E	B		E		E			
Approach Delay (s)		12.4			17.1			68.8			0.0	
Approach LOS		B			B			E			A	

Intersection Summary		
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.69	
Actuated Cycle Length (s)	150.0	Sum of lost time (s)
Intersection Capacity Utilization	62.9%	ICU Level of Service
Analysis Period (min)	15	

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2018 AM Bkgd  
 2/15/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↘		↑↑↑				↘			↘
Volume (veh/h)	0	2243	75	0	1943	3	0	0	66	0	0	14
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2412	81	0	1983	3	0	0	88	0	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None					None					
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.74			0.74	0.74	0.74	0.74	0.74	0.74
vC, conflicting volume	1986			2492			3101	4398	804	2876	4477	662
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1986			1786			2608	4361	0	2305	4468	662
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	89	100	100	93
cM capacity (veh/h)	287			248			8	1	800	14	1	404
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	804	804	804	81	793	793	400	88	28			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	81	0	0	3	88	28			
cSH	1700	1700	1700	1700	1700	1700	1700	800	404			
Volume to Capacity	0.47	0.47	0.47	0.05	0.47	0.47	0.24	0.11	0.07			
Queue Length 95th (ft)	0	0	0	0	0	0	0	9	6			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	14.6			
Lane LOS								B	B			
Approach Delay (s)	0.0				0.0			10.1	14.6			
Approach LOS								B	B			
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization			54.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2018 PM bkgd  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	1578	365	286	2064	20	336	26	210	23	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	6.3	7.7	7.7	7.9	6.3	6.3	7.9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.05	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	101	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	12	1679	388	314	2268	22	378	29	236	24	21	11
RTOR Reduction (vph)	0	0	131	0	0	8	0	0	69	0	0	10
Lane Group Flow (vph)	12	1679	257	314	2268	14	378	29	167	24	21	1
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6	4	3	3	1	4	4	5
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	77.1	73.9	95.6	17.8	88.5	96.5	21.7	21.7	39.5	8.0	8.0	11.2
Effective Green, g (s)	77.1	73.9	95.6	17.8	88.5	96.5	21.7	21.7	39.5	8.0	8.0	11.2
Actuated g/C Ratio	0.51	0.49	0.64	0.12	0.59	0.64	0.14	0.14	0.26	0.05	0.05	0.07
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	6.3	7.7	7.7	7.9	6.3	6.3	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	87	2505	1008	407	3000	1018	501	272	421	93	98	117
v/s Ratio Prot	0.00	0.33	0.04	c0.09	c0.45	0.00	c0.11	0.02	0.05	c0.01	0.01	0.00
v/s Ratio Perm	0.07		0.13			0.01			0.06			0.00
v/c Ratio	0.14	0.67	0.26	0.77	0.76	0.01	0.75	0.11	0.40	0.26	0.21	0.01
Uniform Delay, d1	21.4	28.8	11.8	64.1	22.8	9.6	61.6	55.7	45.4	68.2	68.0	64.3
Progression Factor	1.55	1.25	0.55	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	1.3	0.1	8.8	1.8	0.0	6.4	0.2	0.6	1.5	1.1	0.0
Delay (s)	33.9	37.2	6.5	72.9	24.6	9.6	68.0	55.9	46.1	69.6	69.1	64.3
Level of Service	C	D	A	E	C	A	E	E	D	E	E	E
Approach Delay (s)		31.5			30.3			59.4			68.4	
Approach LOS		C			C			E			E	

Intersection Summary

HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
13: Hampton Parkway & US 278

2018 PM bkgd  
2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	1733	173	275	2306	0	217	0	181	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7		7.7		7.9			
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97		1.00			
Flt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)	3433	5085	1583	3367	4988		2993		1380			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)	3433	5085	1583	3367	4988		2993		1380			
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	12	1824	182	302	2534	0	289	0	241	0	0	0
RTOR Reduction (vph)	0	0	41	0	0	0	0	0	63	0	0	0
Lane Group Flow (vph)	12	1824	141	302	2534	0	289	0	178	0	0	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	2.6	91.5	108.9	18.8	107.7		17.4		36.2			
Effective Green, g (s)	2.6	91.5	108.9	18.8	107.7		17.4		36.2			
Actuated g/C Ratio	0.02	0.61	0.73	0.13	0.72		0.12		0.24			
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7		7.7		7.9			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	59	3101	1149	421	3581		347		333			
v/s Ratio Prot	0.00	0.36	0.01	c0.09	c0.51		c0.10		0.07			
v/s Ratio Perm			0.07						0.06			
v/c Ratio	0.20	0.59	0.12	0.72	0.71		0.83		0.53			
Uniform Delay, d1	72.7	17.8	6.2	63.0	12.1		64.9		49.6			
Progression Factor	1.00	1.00	1.00	0.82	1.91		1.00		1.00			
Incremental Delay, d2	1.7	0.8	0.0	4.8	1.0		15.6		1.7			
Delay (s)	74.4	18.6	6.2	56.5	24.1		80.5		51.2			
Level of Service	E	B	A	E	C		F		D			
Approach Delay (s)		17.8			27.5			67.2			0.0	
Approach LOS		B			C			E			A	

Intersection Summary

HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2018 PM bkgd  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑				↑			↑
Volume (veh/h)	0	2031	82	0	2460	41	0	0	144	0	0	16
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2184	88	0	2510	42	0	0	192	0	0	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	2552			2272			3053	4736	728	3451	4803	858
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2552			1654			2651	4801	0	3160	4887	858
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	77	100	100	89
cM capacity (veh/h)	171			295			8	1	846	3	1	300
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	728	728	728	88	1004	1004	544	192	32			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	88	0	0	42	192	32			
cSH	1700	1700	1700	1700	1700	1700	1700	846	300			
Volume to Capacity	0.43	0.43	0.43	0.05	0.59	0.59	0.32	0.23	0.11			
Queue Length 95th (ft)	0	0	0	0	0	0	0	22	9			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5	18.4			
Lane LOS								B	C			
Approach Delay (s)	0.0				0.0			10.5	18.4			
Approach LOS								B	C			
<b>Intersection Summary</b>												
Average Delay			0.5									
Intersection Capacity Utilization			58.4%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2018 AM  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	1949	306	190	1416	19	447	10	492	21	7	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.11	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	207	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	6	2073	326	209	1556	21	502	11	553	22	7	14
RTOR Reduction (vph)	0	0	118	0	0	10	0	0	121	0	0	13
Lane Group Flow (vph)	6	2073	208	209	1556	11	502	11	432	22	7	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	65.8	64.8	64.8	11.3	75.1	75.1	39.3	39.3	39.3	6.0	6.0	6.0
Effective Green, g (s)	65.8	64.8	64.8	11.3	75.1	75.1	39.3	39.3	39.3	6.0	6.0	6.0
Actuated g/C Ratio	0.44	0.43	0.43	0.08	0.50	0.50	0.26	0.26	0.26	0.04	0.04	0.04
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	101	2196	683	258	2545	792	908	492	418	70	74	63
v/s Ratio Prot	0.00	c0.41		c0.06	c0.31		0.14	0.01		c0.01	0.00	
v/s Ratio Perm	0.03		0.13			0.01			c0.27			0.00
v/c Ratio	0.06	0.94	0.30	0.81	0.61	0.01	0.55	0.02	1.03	0.31	0.09	0.01
Uniform Delay, d1	24.8	40.9	27.9	68.3	26.9	18.8	47.8	41.1	55.4	70.0	69.4	69.1
Progression Factor	1.77	1.39	2.51	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	8.0	0.9	17.2	1.1	0.0	0.7	0.0	52.9	2.6	0.6	0.1
Delay (s)	44.1	64.6	70.8	85.5	28.1	18.9	48.5	41.1	108.2	72.6	69.9	69.2
Level of Service	D	E	E	F	C	B	D	D	F	E	E	E
Approach Delay (s)		65.4			34.7			79.4			71.0	
Approach LOS		E			C			E			E	

Intersection Summary

HCM 2000 Control Delay	57.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2018 AM  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	2213	92	75	1634	81	61	143	61	48	88	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	138	2329	97	82	1796	88	81	155	81	52	96	34
RTOR Reduction (vph)	0	0	33	0	0	34	0	0	67	0	0	28
Lane Group Flow (vph)	138	2329	64	82	1796	54	81	155	14	52	96	6
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	10.6	88.9	97.0	8.0	86.3	92.2	8.1	17.2	25.2	5.9	15.0	25.6
Effective Green, g (s)	10.6	88.9	97.0	8.0	86.3	92.2	8.1	17.2	25.2	5.9	15.0	25.6
Actuated g/C Ratio	0.07	0.59	0.65	0.05	0.58	0.61	0.05	0.11	0.17	0.04	0.10	0.17
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	242	3013	1023	179	2869	973	161	213	231	135	186	270
v/s Ratio Prot	c0.04	c0.46	0.00	0.02	0.36	0.00	c0.03	c0.08	0.00	0.02	0.05	0.00
v/s Ratio Perm			0.04			0.03			0.01			0.00
v/c Ratio	0.57	0.77	0.06	0.46	0.63	0.06	0.50	0.73	0.06	0.39	0.52	0.02
Uniform Delay, d1	67.5	23.0	9.8	68.9	21.1	11.5	69.0	64.1	52.4	70.3	64.1	51.8
Progression Factor	1.00	1.00	1.00	0.88	1.43	3.59	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	2.0	0.0	1.7	0.9	0.0	2.5	11.7	0.1	1.8	2.4	0.0
Delay (s)	70.7	25.0	9.8	62.1	31.2	41.4	71.5	75.8	52.5	72.1	66.5	51.8
Level of Service	E	C	A	E	C	D	E	E	D	E	E	D
Approach Delay (s)		26.8			32.9			68.8			65.3	
Approach LOS		C			C			E			E	

Intersection Summary		
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.76	
Actuated Cycle Length (s)	150.0	Sum of lost time (s)
Intersection Capacity Utilization	82.0%	ICU Level of Service
Analysis Period (min)	15	

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
55: Island West Park/Graves Road & US 278

2018 AM  
2/14/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑				↑			↑
Volume (veh/h)	0	2284	75	0	1815	49	0	0	66	0	0	30
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2456	81	0	1852	50	0	0	88	0	0	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)		928										
pX, platoon unblocked				0.64			0.64	0.64	0.64	0.64	0.64	0.64
vC, conflicting volume	1902			2537			3133	4358	819	2784	4414	642
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1902			1452			2378	4280	0	1836	4366	642
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	87	100	100	86
cM capacity (veh/h)	309			291			10	1	696	27	1	417
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	819	819	819	81	741	741	420	88	60			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	81	0	0	50	88	60			
cSH	1700	1700	1700	1700	1700	1700	1700	696	417			
Volume to Capacity	0.48	0.48	0.48	0.05	0.44	0.44	0.25	0.13	0.14			
Queue Length 95th (ft)	0	0	0	0	0	0	0	11	12			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	15.1			
Lane LOS								B	C			
Approach Delay (s)	0.0				0.0			10.9	15.1			
Approach LOS								B	C			
<b>Intersection Summary</b>												
Average Delay			0.4									
Intersection Capacity Utilization			54.9%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2018 PM 2.5% bkgd growth  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	1727	434	286	2189	20	386	26	210	23	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	6.3	7.7	7.7	7.9	6.3	6.3	7.9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	103	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	17	1837	462	314	2405	22	434	29	236	24	21	21
RTOR Reduction (vph)	0	0	135	0	0	8	0	0	67	0	0	19
Lane Group Flow (vph)	17	1837	327	314	2405	14	434	29	169	24	21	2
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6	4	3	3	1	4	4	5
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	75.6	72.6	96.3	17.1	86.7	94.7	23.7	23.7	40.8	8.0	8.0	11.0
Effective Green, g (s)	75.6	72.6	96.3	17.1	86.7	94.7	23.7	23.7	40.8	8.0	8.0	11.0
Actuated g/C Ratio	0.50	0.48	0.64	0.11	0.58	0.63	0.16	0.16	0.27	0.05	0.05	0.07
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	6.3	7.7	7.7	7.9	6.3	6.3	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	85	2461	1016	391	2939	999	547	297	434	93	98	115
v/s Ratio Prot	0.00	0.36	0.05	c0.09	c0.47	0.00	c0.13	0.02	0.04	c0.01	0.01	0.00
v/s Ratio Perm	0.10		0.16			0.01			0.06			0.00
v/c Ratio	0.20	0.75	0.32	0.80	0.82	0.01	0.79	0.10	0.39	0.26	0.21	0.01
Uniform Delay, d1	24.4	31.3	12.1	64.8	25.3	10.3	60.8	54.0	44.5	68.2	68.0	64.5
Progression Factor	1.63	1.74	2.38	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.7	0.2	11.3	2.7	0.0	7.8	0.1	0.6	1.5	1.1	0.0
Delay (s)	40.8	56.1	28.9	76.1	28.0	10.3	68.6	54.1	45.0	69.6	69.1	64.5
Level of Service	D	E	C	E	C	B	E	D	D	E	E	E
Approach Delay (s)		50.6			33.4			60.0			67.8	
Approach LOS		D			C			E			E	

Intersection Summary		
HCM 2000 Control Delay	43.8	HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio	0.81	
Actuated Cycle Length (s)	150.0	Sum of lost time (s) 28.6
Intersection Capacity Utilization	82.7%	ICU Level of Service E
Analysis Period (min)	15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2018 PM 2.5% bkgd growth  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	193	1662	105	207	2309	140	154	202	127	297	249	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Fl <sub>t</sub> Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	210	1749	111	227	2537	152	205	220	169	323	271	190
RTOR Reduction (vph)	0	0	41	0	0	36	0	0	65	0	0	65
Lane Group Flow (vph)	210	1749	70	227	2537	116	205	220	104	323	271	125
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	9.7	72.3	83.1	14.6	77.2	91.6	10.8	18.7	33.3	14.4	22.3	32.0
Effective Green, g (s)	9.7	72.3	83.1	14.6	77.2	91.6	10.8	18.7	33.3	14.4	22.3	32.0
Actuated g/C Ratio	0.06	0.48	0.55	0.10	0.51	0.61	0.07	0.12	0.22	0.10	0.15	0.21
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	222	2450	876	327	2567	966	215	232	306	329	276	337
v/s Ratio Prot	0.06	0.34	0.01	c0.07	c0.51	0.01	0.07	0.12	0.03	c0.09	c0.15	0.02
v/s Ratio Perm			0.04			0.06			0.04			0.05
v/c Ratio	0.95	0.71	0.08	0.69	0.99	0.12	0.95	0.95	0.34	0.98	0.98	0.37
Uniform Delay, d1	69.9	30.7	15.6	65.5	36.0	12.3	69.3	65.2	49.1	67.7	63.6	50.4
Progression Factor	1.00	1.00	1.00	0.83	1.31	1.93	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	45.0	1.8	0.0	4.8	13.1	0.0	48.0	44.3	0.7	44.4	48.9	0.7
Delay (s)	114.9	32.5	15.6	59.0	60.1	23.7	117.3	109.5	49.8	112.1	112.5	51.1
Level of Service	F	C	B	E	E	C	F	F	D	F	F	D
Approach Delay (s)		39.9			58.1			95.2			97.5	
Approach LOS		D			E			F			F	

Intersection Summary		
HCM 2000 Control Delay	60.5	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.02	
Actuated Cycle Length (s)	150.0	Sum of lost time (s)
Intersection Capacity Utilization	94.2%	ICU Level of Service
Analysis Period (min)	15	

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2018 PM 2.5% bkgd growth  
 2/14/2013

<b>Movement</b>	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑				↗			↗
Volume (veh/h)	0	2201	82	0	2529	86	0	0	144	0	0	83
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2367	88	0	2581	88	0	0	192	0	0	166
<b>Pedestrians</b>												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)		928										
pX, platoon unblocked				0.73			0.73	0.73	0.73	0.73	0.73	
vC, conflicting volume	2668			2455			3393	5035	789	3605	5079	904
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2668			1699			2984	5233	0	3275	5293	904
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	76	100	100	41
cM capacity (veh/h)	154			264			2	0	789	2	0	280
<b>Direction, Lane #</b>	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	789	789	789	88	1032	1032	604	192	166			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	88	0	0	88	192	166			
cSH	1700	1700	1700	1700	1700	1700	1700	789	280			
Volume to Capacity	0.46	0.46	0.46	0.05	0.61	0.61	0.36	0.24	0.59			
Queue Length 95th (ft)	0	0	0	0	0	0	0	24	88			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	35.0			
Lane LOS								B	E			
Approach Delay (s)	0.0				0.0			11.0	35.0			
Approach LOS								B	E			
<b>Intersection Summary</b>												
Average Delay			1.4									
Intersection Capacity Utilization			62.6%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2023 AM Bkgd  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	2255	357	215	1681	21	530	12	556	24	8	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	117	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	7	2399	380	236	1847	23	596	13	625	26	9	16
RTOR Reduction (vph)	0	0	123	0	0	12	0	0	114	0	0	15
Lane Group Flow (vph)	7	2399	257	236	1847	11	596	13	511	26	9	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	64.7	63.7	63.7	11.4	74.1	74.1	38.3	38.3	38.3	8.0	8.0	8.0
Effective Green, g (s)	64.7	63.7	63.7	11.4	74.1	74.1	38.3	38.3	38.3	8.0	8.0	8.0
Actuated g/C Ratio	0.43	0.42	0.42	0.08	0.49	0.49	0.26	0.26	0.26	0.05	0.05	0.05
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	61	2159	672	260	2511	782	885	480	408	93	98	84
v/s Ratio Prot	0.00	c0.47		c0.07	c0.36		0.17	0.01		c0.01	0.00	
v/s Ratio Perm	0.05		0.16			0.01			c0.32			0.00
v/c Ratio	0.11	1.11	0.38	0.91	0.74	0.01	0.67	0.03	1.25	0.28	0.09	0.01
Uniform Delay, d1	27.2	43.1	29.6	68.8	30.2	19.3	50.2	41.9	55.9	68.2	67.5	67.2
Progression Factor	1.49	1.25	1.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	55.8	1.3	32.2	2.0	0.0	2.0	0.0	132.5	1.6	0.4	0.0
Delay (s)	41.0	110.0	58.7	101.0	32.1	19.4	52.3	41.9	188.3	69.9	68.0	67.3
Level of Service	D	F	E	F	C	B	D	D	F	E	E	E
Approach Delay (s)		102.8			39.7			121.1			68.7	
Approach LOS		F			D			F			E	

Intersection Summary

HCM 2000 Control Delay	84.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 13: Hampton Parkway & US 278

2023 AM Bkgd  
2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	2478	215	281	1795	0	228	0	186	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7		7.7		7.9			
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97		1.00			
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)	3433	5085	1583	3367	4988		2993		1380			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)	3433	5085	1583	3367	4988		2993		1380			
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	5	2608	226	309	1973	0	304	0	248	0	0	0
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	63	0	0	0
Lane Group Flow (vph)	5	2608	183	309	1973	0	304	0	185	0	0	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	1.3	91.2	106.7	21.0	110.9		15.5		36.5			
Effective Green, g (s)	1.3	91.2	106.7	21.0	110.9		15.5		36.5			
Actuated g/C Ratio	0.01	0.61	0.71	0.14	0.74		0.10		0.24			
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7		7.7		7.9			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	29	3091	1126	471	3687		309		335			
v/s Ratio Prot	0.00	c0.51	0.02	c0.09	0.40		c0.10		0.08			
v/s Ratio Perm			0.10						0.06			
v/c Ratio	0.17	0.84	0.16	0.66	0.54		0.98		0.55			
Uniform Delay, d1	73.8	23.7	7.1	61.1	8.4		67.1		49.6			
Progression Factor	1.00	1.00	1.00	0.87	2.04		1.00		1.00			
Incremental Delay, d2	2.8	3.0	0.1	2.8	0.5		46.5		2.0			
Delay (s)	76.6	26.7	7.1	55.9	17.7		113.6		51.6			
Level of Service	E	C	A	E	B		F		D			
Approach Delay (s)		25.2			22.9			85.7			0.0	
Approach LOS		C			C			F			A	

### Intersection Summary

HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2023 AM Bkgd  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑				↗			↗
Volume (veh/h)	0	2544	125	0	2042	4	0	0	114	0	0	16
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2735	134	0	2084	4	0	0	152	0	0	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.57			0.57	0.57	0.57	0.57	0.57	
vC, conflicting volume	2088			2870			3462	4823	912	3150	4956	697
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2088			1629			2672	5069	0	2122	5302	697
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	75	100	100	92
cM capacity (veh/h)	261			219			5	0	614	12	0	384
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	912	912	912	134	833	833	421	152	32			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	134	0	0	4	152	32			
cSH	1700	1700	1700	1700	1700	1700	1700	614	384			
Volume to Capacity	0.54	0.54	0.54	0.08	0.49	0.49	0.25	0.25	0.08			
Queue Length 95th (ft)	0	0	0	0	0	0	0	24	7			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8	15.2			
Lane LOS								B	C			
Approach Delay (s)	0.0				0.0			12.8	15.2			
Approach LOS								B	C			
<b>Intersection Summary</b>												
Average Delay			0.5									
Intersection Capacity Utilization			62.9%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2023 PM Bkgd  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	1888	449	324	2411	22	392	29	237	26	22	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	107	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	14	2009	478	356	2649	24	440	33	266	28	23	12
RTOR Reduction (vph)	0	0	184	0	0	11	0	0	174	0	0	11
Lane Group Flow (vph)	14	2009	294	356	2649	13	440	33	92	28	23	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	74.8	69.8	69.8	19.0	83.8	83.8	22.6	22.6	22.6	10.0	10.0	10.0
Effective Green, g (s)	74.8	69.8	69.8	19.0	83.8	83.8	22.6	22.6	22.6	10.0	10.0	10.0
Actuated g/C Ratio	0.50	0.47	0.47	0.13	0.56	0.56	0.15	0.15	0.15	0.07	0.07	0.07
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Grp Cap (vph)	108	2366	736	434	2840	884	522	283	240	117	123	105
v/s Ratio Prot	0.00	0.40		c0.10	c0.52		c0.13	0.02		c0.02	0.01	
v/s Ratio Perm	0.06		0.19			0.01			0.06			0.00
v/c Ratio	0.13	0.85	0.40	0.82	0.93	0.02	0.84	0.12	0.38	0.24	0.19	0.01
Uniform Delay, d1	30.0	35.4	26.3	63.8	30.5	14.7	62.0	55.1	57.4	66.4	66.2	65.4
Progression Factor	1.30	1.45	2.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	3.1	1.2	15.8	7.1	0.0	15.2	0.8	4.6	4.8	3.3	0.1
Delay (s)	40.9	54.6	79.4	79.7	37.6	14.8	77.2	55.9	62.0	71.2	69.5	65.5
Level of Service	D	D	E	E	D	B	E	E	E	E	E	E
Approach Delay (s)		59.3			42.4			70.8			69.5	
Approach LOS		E			D			E			E	

Intersection Summary

HCM 2000 Control Delay	52.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2023 PM Bkgd  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	1968	392	546	2543	0	492	0	335	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7		7.7		7.9			
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97		1.00			
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85			
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (prot)	3433	5085	1583	3367	4988		2993		1380			
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95		1.00			
Satd. Flow (perm)	3433	5085	1583	3367	4988		2993		1380			
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	15	2072	413	600	2795	0	656	0	447	0	0	0
RTOR Reduction (vph)	0	0	105	0	0	0	0	0	46	0	0	0
Lane Group Flow (vph)	15	2072	308	600	2795	0	656	0	401	0	0	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot		pm+ov	Prot		pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	2.7	60.2	87.5	40.2	97.7		27.3		67.5			
Effective Green, g (s)	2.7	60.2	87.5	40.2	97.7		27.3		67.5			
Actuated g/C Ratio	0.02	0.40	0.58	0.27	0.65		0.18		0.45			
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7		7.7		7.9			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)	61	2040	923	902	3248		544		621			
v/s Ratio Prot	0.00	c0.41	0.06	c0.18	c0.56		c0.22		0.17			
v/s Ratio Perm			0.13						0.12			
v/c Ratio	0.25	1.02	0.33	0.67	0.86		1.21		0.65			
Uniform Delay, d1	72.6	44.9	16.2	48.9	20.7		61.4		32.0			
Progression Factor	1.00	1.00	1.00	0.83	1.66		1.00		1.00			
Incremental Delay, d2	2.1	23.9	0.2	1.4	2.5		109.1		2.3			
Delay (s)	74.7	68.8	16.4	41.9	37.0		170.5		34.3			
Level of Service	E	E	B	D	D		F		C			
Approach Delay (s)		60.2			37.9			115.3			0.0	
Approach LOS		E			D			F			A	

Intersection Summary			
HCM 2000 Control Delay	58.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2023 PM Bkgd  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑				↖			↖
Volume (veh/h)	0	2326	138	0	2874	5	0	0	212	0	0	6
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2501	148	0	2933	5	0	0	283	0	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.61			0.61	0.61	0.61	0.61	0.61	
vC, conflicting volume	2938			2649			3491	5439	834	4052	5585	980
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2938			1491			2859	6027	0	3771	6264	980
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	57	100	100	95
cM capacity (veh/h)	120			269			4	0	665	1	0	249
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	834	834	834	148	1173	1173	592	283	12			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	148	0	0	5	283	12			
cSH	1700	1700	1700	1700	1700	1700	1700	665	249			
Volume to Capacity	0.49	0.49	0.49	0.09	0.69	0.69	0.35	0.43	0.05			
Queue Length 95th (ft)	0	0	0	0	0	0	0	53	4			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	20.2			
Lane LOS								B	C			
Approach Delay (s)	0.0				0.0			14.4	20.2			
Approach LOS								B	C			
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			65.6%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2023 AM  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	2255	357	215	1681	21	530	12	556	24	8	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Fl <sub>t</sub> Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	117	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	7	2399	380	236	1847	23	596	13	625	26	9	16
RTOR Reduction (vph)	0	0	123	0	0	12	0	0	114	0	0	15
Lane Group Flow (vph)	7	2399	257	236	1847	11	596	13	511	26	9	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	64.7	63.7	63.7	11.4	74.1	74.1	38.3	38.3	38.3	8.0	8.0	8.0
Effective Green, g (s)	64.7	63.7	63.7	11.4	74.1	74.1	38.3	38.3	38.3	8.0	8.0	8.0
Actuated g/C Ratio	0.43	0.42	0.42	0.08	0.49	0.49	0.26	0.26	0.26	0.05	0.05	0.05
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	61	2159	672	260	2511	782	885	480	408	93	98	84
v/s Ratio Prot	0.00	c0.47		c0.07	c0.36		0.17	0.01		c0.01	0.00	
v/s Ratio Perm	0.05		0.16			0.01			c0.32			0.00
v/c Ratio	0.11	1.11	0.38	0.91	0.74	0.01	0.67	0.03	1.25	0.28	0.09	0.01
Uniform Delay, d <sub>1</sub>	27.2	43.1	29.6	68.8	30.2	19.3	50.2	41.9	55.9	68.2	67.5	67.2
Progression Factor	1.61	1.47	2.34	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d <sub>2</sub>	0.6	55.4	1.2	32.2	2.0	0.0	2.0	0.0	132.5	1.6	0.4	0.0
Delay (s)	44.4	118.7	70.6	101.0	32.1	19.4	52.3	41.9	188.3	69.9	68.0	67.3
Level of Service	D	F	E	F	C	B	D	D	F	E	E	E
Approach Delay (s)		112.0			39.7			121.1			68.7	
Approach LOS		F			D			F			E	

Intersection Summary

HCM 2000 Control Delay	88.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
13: Hampton Parkway & US 278

2023 AM  
2/14/2013

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	189	2465	164	229	1806	119	172	233	130	68	143	43	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583	
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92	
Adj. Flow (vph)	205	2595	173	252	1985	129	229	253	173	74	155	47	
RTOR Reduction (vph)	0	0	38	0	0	58	0	0	63	0	0	38	
Lane Group Flow (vph)	205	2595	135	252	1985	71	229	253	110	74	155	9	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5	
Permitted Phases			2			6			8			4	
Actuated Green, G (s)	13.5	79.6	92.1	12.6	78.7	83.0	12.5	23.5	36.1	4.3	15.3	28.8	
Effective Green, g (s)	13.5	79.6	92.1	12.6	78.7	83.0	12.5	23.5	36.1	4.3	15.3	28.8	
Actuated g/C Ratio	0.09	0.53	0.61	0.08	0.52	0.55	0.08	0.16	0.24	0.03	0.10	0.19	
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	308	2698	971	282	2617	875	249	291	332	98	190	303	
v/s Ratio Prot	0.06	c0.51	0.01	c0.07	0.40	0.00	c0.08	c0.14	0.03	0.02	0.08	0.00	
v/s Ratio Perm			0.07			0.04			0.05			0.00	
v/c Ratio	0.67	0.96	0.14	0.89	0.76	0.08	0.92	0.87	0.33	0.76	0.82	0.03	
Uniform Delay, d1	66.1	33.7	12.2	68.0	28.1	15.7	68.3	61.8	47.0	72.3	66.0	49.2	
Progression Factor	1.00	1.00	1.00	0.90	1.40	4.48	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.3	10.5	0.1	25.2	1.8	0.0	35.7	23.0	0.6	27.6	22.9	0.0	
Delay (s)	71.4	44.2	12.3	86.5	41.2	70.3	103.9	84.7	47.6	99.9	88.9	49.3	
Level of Service	E	D	B	F	D	E	F	F	D	F	F	D	
Approach Delay (s)		44.2			47.6			81.6			85.1		
Approach LOS		D			D			F			F		

Intersection Summary			
HCM 2000 Control Delay	51.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2023 AM  
 2/14/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑				↑			↑
Volume (veh/h)	0	2604	125	0	2148	73	0	0	114	0	0	40
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2800	134	0	2192	74	0	0	152	0	0	80
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.50			0.50	0.50	0.50	0.50	0.50	
vC, conflicting volume	2266			2934			3611	5066	933	3314	5163	768
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2266			1372			2723	5632	0	2131	5826	768
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	72	100	100	77
cM capacity (veh/h)	222			243			4	0	541	10	0	344
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	933	933	933	134	877	877	513	152	80			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	134	0	0	74	152	80			
cSH	1700	1700	1700	1700	1700	1700	1700	541	344			
Volume to Capacity	0.55	0.55	0.55	0.08	0.52	0.52	0.30	0.28	0.23			
Queue Length 95th (ft)	0	0	0	0	0	0	0	29	22			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.2	18.6			
Lane LOS								B	C			
Approach Delay (s)	0.0				0.0			14.2	18.6			
Approach LOS								B	C			
<b>Intersection Summary</b>												
Average Delay			0.7									
Intersection Capacity Utilization			64.0%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2023 PM  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	2060	511	324	2542	22	439	29	237	26	22	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	103	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	14	2191	544	356	2793	24	493	33	266	28	23	12
RTOR Reduction (vph)	0	0	192	0	0	11	0	0	160	0	0	11
Lane Group Flow (vph)	14	2191	352	356	2793	13	493	33	106	28	23	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	77.5	72.5	72.5	16.6	84.1	84.1	22.3	22.3	22.3	10.0	10.0	10.0
Effective Green, g (s)	77.5	72.5	72.5	16.6	84.1	84.1	22.3	22.3	22.3	10.0	10.0	10.0
Actuated g/C Ratio	0.52	0.48	0.48	0.11	0.56	0.56	0.15	0.15	0.15	0.07	0.07	0.07
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Grp Cap (vph)	108	2457	765	379	2850	887	515	279	237	117	123	105
v/s Ratio Prot	0.00	0.43		c0.10	c0.55		c0.14	0.02		c0.02	0.01	
v/s Ratio Perm	0.06		0.22			0.01			0.07			0.00
v/c Ratio	0.13	0.89	0.46	0.94	0.98	0.02	0.96	0.12	0.45	0.24	0.19	0.01
Uniform Delay, d1	33.4	35.2	25.8	66.2	32.1	14.6	63.4	55.3	58.2	66.4	66.2	65.4
Progression Factor	1.33	1.49	2.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	4.4	1.6	33.2	12.8	0.0	30.4	0.9	6.0	4.8	3.3	0.1
Delay (s)	46.5	56.9	72.0	99.4	44.9	14.6	93.7	56.2	64.2	71.2	69.5	65.5
Level of Service	D	E	E	F	D	B	F	E	E	E	E	E
Approach Delay (s)		59.8			50.8			82.3			69.5	
Approach LOS		E			D			F			E	

Intersection Summary

HCM 2000 Control Delay	58.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2023 PM  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	275	1881	248	403	2548	195	380	341	223	328	441	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	299	1980	261	443	2800	212	507	371	297	357	479	249
RTOR Reduction (vph)	0	0	41	0	0	44	0	0	61	0	0	61
Lane Group Flow (vph)	299	1980	220	443	2800	168	507	371	236	357	479	188
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	10.1	67.3	82.6	8.1	65.3	77.6	15.3	32.3	40.4	12.3	29.3	39.4
Effective Green, g (s)	10.1	67.3	82.6	8.1	65.3	77.6	15.3	32.3	40.4	12.3	29.3	39.4
Actuated g/C Ratio	0.07	0.45	0.55	0.05	0.44	0.52	0.10	0.22	0.27	0.08	0.20	0.26
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	231	2281	871	181	2171	818	305	401	371	281	363	415
v/s Ratio Prot	0.09	0.39	0.03	c0.13	c0.56	0.02	c0.17	c0.20	0.03	0.10	c0.26	0.03
v/s Ratio Perm			0.11			0.09			0.14			0.09
v/c Ratio	1.29	0.87	0.25	2.45	1.29	0.20	1.66	0.93	0.64	1.27	1.32	0.45
Uniform Delay, d1	70.0	37.3	17.6	71.0	42.4	19.5	67.3	57.7	48.3	68.8	60.4	46.3
Progression Factor	1.00	1.00	1.00	0.85	1.31	1.63	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	160.7	4.8	0.2	663.0	132.9	0.1	312.2	26.9	3.6	146.7	162.0	0.8
Delay (s)	230.7	42.1	17.7	723.2	188.5	32.0	379.5	84.6	51.9	215.5	222.3	47.1
Level of Service	F	D	B	F	F	C	F	F	D	F	F	D
Approach Delay (s)		61.8			247.4			203.6			179.9	
Approach LOS		E			F			F			F	

Intersection Summary

HCM 2000 Control Delay	175.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

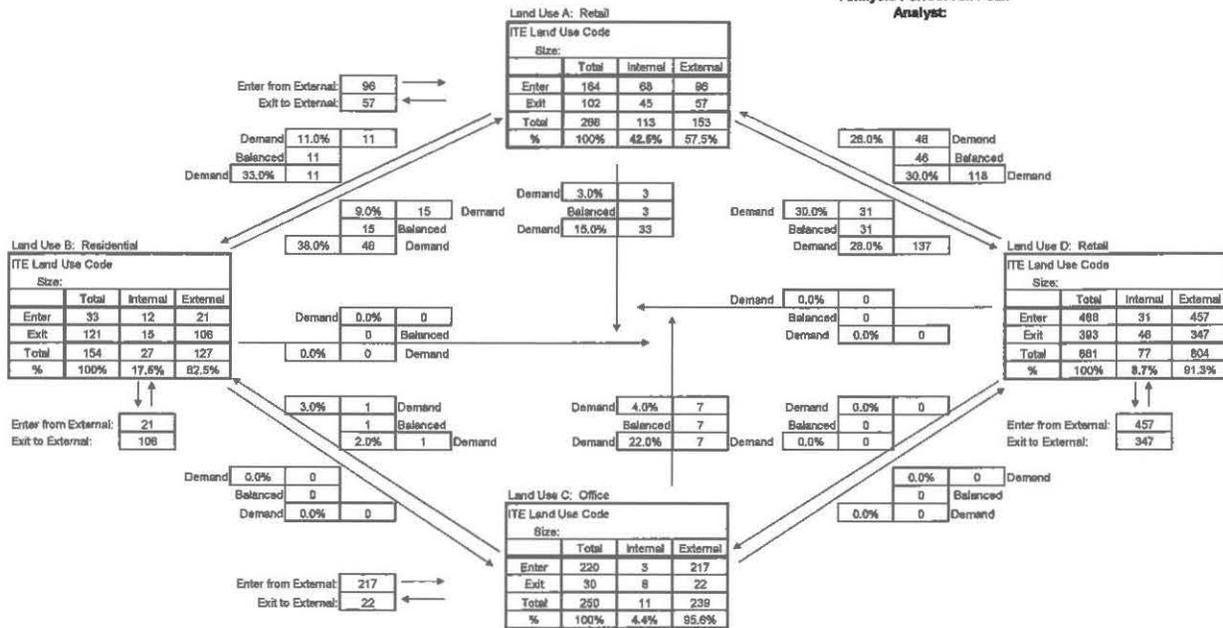
HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2023 PM  
 2/14/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑				↗			↗
Volume (veh/h)	0	2560	138	0	2982	75	0	0	212	0	0	98
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2753	148	0	3043	77	0	0	283	0	0	196
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.65			0.65	0.65	0.65	0.65	0.65	
vC, conflicting volume	3119			2901			3963	5872	918	4281	5982	1053
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3119			2035			3672	6615	0	4163	6785	1053
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	60	100	100	12
cM capacity (veh/h)	101			173			0	0	701	0	0	223
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	918	918	918	148	1217	1217	685	283	196			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	148	0	0	77	283	196			
cSH	1700	1700	1700	1700	1700	1700	1700	701	223			
Volume to Capacity	0.54	0.54	0.54	0.09	0.72	0.72	0.40	0.40	0.88			
Queue Length 95th (ft)	0	0	0	0	0	0	0	49	177			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	78.6			
Lane LOS								B	F			
Approach Delay (s)	0.0				0.0			13.6	78.6			
Approach LOS								B	F			
Intersection Summary												
Average Delay			3.0									
Intersection Capacity Utilization			72.0%		ICU Level of Service				C			
Analysis Period (min)			15									

**ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET**  
 (Source: Chapter 7, ITE Trip Generation Handbook, June 2004)  
 Adjusted

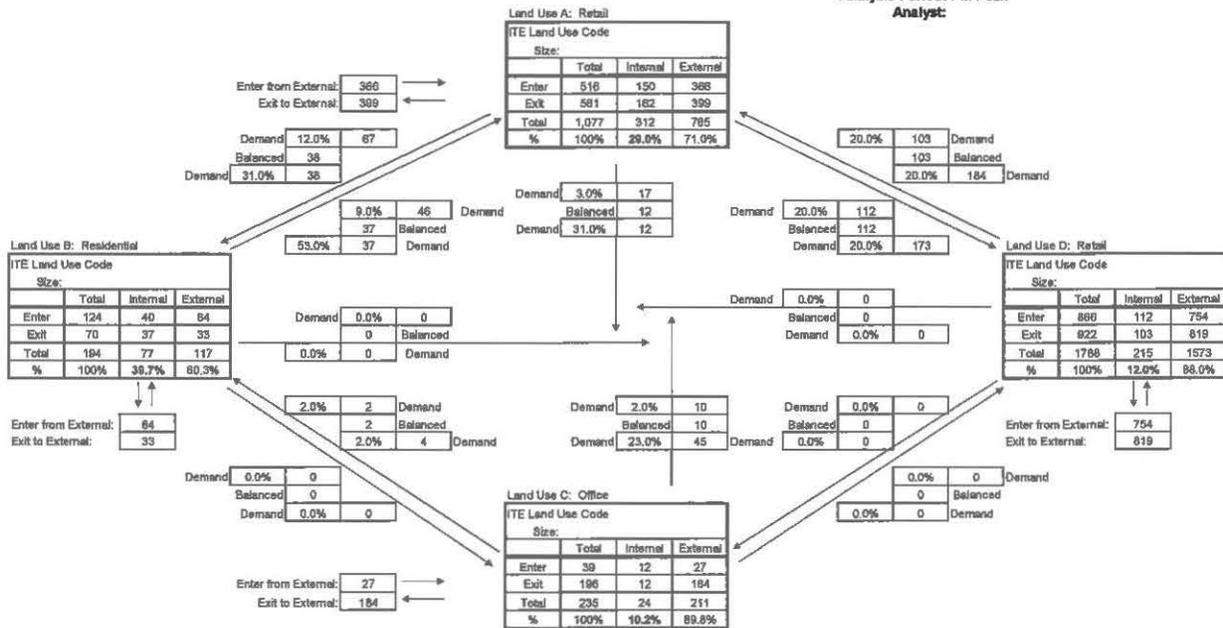
Project Number: 00000000  
 Project Name: Pepper Hall Bulldout  
 Scenario: 2018  
 Analysis Period: AM Peak  
 Analyst:



NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	96	21	217	457	791
Exit	57	106	22	347	532
Total	153	127	239	804	1,323
Single Use Trip Gen Estimate	266	154	250	861	1,561
<b>Overall Internal Capture = 14.70%</b>					

**ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET**  
 (Source: Chapter 7, ITE Trip Generation Handbook, June 2004)  
 Adjusted

**Project Number:**  
**Project Name:** Pepper Hall Bulldout  
**Scenario:** 2018  
**Analysis Period:** PM Peak  
**Analyst:**

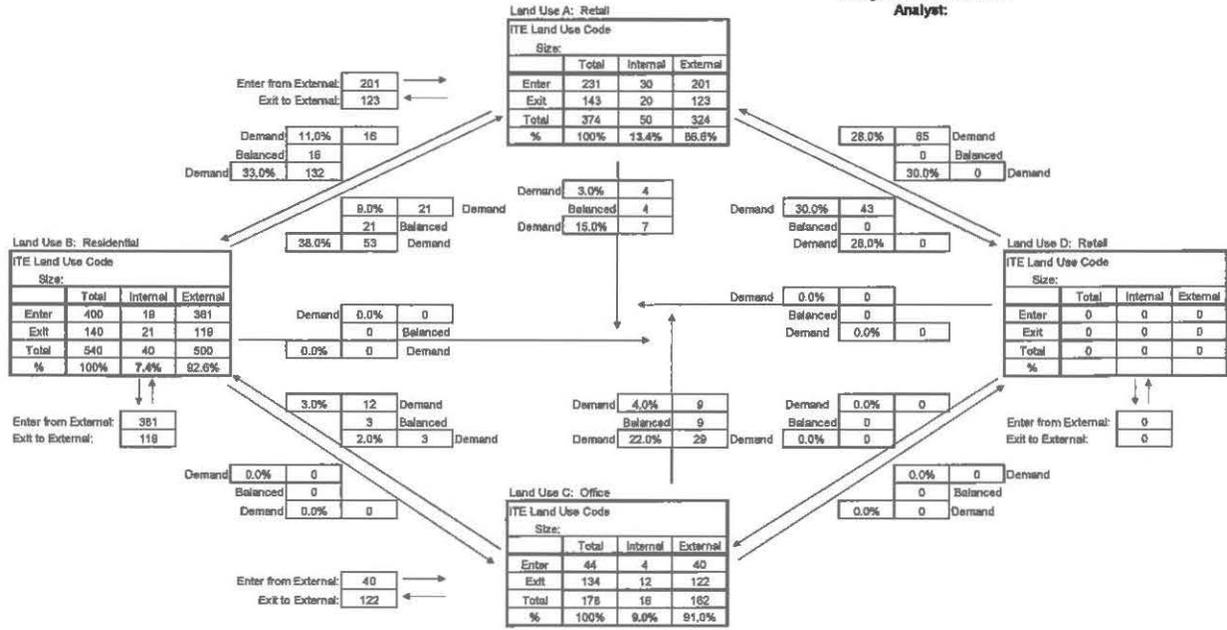


NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	368	84	27	754	1,231
Exit	399	33	184	819	1,435
Total	765	117	211	1,573	2,868
Single Use Trip Gen Estimate	1,077	194	235	1,788	3,284

Overall Internal Capture = **19.06%**

**ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET**  
 (Source: Chapter 7, ITE Trip Generation Handbook, June 2004)  
 Adjusted

Project Number:  
 Project Name: Pepper Hall Bulldout  
 Scenario: 2023  
 Analysis Period: AM Peak  
 Analyst:

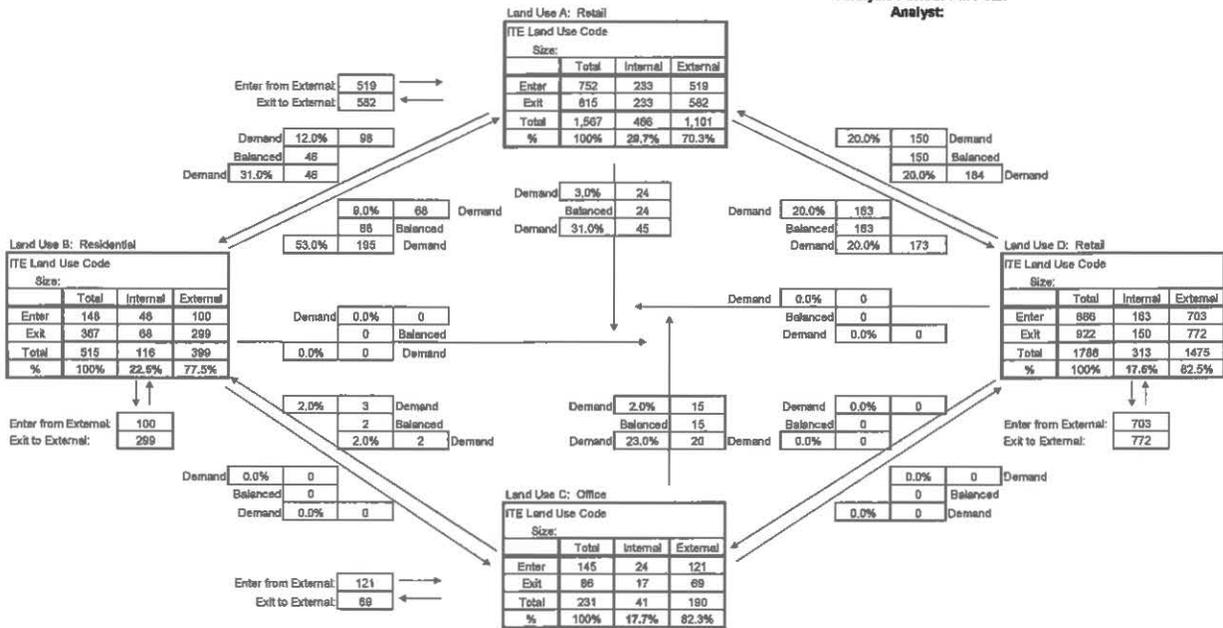


NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	201	381	40	0	622
Exit	123	119	122	0	364
<b>Total</b>	<b>324</b>	<b>500</b>	<b>162</b>	<b>0</b>	<b>986</b>
Single Use Trip Gen Estimate	374	540	178	0	1,092

Overall Internal Capture = **6.71%**

**ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET**  
 (Source: Chapter 7, ITE Trip Generation Handbook, June 2004)  
 Adjusted

**Project Number:**  
**Project Name:** Pepper Hall Buildout  
**Scenario:** Build-Out  
**Analysis Period:** PM Peak  
**Analyst:**

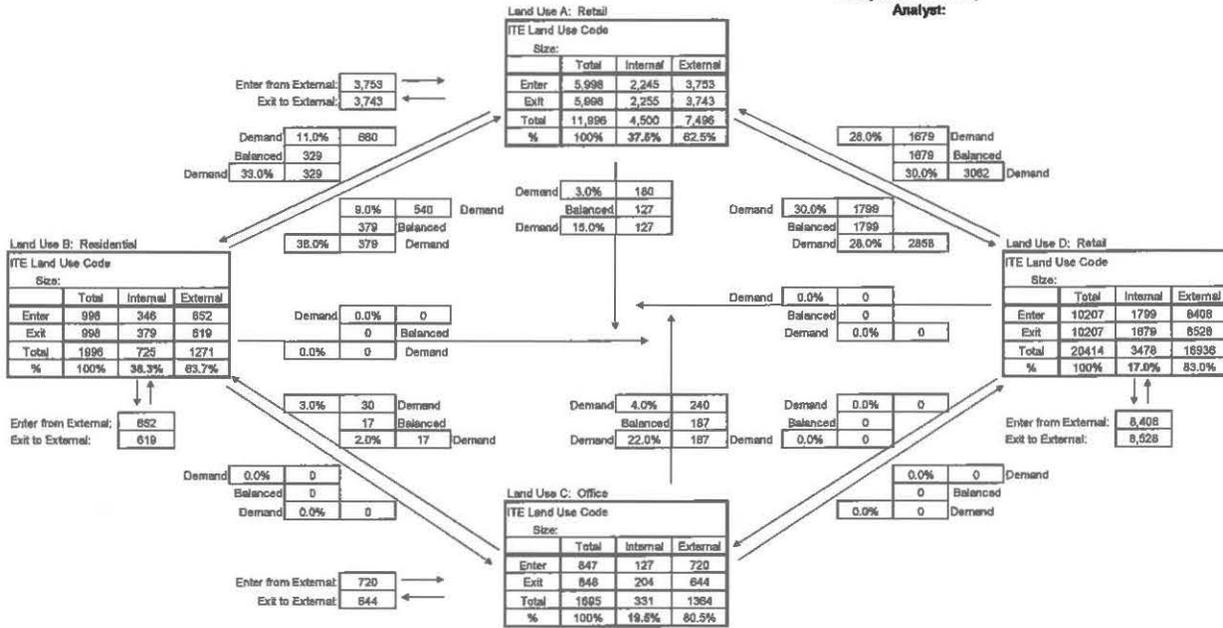


Category	Land Use				Total
	A	B	C	D	
Enter	519	100	121	703	1,443
Exit	582	299	69	772	1,722
Total	1,101	399	190	1,475	3,165
Single Use Trip Gen Estimate	1,567	515	231	1,788	4,101

Overall Internal Capture = **22.62%**

**ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET**  
 (Source: Chapter 7, ITE Trip Generation Handbook, June 2004)  
 Adjusted

**Project Number:**  
**Project Name:** Pepper Hall Buildout  
**Scenario:** Build-Out  
**Analysis Period:** Daily  
**Analyst:**

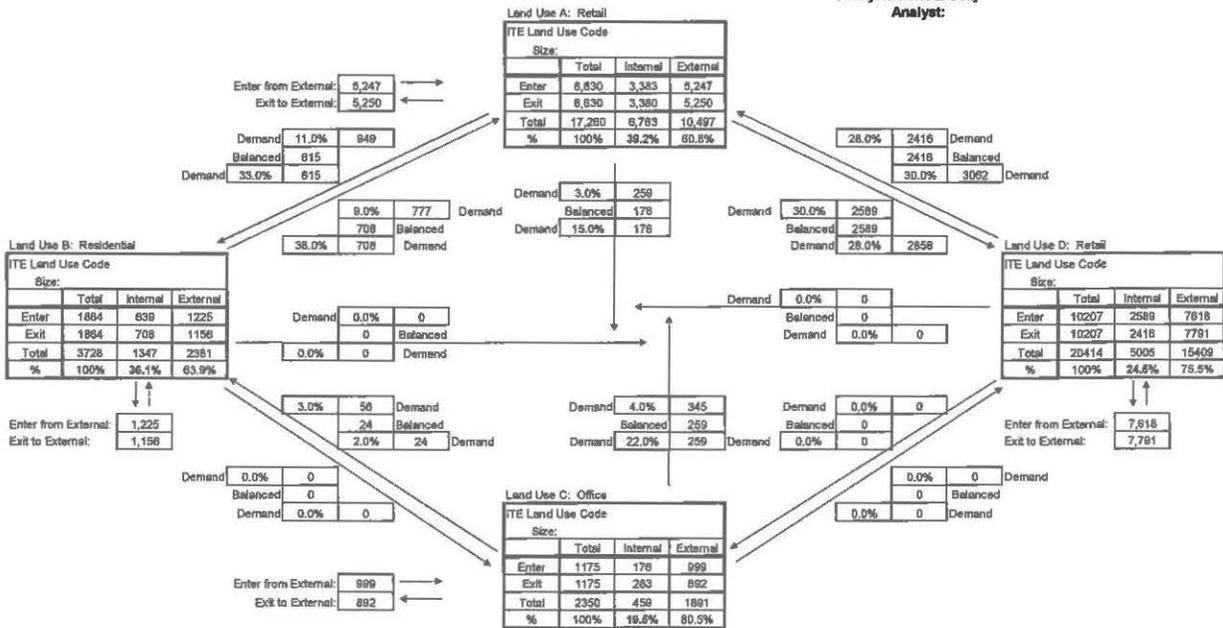


NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	3,753	852	720	8,408	13,533
Exit	3,743	819	644	8,528	13,534
Total	7,496	1,271	1,364	16,936	27,067
Single Use Trip Gen Estimate	11,996	1,996	1,695	20,414	36,101

Overall Internal Capture = **25.02%**

**ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET**  
 (Source: Chapter 7, ITE Trip Generation Handbook, June 2004)  
 Adjusted

**Project Number:**  
**Project Name:** Pepper Hall Bulkdout  
**Scenario:** Build-Out  
**Analysis Period:** Daily  
**Analyst:**



NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	5,247	1,225	999	7,618	15,089
Exit	5,250	1,156	892	7,791	15,089
Total	10,497	2,381	1,891	15,408	30,178
Single Use Trip Gen Estimate	17,280	3,728	2,350	20,414	43,762

Overall Internal Capture = **31.02%**

# VAUX & MARSCHER, P.A.

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21 JANUARY 2013

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Anthony J. Criscitiello  
Planning Director  
Beaufort County Planning Department  
Post Office Drawer 1228  
Beaufort, South Carolina 29901-1228



Re: Pepper Hall-Amended Rezoning Application-Traffic Impact Analysis

Dear Tony:

Attached for your review and that of your staff, are the original and two copies of the Traffic Impact Analysis (TIA) prepared by the Bihl Engineering firm of Beaufort, South Carolina for the Pepper Hall site.

As set forth in Section 1.0 (Executive Summary) of the TIA, the proposed "phased development" of the Pepper Hall site does not result in any traffic delays until 2018. As of that date, and, assuming that (a) no further traffic corridor improvements are made, and (b) that all previously approved projects are fully constructed, "projected trip traffic" from the Pepper Hall site in the afternoon is projected to create traffic delays at the signalized intersection at U.S. 278 and the Hampton Parkway.

Most interesting in our preparation of the TIA are the 2006-2011 daily traffic volume numbers for U.S. Highway 278 which reflect a reduction in daily traffic volume per day of nine thousand (9,000) cars per day from 2006 to 2011, due in large part to the creation of alternative traffic corridors.

Likewise, as set forth in Section 9.0 (Conclusion) of the Pepper Hall TIA, with the planned development and construction of alternatives routes for U.S. highway #278, specifically

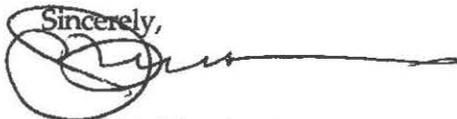
②

including the extension of Bluffton Parkway to Interstate 95, the projected delays for the Pepper Hall site in 2018 may never materialize.

In addition to the submission of the Pepper Hall TIA enclosed herewith, I offer the following clarifications and confirmations:

1. The Amended Pepper Hall Rezoning application is just that, a "rezoning application" and not a "pending development application." A detailed "traffic study" will of course be required at the time of development.
2. As an additional gesture of good faith and compromise, Robert L. Graves has voluntarily agreed to limit the total ground floor commercial space on his parcel to not more than seven hundred thousand (700,000) square feet.
3. Robert L. Graves has also agreed to impose a size limitation on any commercial building to a ground floor area of not more than seventy five thousand square feet.
4. The applicant has further agreed to memorialize these limitations in a Development Agreement negotiated with Beaufort County concurrently with approval of the amended rezoning request by County Council.

As always, we are most appreciative of your time and courtesy.

Sincerely,  


James P. Scheider, Jr.  
Of Counsel  
Vaux & Marscher, P.A.

cc: Joshua A. Gruber, Esquire

*Traffic Impact Analysis*



# Pepper Hall Rezoning Beaufort County, SC

*Prepared for:*  
Graves Family

© Bihl Engineering, LLC 2013

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**Traffic Impact Analysis  
Pepper Hall Rezoning  
Charleston, SC**

**Prepared for:  
Graves Family**

**Prepared by:  
Bihl Engineering, LLC  
12 Park Square North  
Beaufort, SC 29907  
(843)637-9187**



**January 2013**

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## 1.0 Executive Summary

The proposed Pepper Hall development is located on US 278 between SC 170 and Buckwalter Parkway in Beaufort County, SC. The proposed rezoning application includes a limitation of the total non-residential square footage to 700,000 square feet and 480 residential units. Non-residential includes commercial and office uses and the residential uses include both single family and condominium/townhome uses.

For the purposes of this Traffic Impact Analysis (TIA), the proposed development is assumed to be completed by 2023. A phased development of 350,000 square feet of non-residential area and 240 residential units is assumed to be completed by 2018.

This report presents the trip generation, distribution, and traffic analyses. The following intersections were included in this analysis based on discussions with County staff:

- US 278 Westbound Off-Ramp at SC 170
- US 278 Eastbound Off-Ramp at SC 170
- SC 170 Southbound On-Ramp to US 278 Eastbound
- US 278 at Hampton Parkway
- US 278 at Island West Park/Graves Road
- US 278 at Island West Drive
- US 278 at Buckwalter Parkway/Berkeley Hall
- Bluffton Parkway at Hampton Parkway

The results of the analysis show that in year 2023 there is expected to be increased congestion on US 278 in the background and buildout conditions at the signalized intersections with the committed roadway improvements. However, this assumes a 4.7% per year growth rate along the corridor. Due to the added transportation network facilities and the revision of other project plans relative to the data in the model (which is current as of 2004) the growth rate may or may not be that high in the future.

The main access intersection for the project, US 278 at Hampton Parkway, is projected to operate at elevated levels of service in the future conditions with dual left turn lanes for all approaches. The intersection of US 278 at Buckwalter Parkway also continues to increase in delay in the future, as traffic on US 278 increases. US 278 at Graves Road is also expected to have elevated delay during the 2023 PM peak hour conditions.

The right-in, right-out side street movements operate as expected on a corridor such as US 278 in both the 2018 and 2023 buildout and background conditions.

If the project was phased with partial buildout in 2018, the roadway network would experience elevated delay in the peak hours at the main access point at US 278 and at Buckwalter Parkway at US 278 but more manageable than 2023 conditions, with other intersections operating acceptably.

In summary, this area is expected to experience a large amount of growth in the future and therefore intersections in the area are expected to experience high levels of delay during the peak hours. However, due to the uncertainty of development schedules and the potential revision to the intensity of projects in the area, when and at what level growth will exactly occur is unknown. As these projects return with updated development plans and the new congestion-based model is completed for the County, there will be updated projections of the regional conditions on the updated transportation network in the County. That being said, US 278 will continue to be the main thoroughfare in southern Beaufort County carrying a majority of the traffic volume, but the Bluffton Parkway and the frontage road program (among other transportation network improvements) will add capacity to this area of the County providing some future relief to US 278.

## **2.0 Introduction**

The proposed Pepper Hall development is located on US 278 between SC 170 and Buckwalter Parkway in Beaufort County, SC. The proposed rezoning application includes a limitation of the total non-residential square footage to 700,000 square feet and 480 residential units. Non-residential includes commercial and office uses and the residential uses include both single family and condominium/townhome uses.

For the purposes of this Traffic Impact Analysis (TIA), the proposed development is assumed to be completed by 2023. A phased development of 350,000 square feet of non-residential area and 240 residential units is assumed to be completed by 2018.

## **3.0 Inventory**

### **3.1 Study Area**

Based on discussions with County staff, the study area for the TIA includes the following intersections:

- US 278 Westbound Off-Ramp at SC 170
- US 278 Eastbound Off-Ramp at SC 170

- SC 170 Southbound On-Ramp to US 278 Eastbound
- US 278 at Hampton Parkway
- US 278 at Island West Park/Graves Road
- US 278 at Island West Drive
- US 278 at Buckwalter Parkway/Berkeley Hall
- Bluffton Parkway at Hampton Parkway

**Figure 1** shows the site location for the project.

### 3.2 Existing Conditions

Roadways in the project vicinity include US 278, SC 170, Bluffton Parkway, Hampton Parkway, and Buckwalter Parkway.

US 278 is a four-lane divided roadway that is currently being widened by the South Carolina Department of Transportation (SCDOT) to six lanes with additional access management. The construction speed limit for US 278 is 45 mph. Based on 2011 SCDOT Annual Average Daily Traffic (AADT) counts, there are approximately 32,900 vehicles per day (vpd) in the vicinity of the site.

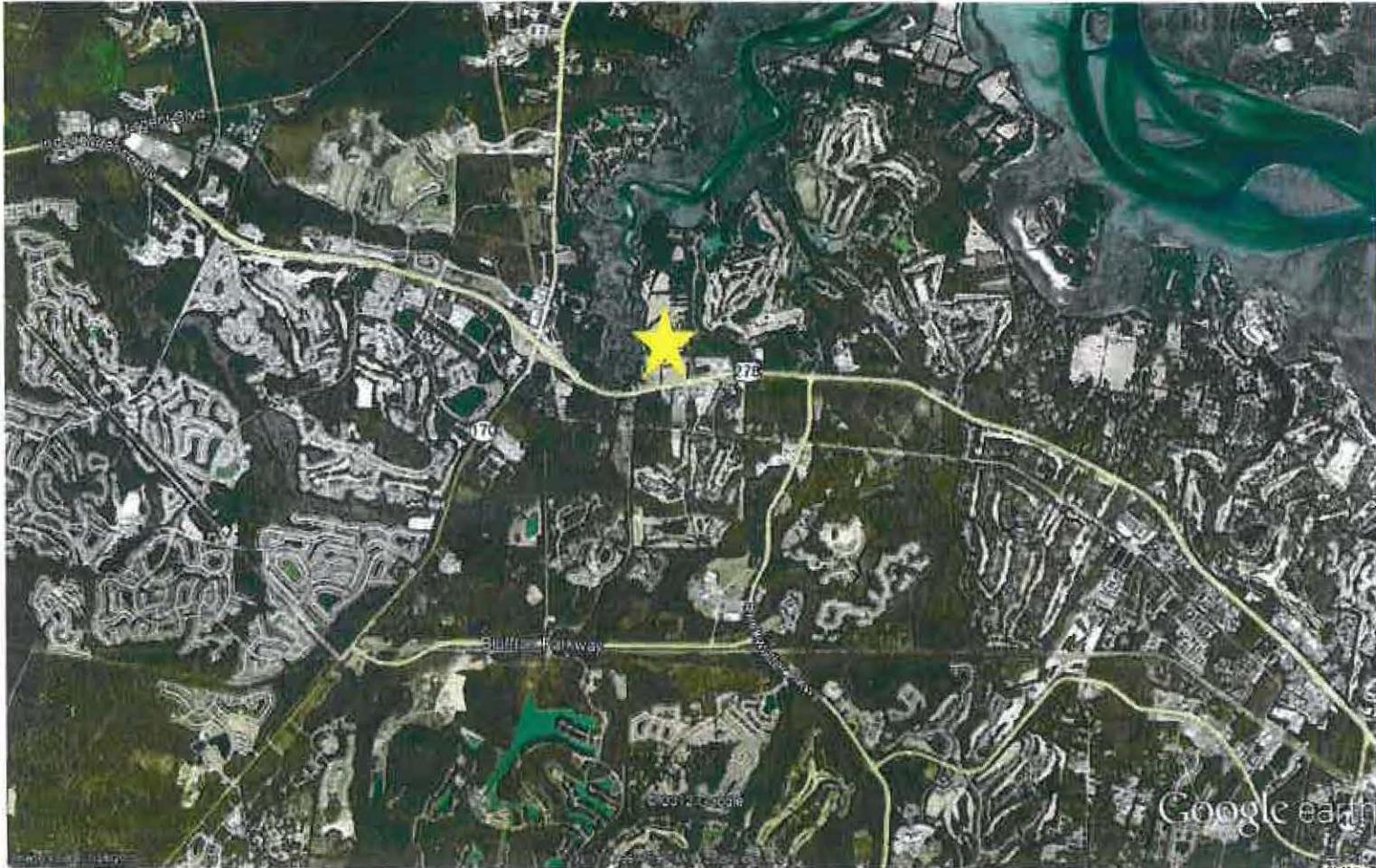
SC 170 is a four-lane divided roadway. SC 170 is a SCDOT roadway with a 45 mph speed limit. SC 170 has a diamond interchange with US 278 with a loop ramp from SC 170 Southbound to US 278 Eastbound.

Bluffton Parkway is a four-lane divided roadway. Bluffton Parkway is a County roadway with a 45 mph speed limit. In 2011, Bluffton Parkway between SC 170 and Buckwalter Parkway had 9,180 vpd.

Hampton Parkway is a two-lane roadway. Hampton Parkway is a County roadway with a 35 mph speed limit.

Buckwalter Parkway is a four-lane divided roadway. Bluffton Parkway is a County roadway with a 45 mph speed limit. In 2011, Buckwalter Parkway between US 278 and Bluffton Parkway had 10,610 vpd.

**Figure 2** shows the existing laneage for the study area intersections.



NOT TO SCALE

LEGEND

★ Site Location

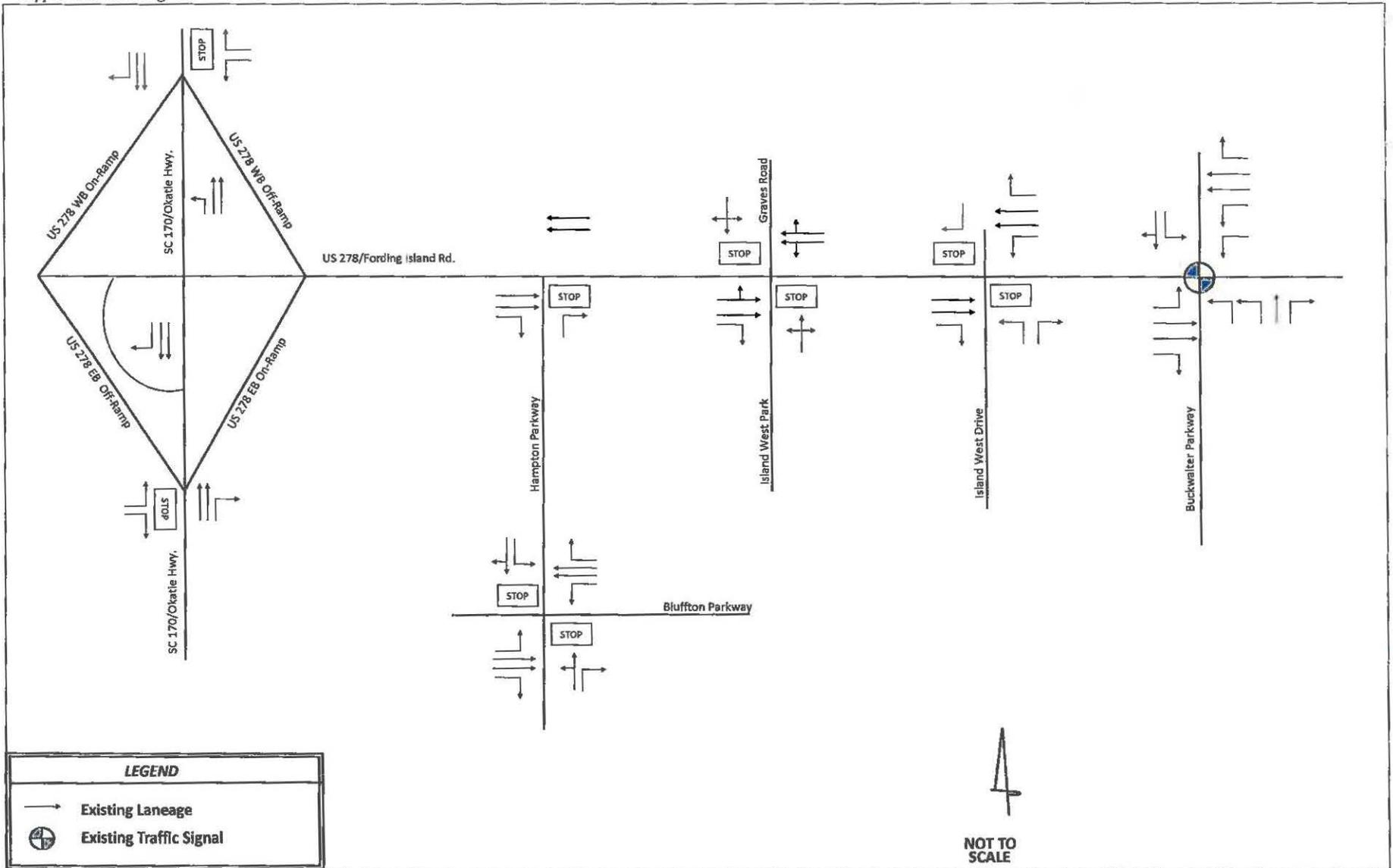


Pepper Hall Rezoning

Site Location

Figure  
1

Pepper Hall Rezoning



LEGEND	
	Existing Laneage
	Existing Traffic Signal



Pepper Hall Rezoning

Roadway Laneage

Figure 2

#### 4.0 Traffic Generation

The traffic generation potential of the proposed development was determined using trip generation rates published in Institute of Transportation Engineers (ITE) *Trip Generation* handbook (Institute of Transportation Engineers, Ninth Edition).

**Table 1** summarizes the 2018 Phase 1 projected peak hour trips associated with the proposed site for the rezoning application.

**Table 2** summarizes the 2023 projected peak hour trips associated with the proposed site for the rezoning application.

Internal capture values reflect the internal capture within the site as outlined in the ITE's *Trip Generation Handbook* as well as internal capture with the adjacent Buckwalter Commons development. The latter trips were assigned to the through movements at the US 278 at Hampton Parkway intersection.

Pass-by trips were calculated as outlined in the ITE's *Trip Generation Handbook*.

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
<b><u>Proposed Site Traffic</u></b>								
820 Shopping Center	240 ksf	11,997	266	164	102	1,077	516	561
210 Single Family Residential	120 DU	1,242	94	23	71	124	78	46
710 General Office	140 ksf	1,695	250	220	30	235	39	196
230 Condo/Townhome	120 DU	754	60	10	50	70	46	24
<b>Gross Trips</b>		<b>15,688</b>	<b>610</b>	<b>407</b>	<b>203</b>	<b>1,436</b>	<b>679</b>	<b>827</b>
<b>Internal Capture</b>			<b>161</b>	<b>81</b>	<b>80</b>	<b>464</b>	<b>237</b>	<b>227</b>
<i>Driveway Volumes</i>			<i>449</i>	<i>326</i>	<i>123</i>	<i>972</i>	<i>442</i>	<i>600</i>
<i>Pass-by Trips</i>			<i>35</i>	<i>21</i>	<i>14</i>	<i>294</i>	<i>141</i>	<i>153</i>
<b>New Trips</b>			<b>414</b>	<b>305</b>	<b>109</b>	<b>678</b>	<b>301</b>	<b>447</b>

**Table 2:  
Year 2023 – Trip Generation**

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour			
			Total	In	Out	Total	In	Out	
<b>Proposed Site Traffic</b>									
820 Shopping Center	420 ksf	17,260	374	231	143	1,567	752	815	
210 Single Family Residential	240 DU	2,871	436	383	53	392	66	326	
710 General Office	280 ksf	2,350	178	44	134	231	145	86	
230 Condo/Townhome	240 DU	1,378	104	17	87	123	82	41	
<b>Gross Trips</b>		<b>23,859</b>	<b>988</b>	<b>658</b>	<b>330</b>	<b>2,190</b>	<b>1,045</b>	<b>1,268</b>	
<b>Internal Capture</b>			<b>327</b>	<b>171</b>	<b>156</b>	<b>867</b>	<b>402</b>	<b>465</b>	
<i>Driveway Volumes</i>			<i>661</i>	<i>487</i>	<i>174</i>	<i>1,323</i>	<i>643</i>	<i>803</i>	
<i>Pass-by Trips</i>			<i>42</i>	<i>26</i>	<i>16</i>	<i>362</i>	<i>174</i>	<i>188</i>	
<b>New Trips</b>			<b>619</b>	<b>461</b>	<b>158</b>	<b>961</b>	<b>469</b>	<b>615</b>	

## 5.0 Beaufort County Traffic Model

The 2004 Beaufort County traffic model was used to review future total volumes and distribution of the site.

The following adjustments were made to the model socioeconomic data. These changes are land uses for areas that have been entered into Rural and Critical Lands program or areas where there has been an agreed upon reduction in development.

- Zone 74: Remove 20 employees.
- Zone 83: Remove 35 employees
- Zone 84: Remove 40 employees and 83 DU

The following roadway adjustments were added to the model transportation network.

- US 278 – 6-lane divided between McGarvey’s corner and the Hilton Head Bridges
- Bluffton Parkway – configured as approved by County Council (including section 5b between Buckwalter & Buck Island Rd)
- Bluffton Parkway north – divided 4-lane between SC 170 and Buckwalter Parkway
- Bluffton Parkway south – divided 4-lane between Buckwalter Parkway east to US 278
- SC 170 – 6-lane divided between McGarvey’s Corner and SC 46 as defined in the County’s Comp Plan

- Old Miller Road extended to Buckwalter Parkway as a 2-lane collector
- N/S Connector – Added this roadway between US 278 and Bluffton Pkwy 5b
- Add Davis Road Connector
- Add Buckwalter Place Connectors
- Add Pennington Drive
- Add Malphrus/Foreman Hill Connector

Model outputs are included in the **Appendix**.

## **6.0 Traffic Distribution**

The proposed project traffic was assigned to the surrounding roadway network. The directional distribution and assignment were based on knowledge of the area and model output results of the select zone analysis. The select zone results were adjusted to reflect the projected impact of the congested conditions of the network, increasing the percentage of trips on Hampton Parkway. For example, because the model assumes freeflow conditions, traffic was utilizing US 278 and SC 170 in heavy traffic to travel southbound on SC 170 rather than take the underutilized Hampton Parkway and Bluffton Parkway to SC 170.

The following cardinal directional distribution was applied to/from the site.

- 38% to/from west
- 37% to/from east
- 25% to/from south

Project trip assignment is shown in the volume figures in the next section.

## **7.0 Traffic Volumes**

### **7.1 2012 Existing Traffic**

Peak hour intersection turning movement counts were performed in December 2012 from 7 AM to 9 AM and from 4 PM to 6 PM at the following intersections:

- US 278 WB Off-Ramp at SC 170
- US 278 EB Off-Ramp at SC 170
- SC 170 SB On-Ramp at US 278

- US 278 at Hampton Parkway
- US 278 at Island West Park/Graves Road
- US 278 at Island West Drive
- US 278 at Buckwalter Parkway/Berkeley Hall
- Bluffton Parkway at Hampton Parkway

The turning movement count data are included in the **Appendix** and the AM and PM peak hour existing traffic volumes are shown in **Figure 3**.

### 7.2 Background Traffic

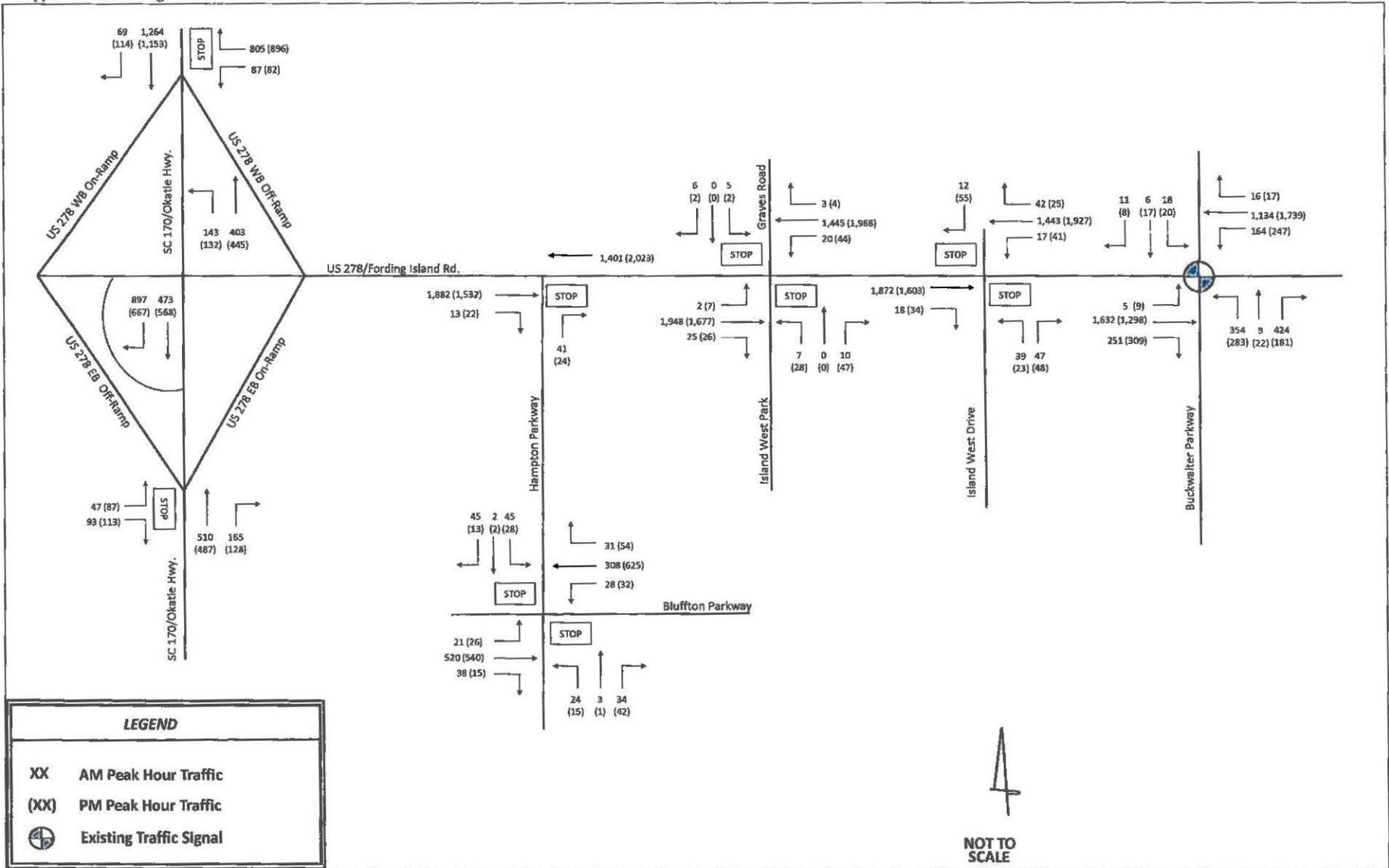
Historic growth is the increase in existing traffic volumes due to usage increases and non-specific growth throughout the area. Historically, based on SCDOT data, traffic has remained relatively consistent with growth occurring over the past year in the area. **Table 3** shows the SCDOT historic traffic volumes on US 278 in the vicinity of the site.

Year	SCDOT Annual Average Daily Traffic Volume
2006	41,900
2007	39,200
2008	35,500
2009	35,500
2010	32,900
2011	32,900

The model results show growth in traffic volumes of 4.7% per year.

Though traffic growth has shown to drop over the past years for a variety of reasons such as the completion of Bluffton Parkway and slowing of development in the area, the model incorporates the planned improvements and projects in the County, therefore, the model growth of 4.7% per year was used in the analysis.

Pepper Hall Rezoning



LEGEND	
XX	AM Peak Hour Traffic
(XX)	PM Peak Hour Traffic
	Existing Traffic Signal



Pepper Hall Rezoning

Existing Traffic Volumes

Figure 3

In addition to the model growth, the following approved development traffic was added to the overall growth rate: Buckwalter Commons, Willow Run, Graves Tract (east of this site), and the Enmark site. Due to the age of these studies, the trip assignments were adjusted as follows for the 2023 conditions.

- Buckwalter Commons was paired with this site and internal capture was calculated as these areas will likely interact together.
- Willow Run was adjusted to reflect assignment to the Bluffton Parkway; therefore 40% of the trips were assigned to access the site from the South.
- Graves Tract (east of this site) was reduced to reflect the remaining acreage left to develop.
- The Enmark site had no adjustments.

For the 2018 conditions, these developments were applied at 50% intensity as there are no updated plans for the first three sites at this time.

**Figure 4** and **Figure 5** show the 2018 background AM and PM peak hour traffic volumes. **Figure 6** and **Figure 7** show the 2023 background AM and PM peak hour traffic volumes.

### 7.3 Project Traffic

The AM peak hour and PM peak hour projected project trips were assigned based on the trip distribution discussed in **Section 5**.

### 7.4 2018 Buildout Traffic

The 2018 total traffic volumes include the 2018 background traffic and the proposed development traffic at buildout. The 2018 AM peak hour and PM peak hour total traffic volumes are shown in **Figure 4** and **Figure 5**, respectively.

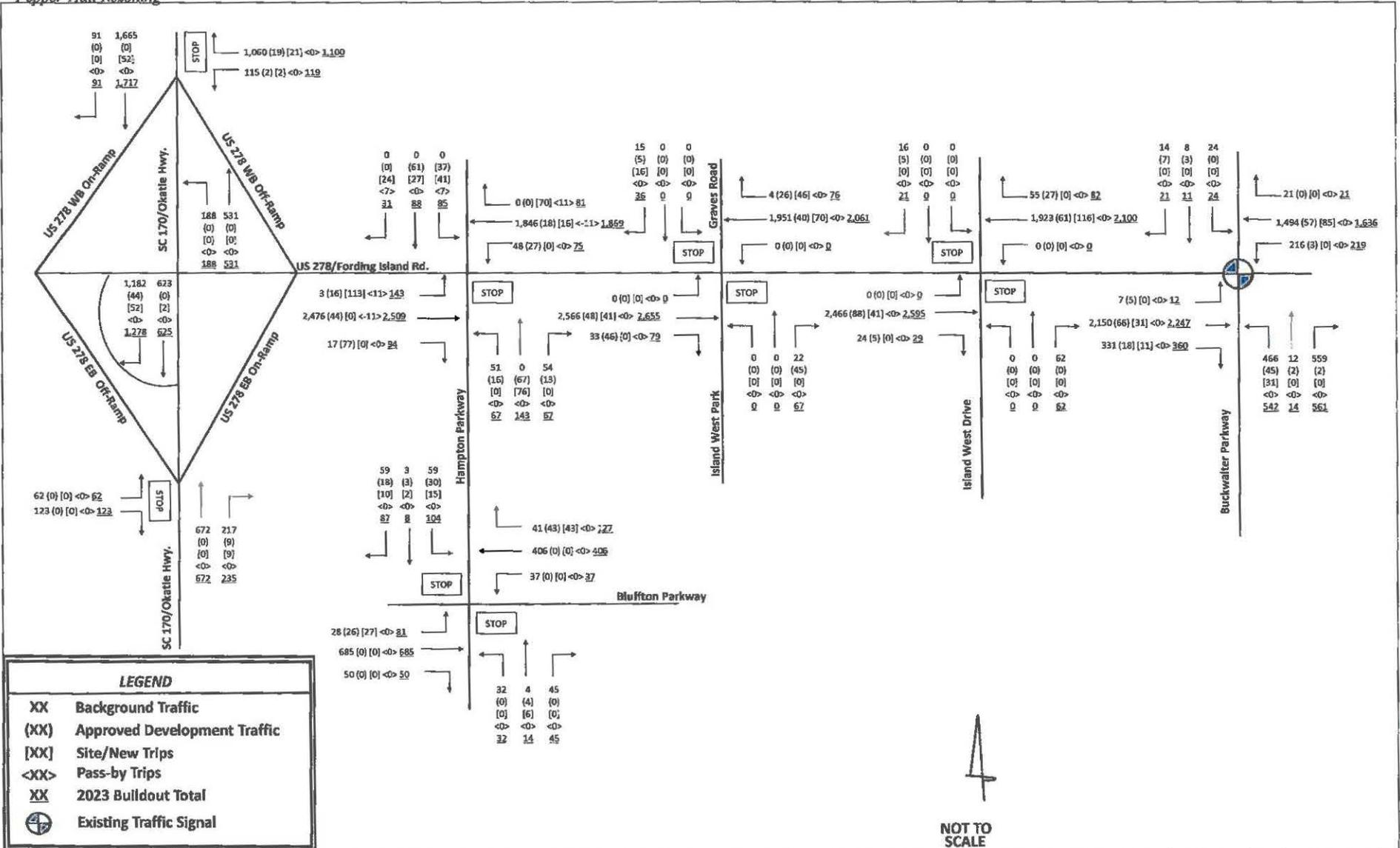
Intersection volume development worksheets are included in the **Appendix**.

### 7.5 2023 Buildout Traffic

The 2023 total traffic volumes include the 2023 background traffic and the proposed development traffic at buildout. The 2023 AM peak hour and PM peak hour total traffic volumes are shown in **Figure 6** and **Figure 7**, respectively.

Intersection volume development worksheets are included in the **Appendix**.

Pepper Hall Rezoning

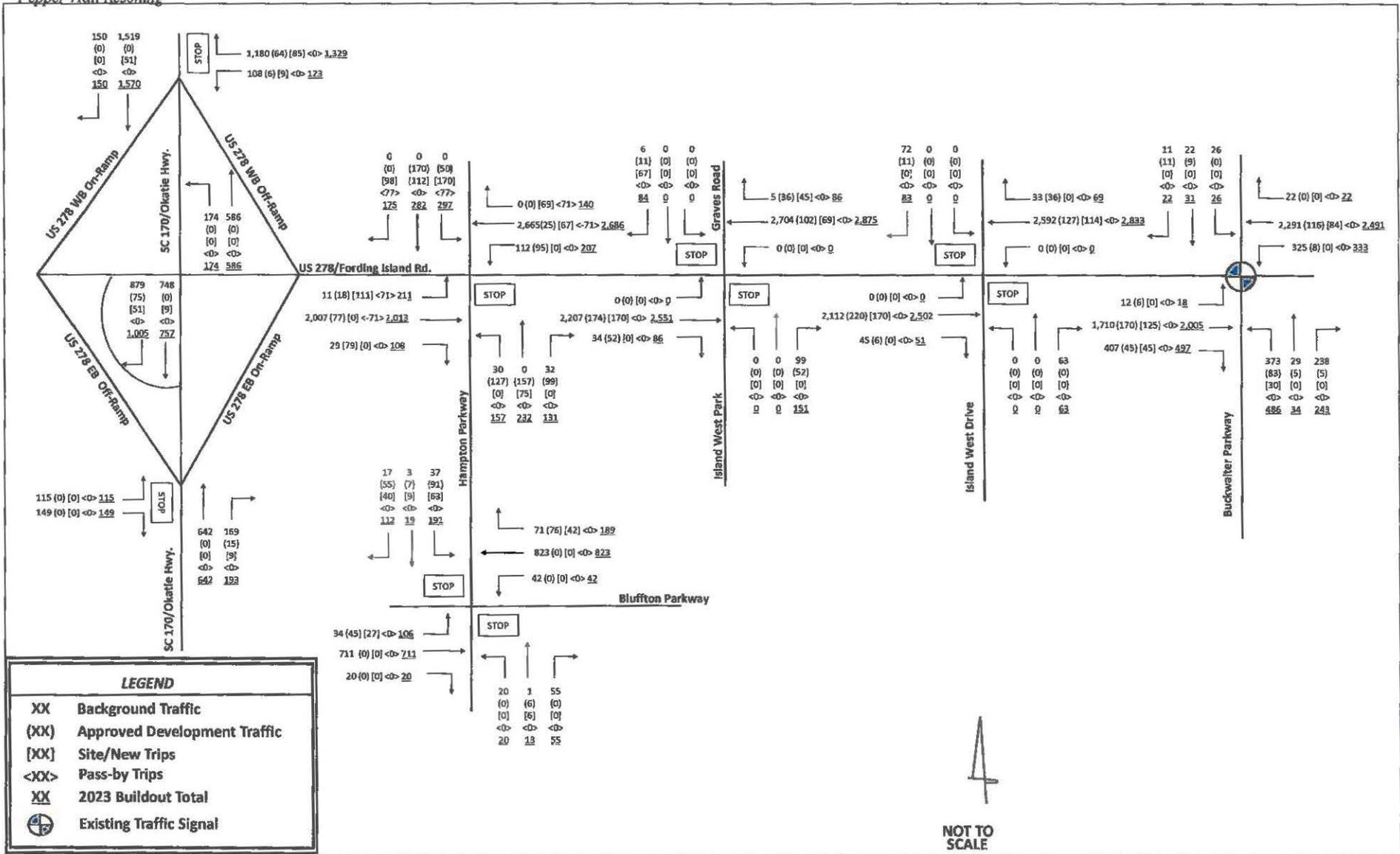


Pepper Hall Rezoning

2018 AM Traffic Volumes

Figure 4

Pepper Hall Rezoning

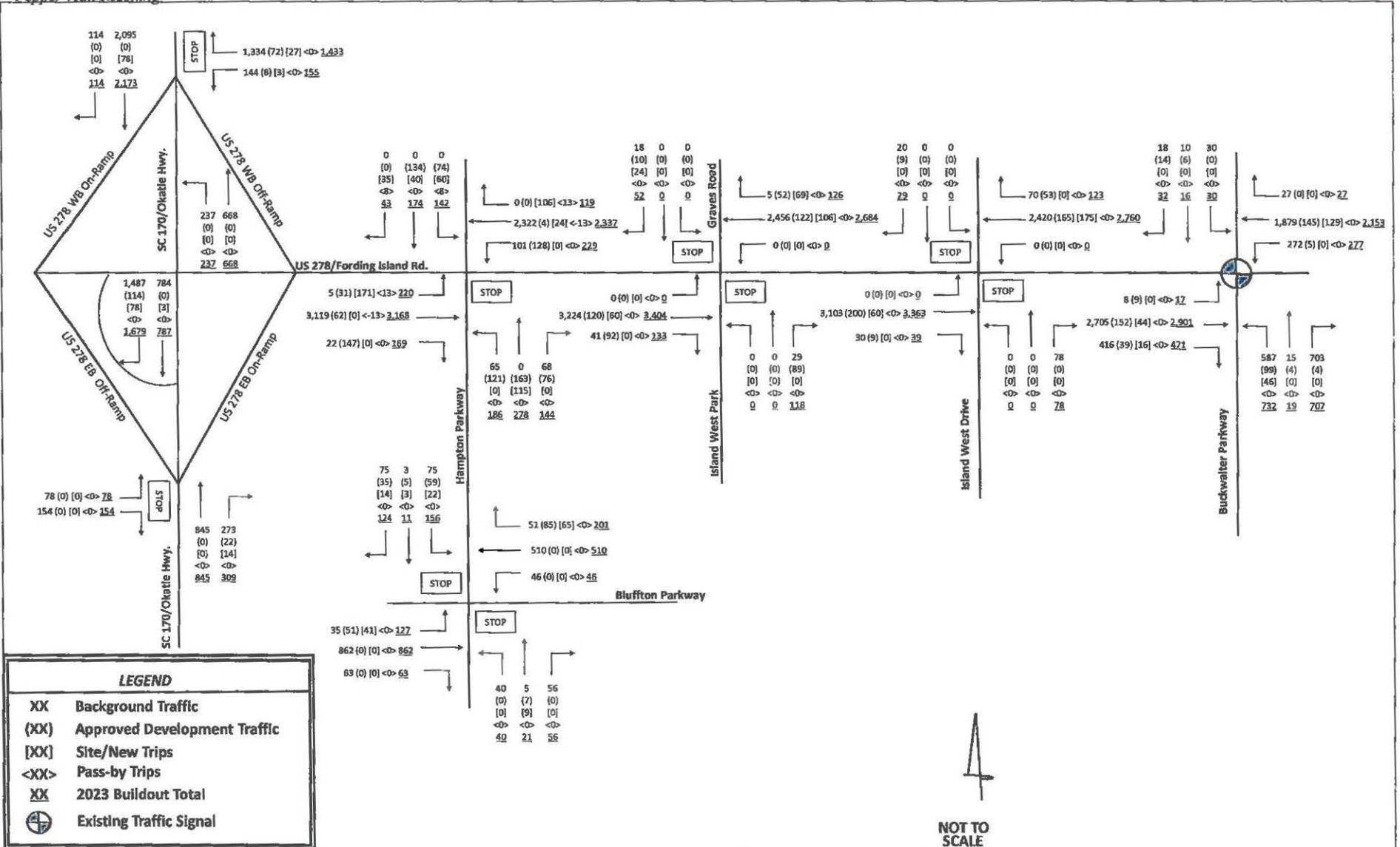


Pepper Hall Rezoning

2018 PM Traffic Volumes

Figure 5

Pepper Hall Rezoning

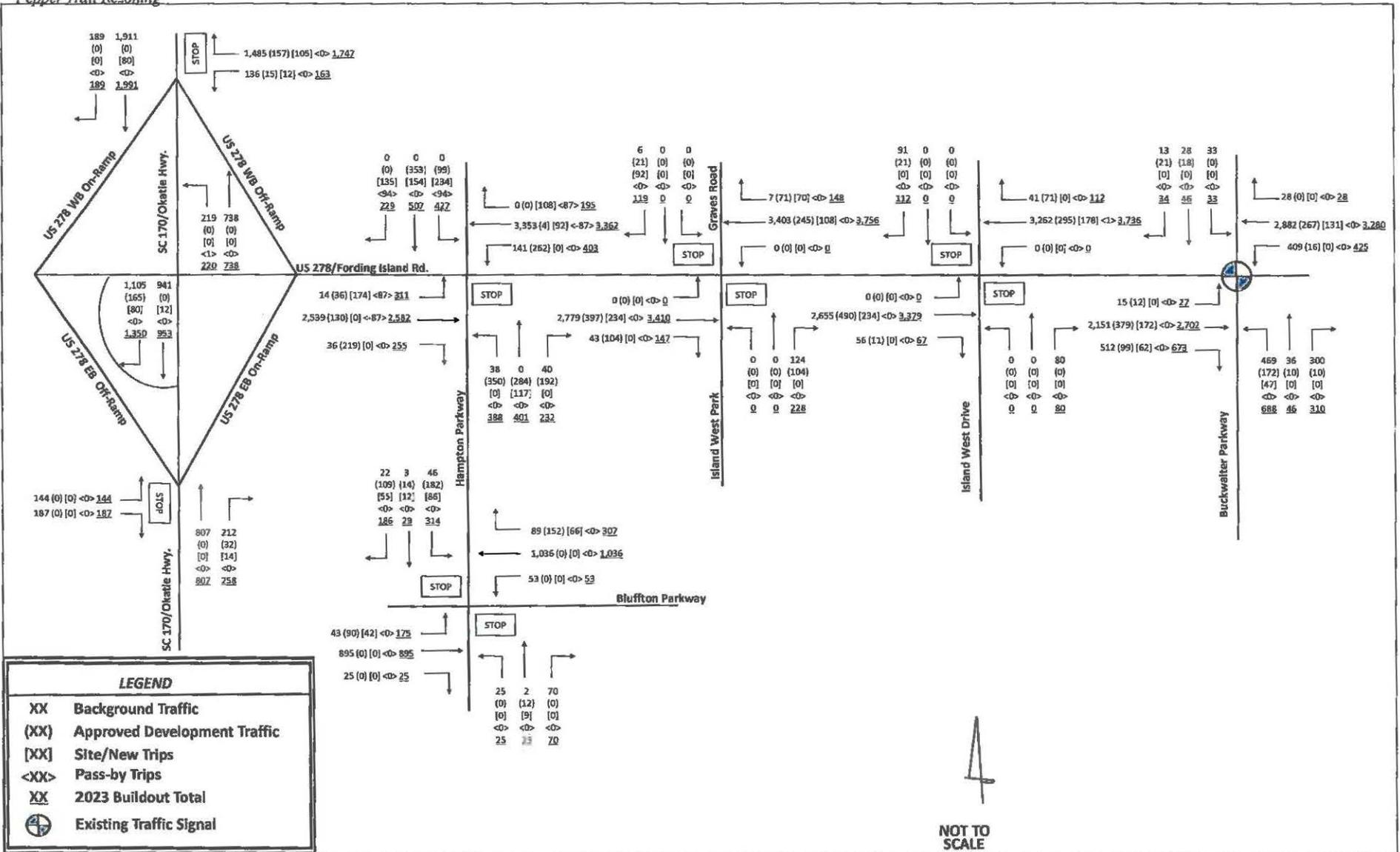


Pepper Hall Rezoning

2023 AM Traffic Volumes

Figure 6

Pepper Hall Rezoning



Pepper Hall Rezoning

2023 PM Traffic Volumes

Figure 7

## 8.0 Capacity Analysis

Capacity analyses were performed for the AM and PM peak hours for the 2012 existing, 2018 background and buildout conditions, and 2023 background and buildout conditions using the Synchro Version 8 software to determine the operating characteristics of the adjacent road network and the potential traffic impacts of the proposed project. The analyses were conducted with methodologies contained in the *2000 Highway Capacity Manual* (TRB Special Report 209, 2000 update).

Capacity of an intersection is the maximum number of vehicles that can pass over a particular road segment or through a particular intersection during a specified time, typically an hour. Level-of-Service (LOS) describes the operating characteristics of an intersection. LOS is defined as a qualitative measure that describes operational conditions and motorist perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A being the best and F being the worst.

LOS for a two-way stop-controlled (TWSC) intersection is determined by the delay of the poorest performing minor approach as LOS is not defined for TWSC intersections as a whole. Capacity analyses were performed for the 2012 existing, 2018 background and buildout conditions, and 2023 background and buildout conditions for the following intersections:

- US 278 Westbound Off-Ramp at SC 170
- US 278 Eastbound Off-Ramp at SC 170
- SC 170 Southbound On-Ramp to US 278 Eastbound
- US 278 at Hampton Parkway
- US 278 at Island West Park/Graves Road
- US 278 at Island West Drive
- US 278 at Buckwalter Parkway/Berkeley Hall
- Bluffton Parkway at Hampton Parkway

**Table 4** summarizes the level-of-service (LOS) and control delay (average seconds of delay per vehicle) for the study intersections with 2012 existing, 2018 background and buildout conditions, and 2023 background and buildout conditions for the AM and PM peak hours.

**Table 5** shows the results of the ramp operations analysis from SC 170 southbound loop ramp to US 278 eastbound. This analysis was performed using the HCS 2010 software program.

**Table 4:  
Level of Service<sup>1</sup> and average delay in seconds per vehicle**

Intersection	Traffic Control <sup>2</sup>	Existing Conditions		2018 Background Conditions		2018 Buildout Conditions		2023 Background Conditions		2023 Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 278 at Hampton Parkway	U/S	C (23.3) - NB	C (18.7) - NB	C (29.7)	D (52.2)	D (37.9)	F (87.0)	F (86.6)	F (211.1)	F (99.5)	F (274.8)
US 278 at Island West Park/Graves Road	U	F (1178.0) - NB	F (*) - NB	C (15.4) - SB	C (21.6) - SB	C (17.5) - SB	F (52.0) - SB	C (21.1) - SB	E (39.7) - SB	D (29.3) - SB	F (400.3) - SB
US 278 at Island West Drive	U	F (4547.9) - NB	F (3252.0) - NB	C (21.7) - NB	D (26.5) - SB	C (22.2) - NB	D (28.6) - SB	E (39.9) - NB	F (81.5) - SB	E (42.0) - NB	F (104.2) - SB
US 278 at Buckwalter Parkway	S	E (77.8)	D (47.7)	F (83.3)	D (48.6)	F (87.1)	D (53.3)	F (168.8)	F (138.6)	F (173.1)	F (159.7)
Hampton Parkway at Bluffton Parkway	U/S	C (20.2) - NB	D (32.0) - SB	B (12.0)	B (17.6)	A (9.4)	B (18.8)	C (25.8)	C (31.9)	C (27.7)	C (33.6)
US 278 WB Off-Ramp at SC 170	U	F (192.3) - WB	F (196.2) - WB	B (16.4)	B (17.2)	B (16.0)	C (20.7)	D (50.1)	F (80.5)	E (66.7)	F (94.5)
SC 170 at US 278 EB Off-Ramp	U	C (15.0) - EB	C (19.4) - EB	C (20.0) - EB	F (50.5) - EB	C (20.1) - EB	F (52.3) - EB	E (42.0) - EB	F (543.8) - EB	E (42.4) - EB	F (566.1) - EB

1. For unsignalized intersections, the level of service of the poorest performing minor approach is reported. LOS A = Level of Service A
2. S = Signalized, U = Unsignalized
3. EB = Eastbound, WB = Westbound, SB = Southbound, NB = Northbound

**Table 5:  
Weaving Level of Service<sup>1</sup> and density in passenger cars per mile per lane**

Intersection	Traffic Control <sup>2</sup>	Existing Conditions		2018 Background Conditions		2018 Buildout Conditions		2023 Background Conditions		2023 Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
SC 170 SB to US 278 EB	Merge	C (22.7)	B (17.5)	D (31.1)	C (24.6)	D (32.6)	C (26.1)	F (40.0)	D (32.7)	F (42.3)	F (35.1)

The results of the analysis show that currently some of the side street movements on US 278 are experiencing high delay during the peak hours.

The future year analysis shows the implementation of the following roadway network improvements:

- US 278 widened to six lanes in the area of the project and stricter access management applied to existing full access driveways
- Hampton Parkway relocated and signalized at US 278 with the Island West connector constructed
- Signalization of Bluffton Parkway at Hampton Parkway
- Improvements to SC 170 and ramps with US 278
- US 278 Frontage Road from Berkeley Hall to site
- Bluffton Parkway flyover to US 278

As this is a rezoning traffic study, it was assumed these were in place; specific responsibility for these improvements has not been identified or allocated as part of this study.

The analysis shows that there are intersections experiencing delay in the future with and without this project. With a 4.7%/year growth rate, US 278 traffic volumes are expected to double by year 2025, so the current six-laning is projected to operate at LOS F. The addition of the Bluffton Parkway as an alternative route is expected to help lessen the impacts on US 278 although the freeflow methodology of the 2004 model does not completely replicate the expected shift to the Parkway. However, it is expected the US 278 will continue to carry a large percentage of regional traffic in the future.

The main access intersection for the project, US 278 at Hampton Parkway, is projected to operate at elevated levels of service in the future conditions with dual left turn lanes for all approaches. The intersection of US 278 at Buckwalter Parkway continues to deteriorate in the future as well, as US 278 traffic increases.

The right-in, right-out side street movements operate with some delay as expected on a corridor such as US 278. At buildout, US 278 at Graves Road experiences elevated levels of delay during the PM peak hour.

If the project was phased with partial buildout in 2018, the roadway network would experience elevated delay in the peak hour at the main access point at US 278 and at Buckwalter Parkway at US 278, but not as severe as 2023 conditions.

The merge movement from SB SC 170 to EB US 278 begins to experience LOS F conditions between years 2018 and 2023 as traffic volumes are projected to increase.

Capacity analysis and ramp operations analysis reports are included in the **Appendix**.

## 9.0 Conclusion

The proposed Pepper Hall development is located on US 278 between SC 170 and Buckwalter Parkway in Beaufort County, SC. The proposed rezoning application includes a limitation of the total non-residential square footage to 700,000 square feet and 480 residential units. Non-residential includes commercial and office uses and the residential uses include both single family and condominium/townhome uses.

For the purposes of this Traffic Impact Analysis (TIA), the proposed development is assumed to be completed by 2023. A phased development of 350,000 square feet of non-residential area and 240 residential units is assumed to be completed by 2018.

The results of the analysis show that in year 2023 there is expected to be increased congestion on US 278 in the background and buildout conditions at the signalized intersections with the committed roadway improvements. However, this assumes a 4.7% per year growth rate along the corridor. Due to the added transportation network facilities and the revision of other project plans relative to the data in the model (which is current as of 2004) the growth rate may or may not be that high in the future.

The main access intersection for the project, US 278 at Hampton Parkway, is projected to operate at elevated levels of service in the future conditions with dual left turn lanes for all approaches. The intersection of US 278 at Buckwalter Parkway also continues to increase in delay in the future, as traffic on US 278 increases. US 278 at Graves Road is also expected to have elevated delay during the 2023 PM peak hour conditions.

The right-in, right-out side street movements operate as expected on a corridor such as US 278 in both the 2018 and 2023 buildout and background conditions.

If the project was phased with partial buildout in 2018, the roadway network would experience elevated delay in the peak hours at the main access point at US 278 and at Buckwalter Parkway at US 278 but more manageable than 2023 conditions, with other intersections operating acceptably.

In summary, this area is expected to experience a large amount of growth in the future and therefore intersections in the area are expected to experience high levels of delay during the peak

hours. However, due to the uncertainty of development schedules and the potential revision to the intensity of projects in the area, when and at what level growth will exactly occur is unknown. As these projects return with updated development plans and the new congestion-based model is completed for the County, there will be updated projections of the regional conditions on the updated transportation network in the County. That being said, US 278 will continue to be the main thoroughfare in southern Beaufort County carrying a majority of the traffic volume, but the Bluffton Parkway and the frontage road program (among other transportation network improvements) will add capacity to this area of the County providing some future relief to US 278.

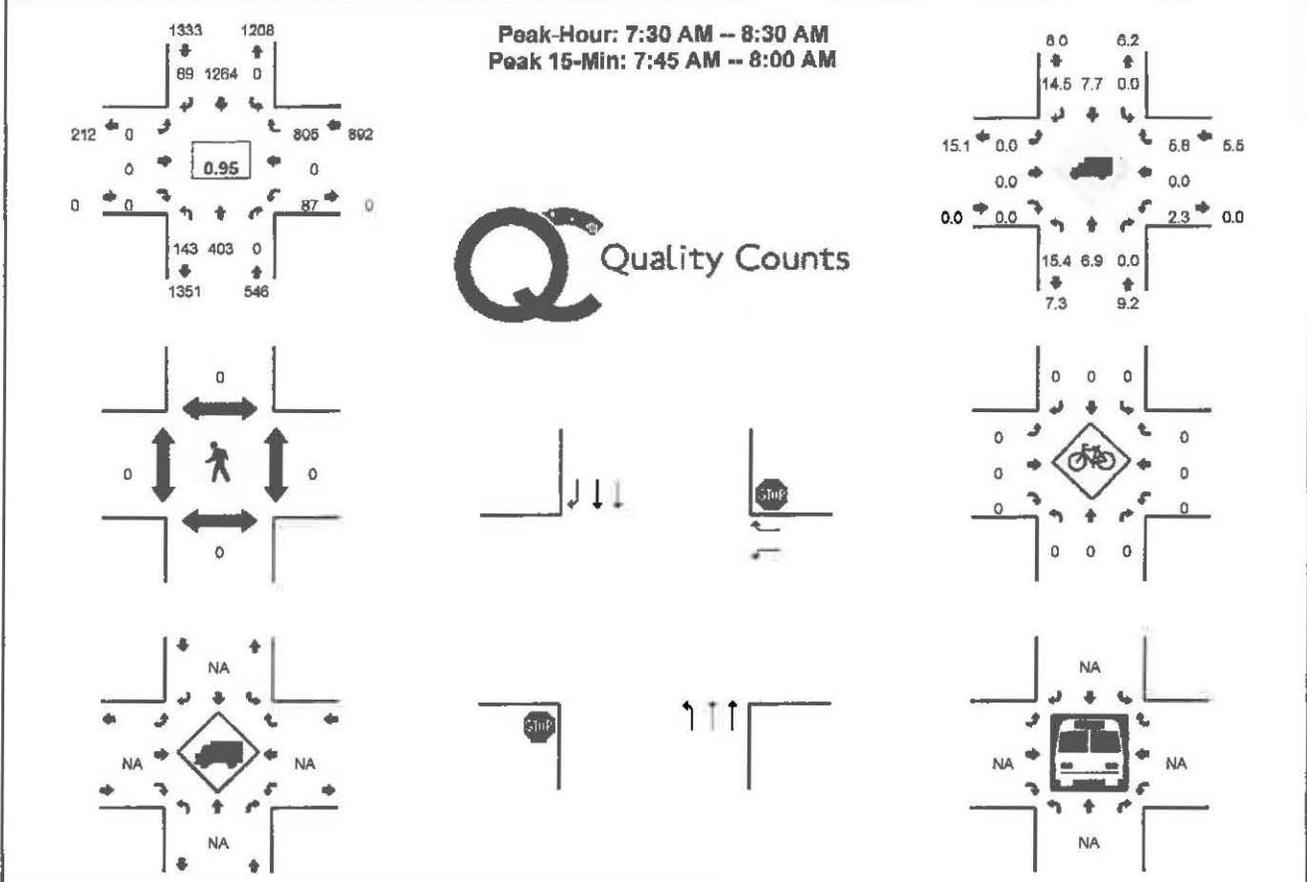
## Appendix

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Okatie Hwy -- US 278 WB Ramps  
CITY/STATE: Okatie, SC

QC JOB #: 10861107  
DATE: Wed, Dec 05 2012



15-Min Count Period Beginning At	Okatie Hwy (Northbound)				Okatie Hwy (Southbound)				US 278 WB Ramps (Eastbound)				US 278 WB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	26	84	0	0	0	280	8	0	0	0	0	0	18	0	153	0	569	
7:15 AM	28	102	0	0	0	298	12	0	0	0	0	0	22	0	147	0	609	
7:30 AM	30	93	0	0	0	346	11	0	0	0	0	0	18	0	173	0	671	
7:45 AM	31	103	0	0	0	302	18	0	0	0	0	0	25	0	252	0	731	2680
8:00 AM	45	109	0	0	0	314	22	0	0	0	0	0	27	0	192	0	709	2720
8:15 AM	37	98	0	0	0	302	18	0	0	0	0	0	17	0	188	0	660	2771
8:30 AM	29	80	0	0	0	274	31	0	0	0	0	0	24	0	134	0	572	2672
8:45 AM	45	101	0	0	0	275	25	0	0	0	0	0	23	0	108	0	577	2518
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
All Vehicles	124	412	0	0	0	1208	72	0	0	0	0	0	100	0	1008	0		2924
Heavy Trucks	12	16	0	0	0	76	12	0	0	0	0	0	0	0	52	0	168	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

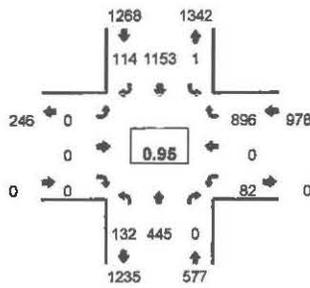
Comments:

Type of peak hour being reported: Intersection Peak

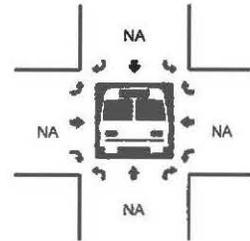
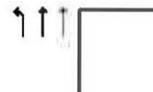
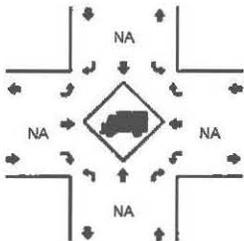
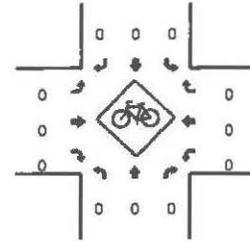
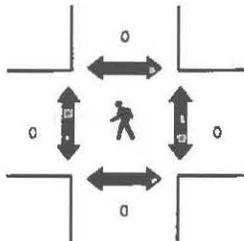
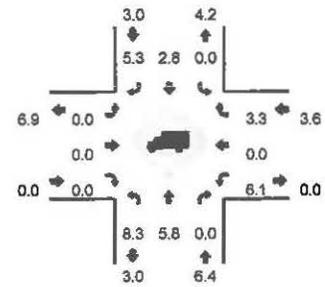
Method for determining peak hour: Total Entering Volume

LOCATION: Okatie Hwy -- US 278 WB Ramps  
 CITY/STATE: Okatie, SC

QC JOB #: 10861108  
 DATE: Tue, Dec 04 2012



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



15-Min Count Period Beginning At	Okatie Hwy (Northbound)				Okatie Hwy (Southbound)				US 278 WB Ramps (Eastbound)				US 278 WB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	32	93	0	0	0	251	21	0	0	0	0	0	31	0	185	0	613	
4:15 PM	33	102	0	0	0	247	22	0	0	0	0	0	20	0	228	0	652	
4:30 PM	32	103	0	0	0	298	40	0	0	0	0	0	20	0	244	0	737	
4:45 PM	39	118	0	0	0	262	23	1	0	0	0	0	16	0	225	0	684	2686
5:00 PM	28	116	0	0	0	295	28	0	0	0	0	0	19	0	174	0	660	2733
5:15 PM	33	108	0	0	0	298	23	0	0	0	0	0	27	0	253	0	742	2823
5:30 PM	22	94	0	0	0	277	19	0	0	0	0	0	33	0	228	0	673	2759
5:45 PM	28	108	0	0	0	227	18	1	0	0	0	0	21	0	163	0	566	2641

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	132	432	0	0	0	1192	92	0	0	0	0	0	108	0	1012	0	2968	
Heavy Trucks	4	4	0	0	0	20	4	0	0	0	0	0	0	0	16	0	48	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

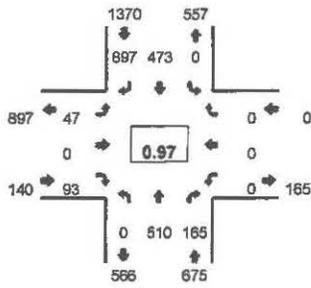
Comments:

Type of peak hour being reported: Intersection Peak

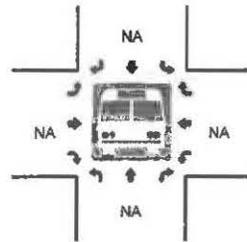
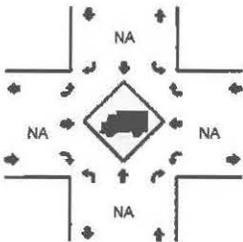
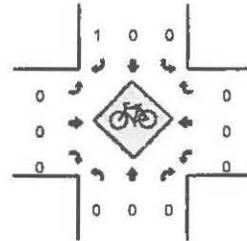
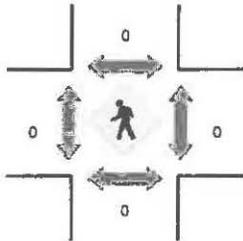
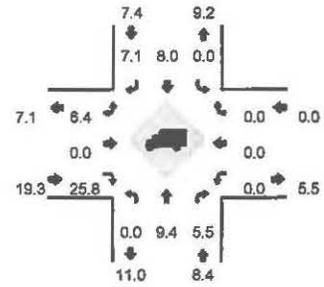
Method for determining peak hour: Total Entering Volume

LOCATION: Okatie Hwy -- US 278 EB Ramps  
 CITY/STATE: Okatie, SC

QC JOB #: 10861105  
 DATE: Wed, Dec 05 2012



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



15-Min Count Period Beginning At	Okatie Hwy (Northbound)				Okatie Hwy (Southbound)				US 278 EB Ramps (Eastbound)				US 278 EB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	101	27	0	0	85	196	0	7	0	11	0	0	0	0	0	427	
7:15 AM	0	122	32	0	0	92	223	0	8	0	15	0	0	0	0	0	492	
7:30 AM	0	122	40	0	0	124	248	0	9	0	18	0	0	0	0	0	568	
7:45 AM	0	127	41	0	0	116	218	0	9	0	29	0	0	0	0	0	540	2022
8:00 AM	0	145	37	0	0	119	221	0	16	0	20	0	0	0	0	0	558	2153
8:15 AM	0	116	47	0	0	114	209	0	13	0	25	0	0	0	0	0	524	2185
8:30 AM	0	98	32	0	0	112	197	0	13	0	23	0	0	0	0	0	475	2097
8:45 AM	0	122	29	0	0	100	194	0	22	0	15	0	0	0	0	0	482	2039
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	488	160	0	0	496	996	0	36	0	76	0	0	0	0	0	2252	
Heavy Trucks	0	44	4		0	44	52		8	0	16		0	0	0		168	
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

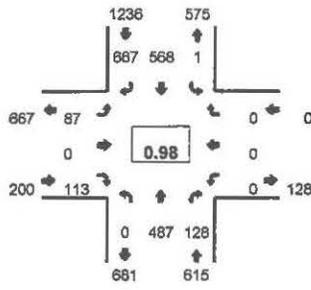
Comments:

Type of peak hour being reported: Intersection Peak

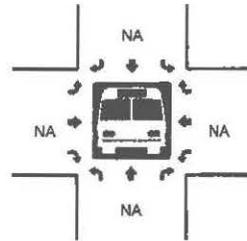
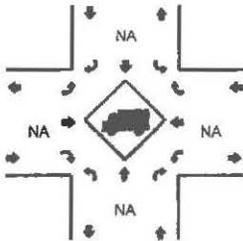
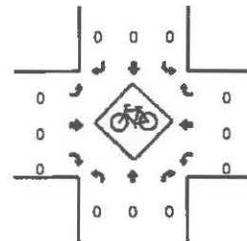
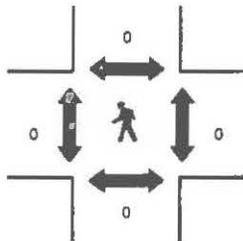
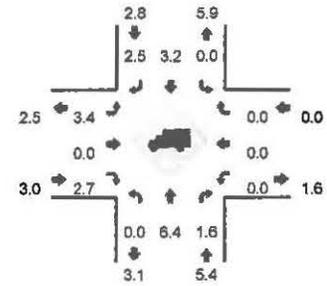
Method for determining peak hour: Total Entering Volume

LOCATION: Okatie Hwy -- US 278 EB Ramps  
 CITY/STATE: Okatie, SC

QC JOB #: 10861106  
 DATE: Tue, Dec 04 2012



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



15-Min Count Period Beginning At	Okatie Hwy (Northbound)				Okatie Hwy (Southbound)				US 278 EB Ramps (Eastbound)				US 278 EB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	114	42	0	0	127	152	0	18	0	18	0	0	0	0	0	471	
4:15 PM	0	126	39	0	0	117	152	0	15	0	22	0	0	0	0	0	471	
4:30 PM	0	118	28	0	0	140	187	0	22	0	27	0	0	0	0	0	623	
4:45 PM	0	138	36	0	0	128	155	0	23	0	23	0	0	0	0	0	501	1968
5:00 PM	0	114	32	0	0	151	165	1	25	0	31	0	0	0	0	0	519	2014
5:15 PM	0	118	32	0	0	149	180	0	17	0	32	0	0	0	0	0	608	2051
5:30 PM	0	99	36	0	0	137	174	0	13	0	28	0	0	0	0	0	487	2015
5:45 PM	0	117	31	0	0	107	140	0	14	0	20	0	0	0	0	0	429	1943
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	478	112	0	0	560	748	0	88	0	108	0	0	0	0	0	2092	
Heavy Trucks	0	36	0	0	0	12	24	0	8	0	4	0	0	0	0	0	84	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

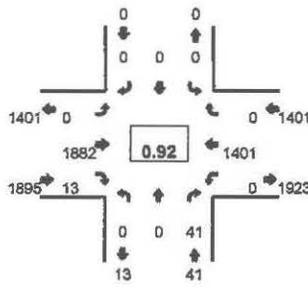
Comments:

Type of peak hour being reported: Intersection Peak

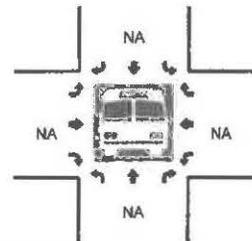
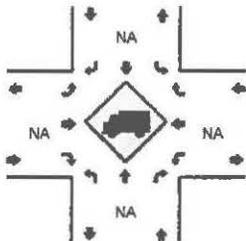
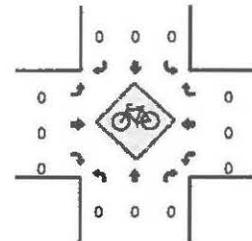
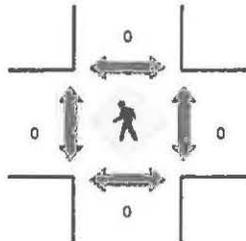
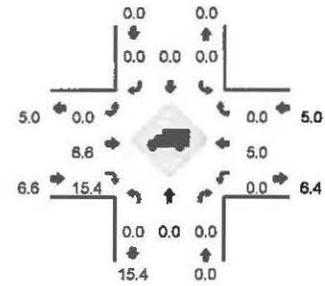
Method for determining peak hour: Total Entering Volume

LOCATION: Hampton Pkwy Rd -- Fording Island Rd (US 278)  
 CITY/STATE: Bluffton, SC

QC JOB #: 10861109  
 DATE: Wed, Dec 05 2012



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



15-Min Count Period Beginning At	Hampton Pkwy Rd (Northbound)				Hampton Pkwy Rd (Southbound)				Fording Island Rd (US 278) (Eastbound)				Fording Island Rd (US 278) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	14	0	0	0	0	0	0	342	8	0	0	233	0	0	597	
7:15 AM	0	0	8	0	0	0	0	0	0	450	4	0	0	274	0	0	736	
7:30 AM	0	0	12	0	0	0	0	0	0	495	2	0	0	293	0	0	802	
7:45 AM	0	0	12	0	0	0	0	0	0	475	2	0	0	424	0	0	811	3046
8:00 AM	0	0	9	0	0	0	0	0	0	461	4	0	0	341	0	0	815	3264
8:15 AM	0	0	8	0	0	0	0	0	0	453	5	0	0	343	0	0	809	3337
8:30 AM	0	0	12	0	0	0	0	0	0	414	4	0	0	299	0	0	729	3264
8:45 AM	0	0	16	0	0	0	0	0	0	412	3	0	0	306	0	0	737	3090

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	0	48	0	0	0	0	0	0	1892	8	0	0	1696	0	0	3644
Heavy Trucks	0	0	0		0	0	0		0	96	0		0	68	0		164
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

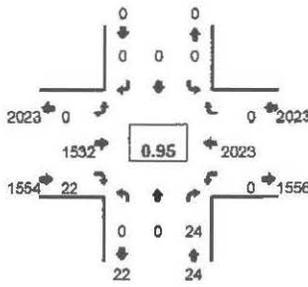
Comments:

Type of peak hour being reported: Intersection Peak

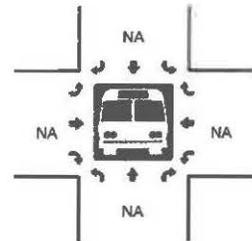
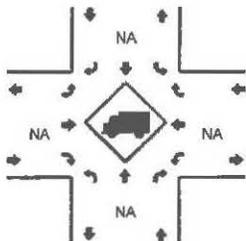
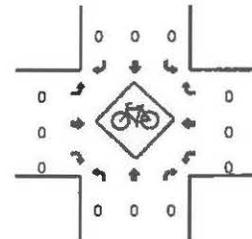
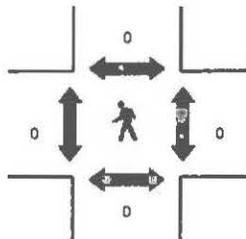
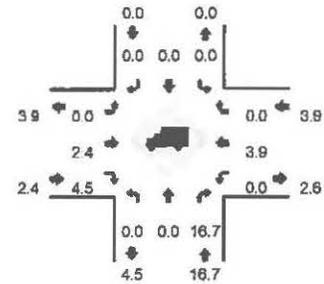
Method for determining peak hour: Total Entering Volume

LOCATION: Hampton Pkwy Rd -- Fording Island Rd (US 278)  
 CITY/STATE: Bluffton, SC

QC JOB #: 10861110  
 DATE: Tue, Dec 04 2012



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



15-Min Count Period Beginning At	Hampton Pkwy Rd (Northbound)				Hampton Pkwy Rd (Southbound)				Fording Island Rd (US 278) (Eastbound)				Fording Island Rd (US 278) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	7	0	0	0	0	0	0	401	8	0	0	440	0	0	856	
4:15 PM	0	0	6	0	0	0	0	0	0	394	7	0	0	476	0	0	883	
4:30 PM	0	0	7	0	0	0	0	0	0	402	8	0	0	532	0	0	949	
4:45 PM	0	0	8	0	0	0	0	0	0	371	4	0	0	482	0	0	865	3553
5:00 PM	0	0	4	0	0	0	0	0	0	376	5	0	0	455	0	0	840	3537
5:15 PM	0	0	5	0	0	0	0	0	0	383	5	0	0	554	0	0	947	3601
5:30 PM	0	0	8	0	0	0	0	0	0	412	8	0	0	459	0	0	887	3539
5:45 PM	0	0	5	0	0	0	0	0	0	354	7	0	0	332	0	0	698	3372
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
All Vehicles	0	0	28	0	0	0	0	0	0	1608	32	0	0	2128	0	0	3796	
Heavy Trucks	0	0	0		0	0	0		0	60	4		0	120	0		184	
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

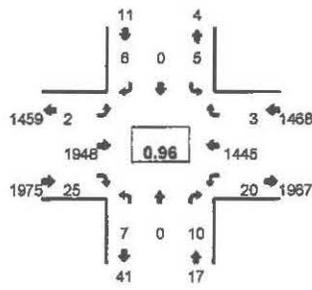
Comments:

Type of peak hour being reported: Intersection Peak

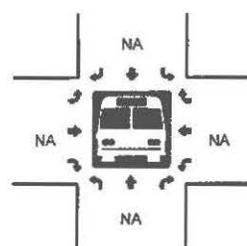
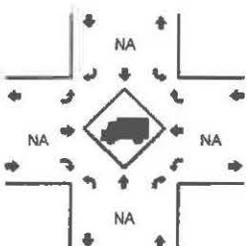
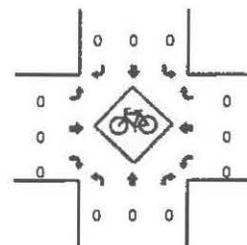
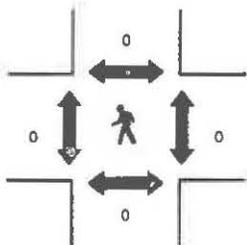
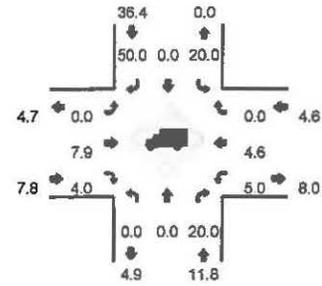
Method for determining peak hour: Total Entering Volume

LOCATION: Graves Rd – Fording Island Rd (US 278)  
 CITY/STATE: Okatie, SC

QC JOB #: 10861111  
 DATE: Tue, Dec 11 2012



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



15-Min Count Period Beginning At	Graves Rd (Northbound)				Graves Rd (Southbound)				Fording Island Rd (US 278) (Eastbound)				Fording Island Rd (US 278) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	1	0	0	0	0	0	0	335	4	0	3	244	0	0	587	
7:15 AM	0	0	3	0	1	0	0	0	0	405	5	2	2	326	1	1	746	
7:30 AM	0	0	1	0	3	0	2	0	1	518	6	0	4	330	0	0	865	
7:45 AM	3	0	1	0	0	0	1	0	0	478	4	0	3	414	1	0	905	3103
8:00 AM	1	0	5	0	1	0	1	0	0	484	6	1	1	336	1	3	840	3356
8:15 AM	3	0	3	0	1	0	2	0	0	468	9	0	8	365	1	1	861	3471
8:30 AM	2	0	2	0	0	0	0	0	0	438	7	0	6	307	0	3	765	3371
8:45 AM	1	0	3	0	2	0	1	0	6	383	12	1	13	282	0	3	707	3173
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
All Vehicles	12	0	4	0	0	0	4	0	0	1912	16	0	12	1656	4	0		3620
Heavy Trucks	0	0	0	0	0	0	0	0	0	148	0	0	0	84	0	0	212	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

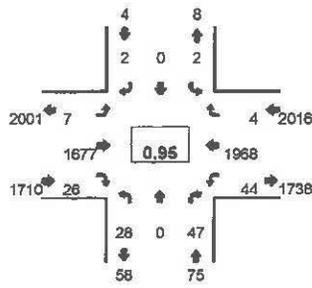
Comments:

Type of peak hour being reported: Intersection Peak

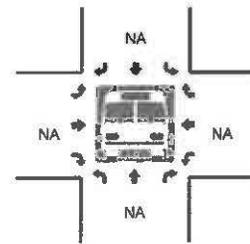
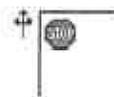
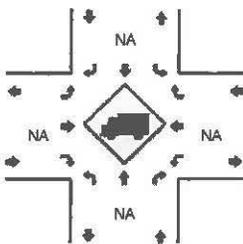
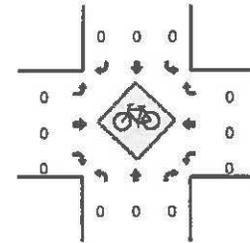
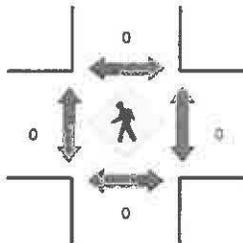
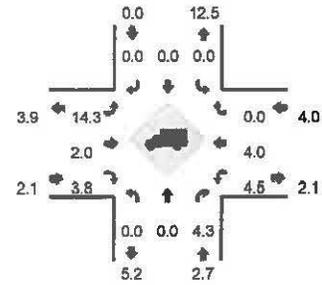
Method for determining peak hour: Total Entering Volume

LOCATION: Graves Rd -- Fording Island Rd (US 278)  
 CITY/STATE: Okatie, SC

QC JOB #: 10861112  
 DATE: Tue, Dec 11 2012



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



15-Min Count Period Beginning At	Graves Rd (Northbound)				Graves Rd (Southbound)				Fording Island Rd (US 278) (Eastbound)				Fording Island Rd (US 278) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	0	17	0	1	0	1	0	0	415	17	1	5	476	1	8	951	
4:15 PM	11	0	16	0	1	0	0	0	1	401	10	1	7	492	0	8	948	
4:30 PM	8	0	9	0	0	0	0	0	1	403	10	0	14	477	0	6	928	
4:45 PM	6	0	12	0	1	0	1	0	1	370	5	1	8	487	0	1	893	3720
5:00 PM	4	0	11	0	0	0	1	0	1	452	6	1	6	495	3	5	985	3754
5:15 PM	10	0	15	0	1	0	0	0	1	492	5	1	4	509	1	0	999	3695
5:30 PM	7	0	5	0	0	0	2	0	1	405	3	0	2	450	0	3	876	3755
5:45 PM	6	0	11	0	1	0	0	0	3	332	8	1	2	407	1	1	773	3635
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
All Vehicles	40	0	60	0	4	0	0	0	4	1808	20	4	16	2036	4	0		3996
Heavy Trucks	0	0	0	0	0	0	0	0	0	36	0	0	0	56	0	0	92	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

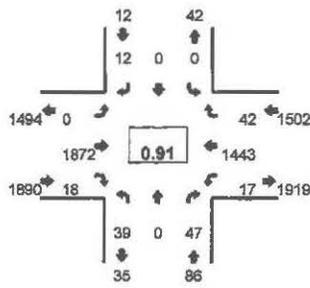
Comments:

Type of peak hour being reported: Intersection Peak

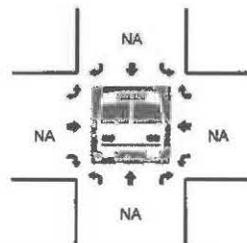
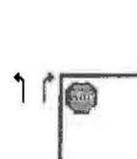
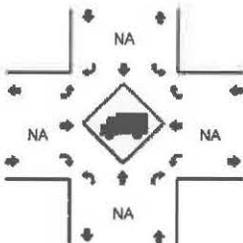
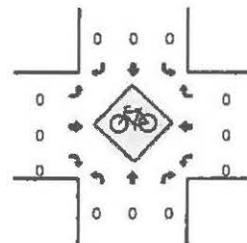
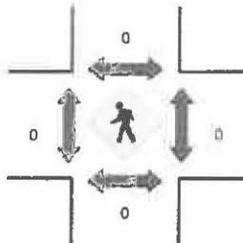
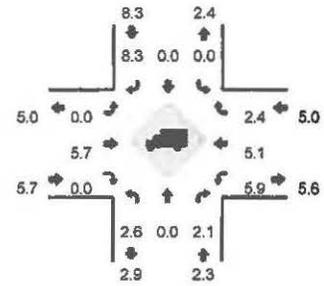
Method for determining peak hour: Total Entering Volume

LOCATION: Island West Dr -- Fording Island Rd (US 278)  
 CITY/STATE: Bluffton, SC

QC JOB #: 10861113  
 DATE: Wed, Dec 05 2012



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



15-Min Count Period Beginning At	Island West Dr (Northbound)				Island West Dr (Southbound)				Fording Island Rd (US 278) (Eastbound)				Fording Island Rd (US 278) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	9	0	17	0	0	0	0	0	0	351	2	0	2	239	5	0	625	
7:15 AM	8	0	12	0	0	0	1	0	0	459	1	0	10	290	15	0	796	
7:30 AM	5	0	16	0	0	0	4	0	0	495	2	0	5	339	15	0	881	
7:45 AM	11	0	8	0	0	0	5	0	0	481	5	0	1	436	13	0	880	3262
8:00 AM	12	0	4	0	0	0	0	0	0	443	8	0	7	335	5	0	814	3451
8:15 AM	11	0	19	0	0	0	3	0	0	453	3	0	4	333	9	0	835	3490
8:30 AM	7	0	14	0	0	0	9	0	0	408	3	0	4	314	3	0	762	3371
8:45 AM	4	0	13	0	0	0	4	0	0	402	5	0	2	301	14	0	745	3156
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
All Vehicles	44	0	32	0	0	0	20	0	0	1924	20	0	4	1744	52	0		3840
Heavy Trucks	0	0	0		0	0	0		0	88	0		0	80	0			168
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0			0
Railroad Stopped Buses	0	0	0		0	0	0		0	0	0		0	0	0			0

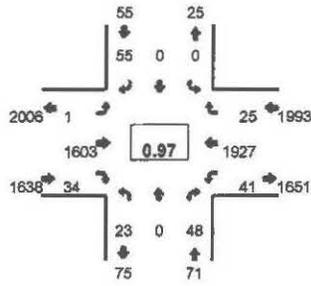
Comments:

Type of peak hour being reported: Intersection Peak

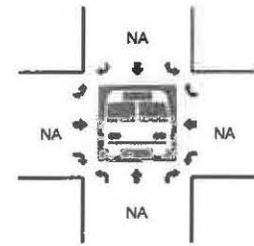
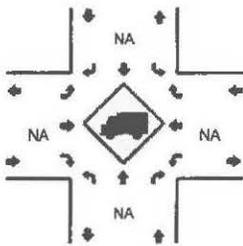
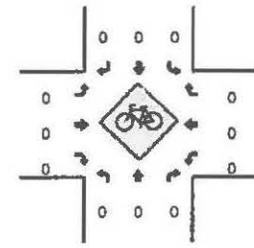
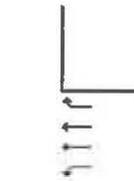
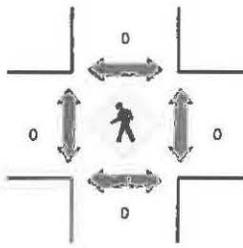
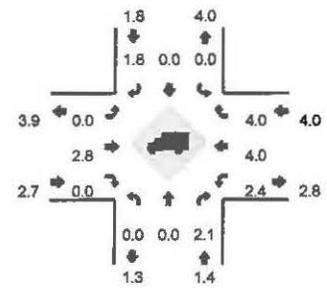
Method for determining peak hour: Total Entering Volume

LOCATION: Island West Dr -- Fording Island Rd (US 278)  
 CITY/STATE: Bluffton, SC

QC JOB #: 10861114  
 DATE: Tue, Dec 04 2012



Peak-Hour: 4:00 PM -- 5:00 PM  
 Peak 15-Min: 4:30 PM -- 4:45 PM

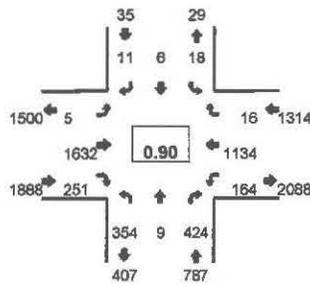


15-Min Count Period Beginning At	Island West Dr (Northbound)				Island West Dr (Southbound)				Fording Island Rd (US 278) (Eastbound)				Fording Island Rd (US 278) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	10	0	12	0	0	0	9	0	0	407	12	0	11	481	10	0	952	
4:15 PM	2	0	10	0	0	0	13	0	0	403	7	0	9	486	5	0	935	
4:30 PM	6	0	16	0	0	0	18	0	0	411	12	1	11	486	6	0	967	
4:45 PM	5	0	10	0	0	0	15	0	0	382	3	0	10	474	4	0	903	3757
5:00 PM	3	0	7	0	0	0	12	0	0	383	6	0	11	438	8	1	869	3674
5:15 PM	1	0	10	0	0	0	15	0	0	395	9	0	12	536	3	0	981	3720
5:30 PM	4	0	10	0	0	0	9	0	0	413	14	0	23	484	1	0	958	3711
5:45 PM	4	0	9	0	0	0	6	0	0	351	9	0	18	398	6	0	801	3609
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
All Vehicles	24	0	64	0	0	0	72	0	0	1644	48	4	44	1944	24	0	3868	
Heavy Trucks	0	0	0		0	0	4		0	24	0		0	56	4		88	
Pedestrians																	0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																	0	
Stopped Buses																	0	

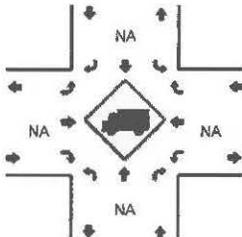
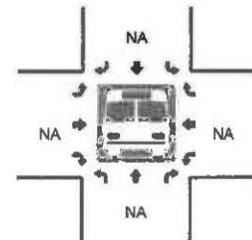
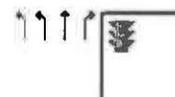
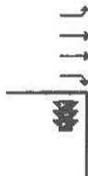
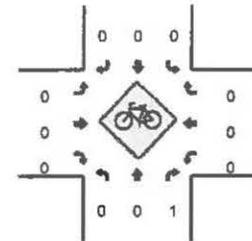
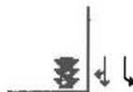
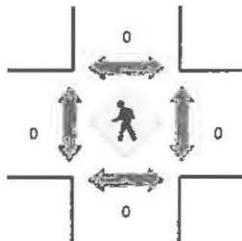
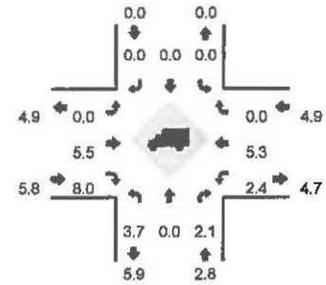
Comments:

**LOCATION:** Buckwalter Pkwy -- Fording Island Rd (US 278)  
**CITY/STATE:** Bluffton, SC

**QC JOB #:** 10861115  
**DATE:** Wed, Dec 05 2012



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



15-Min Count Period Beginning At	Buckwalter Pkwy (Northbound)				Buckwalter Pkwy (Southbound)				Fording Island Rd (US 278) (Eastbound)				Fording Island Rd (US 278) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	62	0	39	0	4	1	0	0	1	271	51	0	22	193	1	0	645	
7:15 AM	81	0	47	0	1	0	0	0	0	445	53	1	20	237	2	0	887	
7:30 AM	91	2	66	0	3	3	1	0	0	433	54	0	33	268	2	4	960	
7:45 AM	115	1	116	0	4	2	4	0	2	430	60	1	50	320	4	16	1119	3611
8:00 AM	68	2	105	0	4	1	1	0	1	371	70	0	35	298	6	0	962	3828
8:15 AM	80	4	137	0	7	0	5	0	1	398	87	0	32	248	4	0	983	4024
8:30 AM	60	3	84	0	2	0	3	0	1	369	61	0	18	277	4	0	882	3946
8:45 AM	40	3	46	0	10	5	0	0	4	364	37	0	22	261	10	0	802	3629
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
All Vehicles	460	4	464	0	16	8	16	0	8	1720	240	4	200	1280	16	40		4476
Heavy Trucks	16	0	4		0	0	0		0	64	16		0	56	0		156	
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

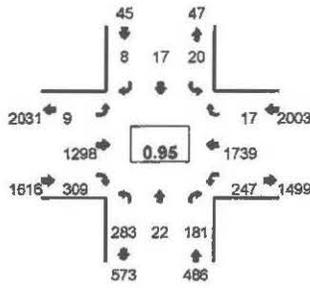
Comments:

Type of peak hour being reported: Intersection Peak

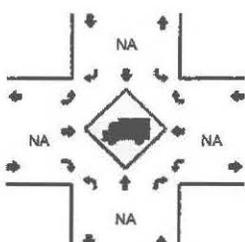
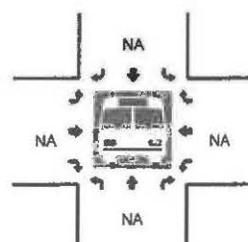
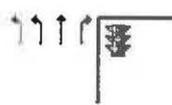
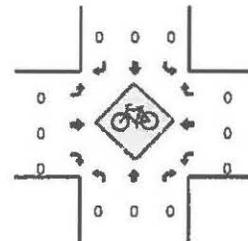
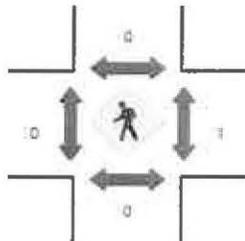
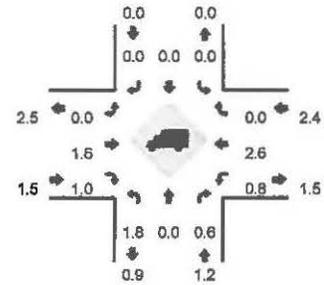
Method for determining peak hour: Total Entering Volume

LOCATION: Buckwalter Pkwy -- Fording Island Rd (US 278)  
 CITY/STATE: Bluffton, SC

QC JOB #: 10861116  
 DATE: Tue, Dec 04 2012



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



15-Min Count Period Beginning At	Buckwalter Pkwy (Northbound)				Buckwalter Pkwy (Southbound)				Fording Island Rd (US 278) (Eastbound)				Fording Island Rd (US 278) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	74	2	43	0	3	5	3	0	4	343	72	0	48	427	8	0	1030	
4:15 PM	73	6	17	0	7	9	1	0	1	337	62	0	49	411	4	1	978	
4:30 PM	56	2	38	0	1	2	6	0	1	347	56	1	41	434	5	1	991	
4:45 PM	60	5	35	0	5	2	4	0	1	349	80	0	63	432	6	0	1042	4041
5:00 PM	85	3	49	0	4	6	2	0	1	290	78	0	55	365	3	0	941	3952
5:15 PM	67	11	46	0	6	4	0	0	2	328	83	0	63	478	7	0	1076	4050
5:30 PM	71	3	51	0	5	5	2	0	4	380	88	1	68	464	1	0	1091	4159
5:45 PM	61	0	48	0	4	4	2	0	5	305	59	3	58	321	5	0	875	3983

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	284	12	204	0	20	20	8	0	18	1320	352	4	264	1856	4	0	4364
Heavy Trucks	8	0	0		0	0	0		0	24	0		0	32	0		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

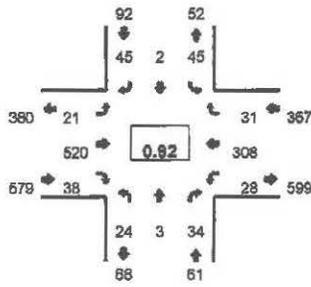
Comments:

Type of peak hour being reported: Intersection Peak

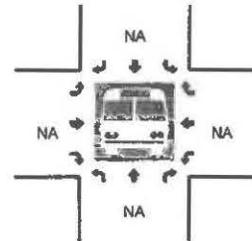
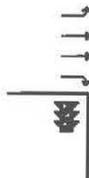
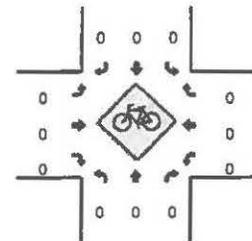
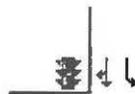
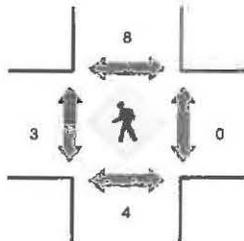
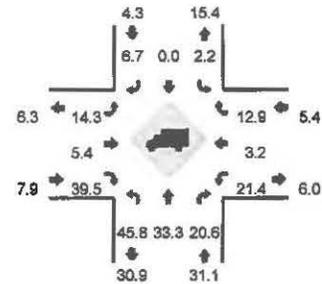
Method for determining peak hour: Total Entering Volume

LOCATION: Hampton Pkwy Rd -- Bluffton Pkwy  
 CITY/STATE: Bluffton, SC

QC JOB #: 10861101  
 DATE: Wed, Dec 05 2012



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



15-Min Count Period Beginning At	Hampton Pkwy Rd (Northbound)				Hampton Pkwy Rd (Southbound)				Bluffton Pkwy (Eastbound)				Bluffton Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	3	0	7	0	9	0	3	85	0	1	8	55	5	0	178	
7:15 AM	5	1	3	0	12	0	4	0	1	106	5	1	9	79	3	0	229	
7:30 AM	11	2	6	0	12	0	12	0	0	129	10	0	7	64	8	0	261	
7:45 AM	1	1	7	0	15	1	9	0	6	140	9	1	8	92	8	0	268	268
8:00 AM	7	0	9	0	10	0	18	0	2	123	18	0	8	76	7	0	276	1064
8:15 AM	5	0	12	0	8	1	6	0	10	128	3	2	5	76	8	0	264	1099
8:30 AM	6	1	8	0	5	0	3	0	3	116	5	0	10	53	10	0	220	1058
8:45 AM	7	1	14	0	9	0	0	0	2	110	7	1	2	68	10	0	231	991
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>				<b>Southbound</b>				<b>Eastbound</b>				<b>Westbound</b>				<b>Total</b>	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	4	28	0	80	4	36	0	24	560	36	4	32	368	32	0	1192	
Heavy Trucks	0	0	12	0	0	0	4	0	4	20	0	0	8	16	0	0	64	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

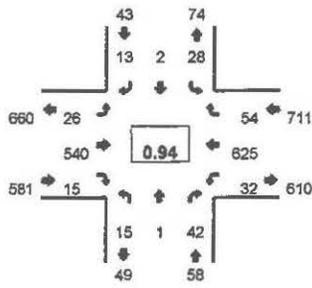
Comments:

Type of peak hour being reported: Intersection Peak

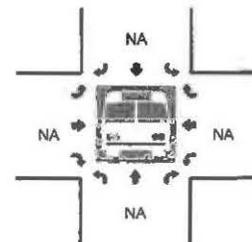
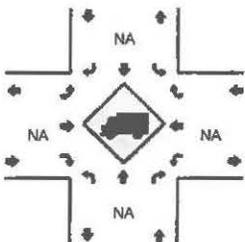
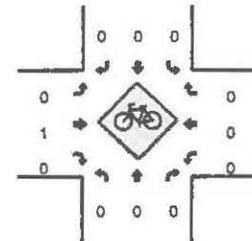
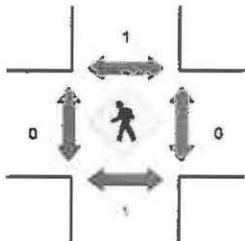
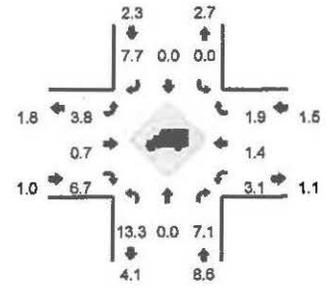
Method for determining peak hour: Total Entering Volume

LOCATION: Hampton Pkwy Rd -- Bluffton Pkwy  
 CITY/STATE: Bluffton, SC

QC JOB #: 10861102  
 DATE: Tue, Dec 04 2012



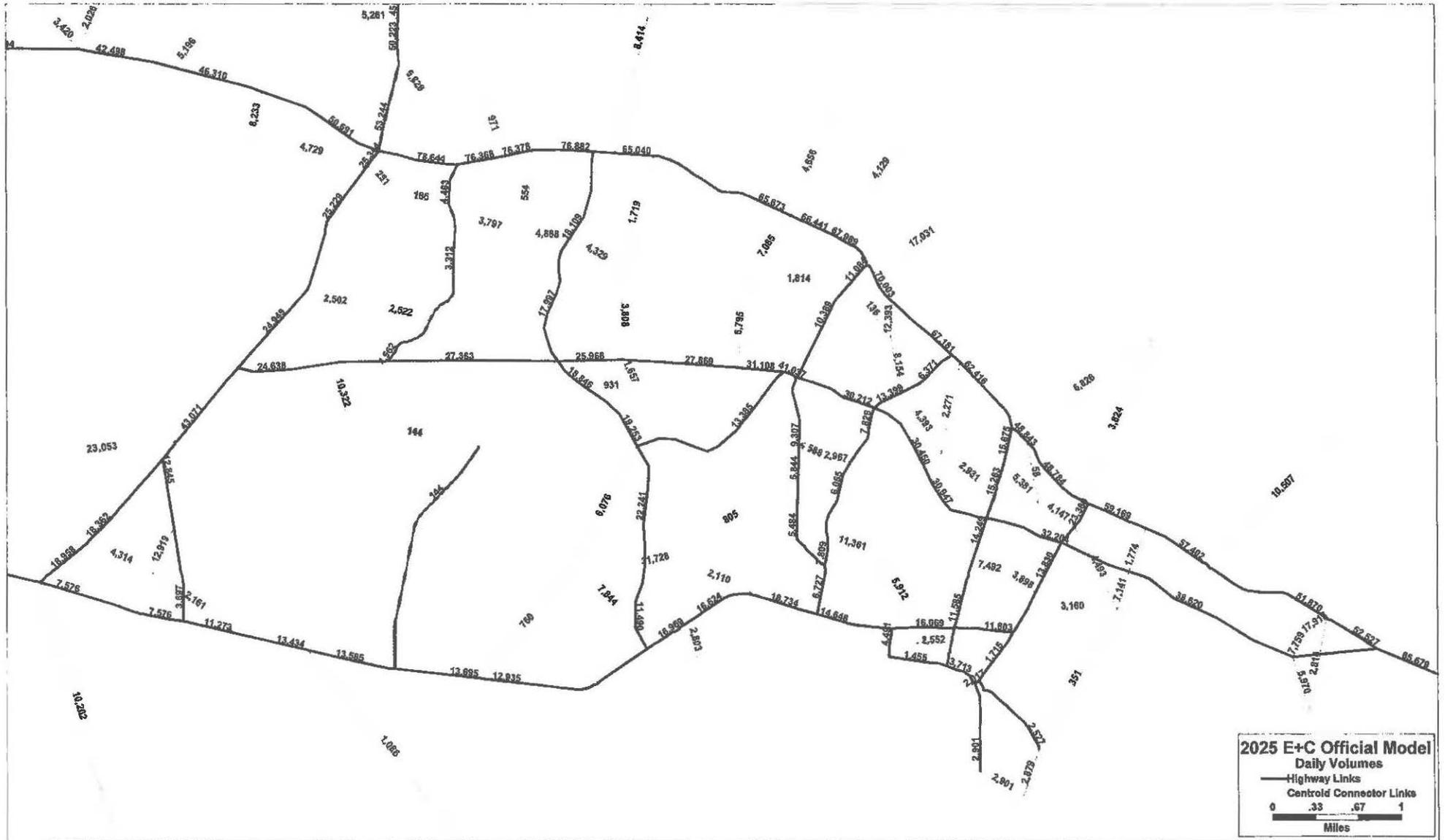
Peak-Hour: 4:45 PM -- 5:45 PM  
 Peak 15-Min: 5:15 PM -- 5:30 PM

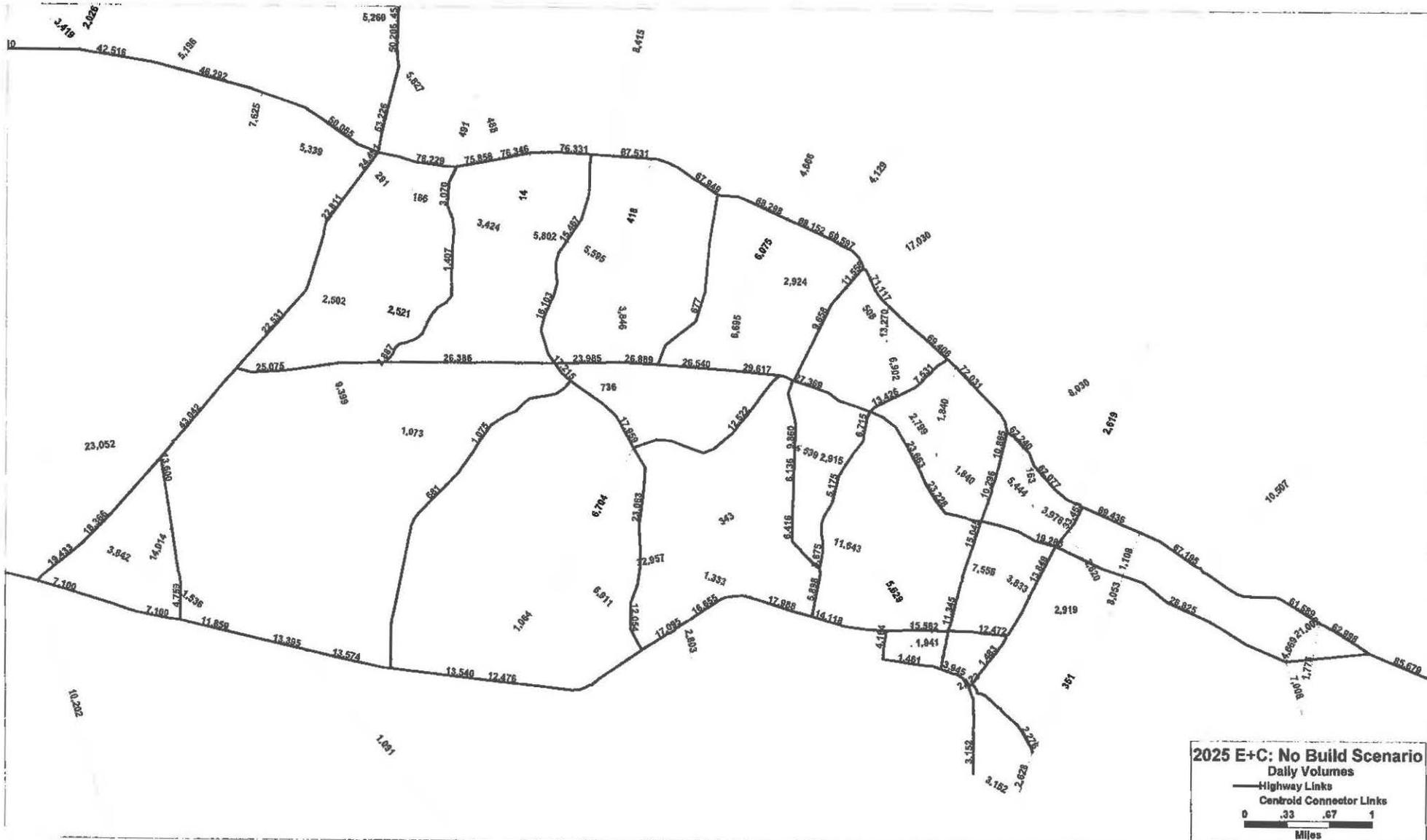
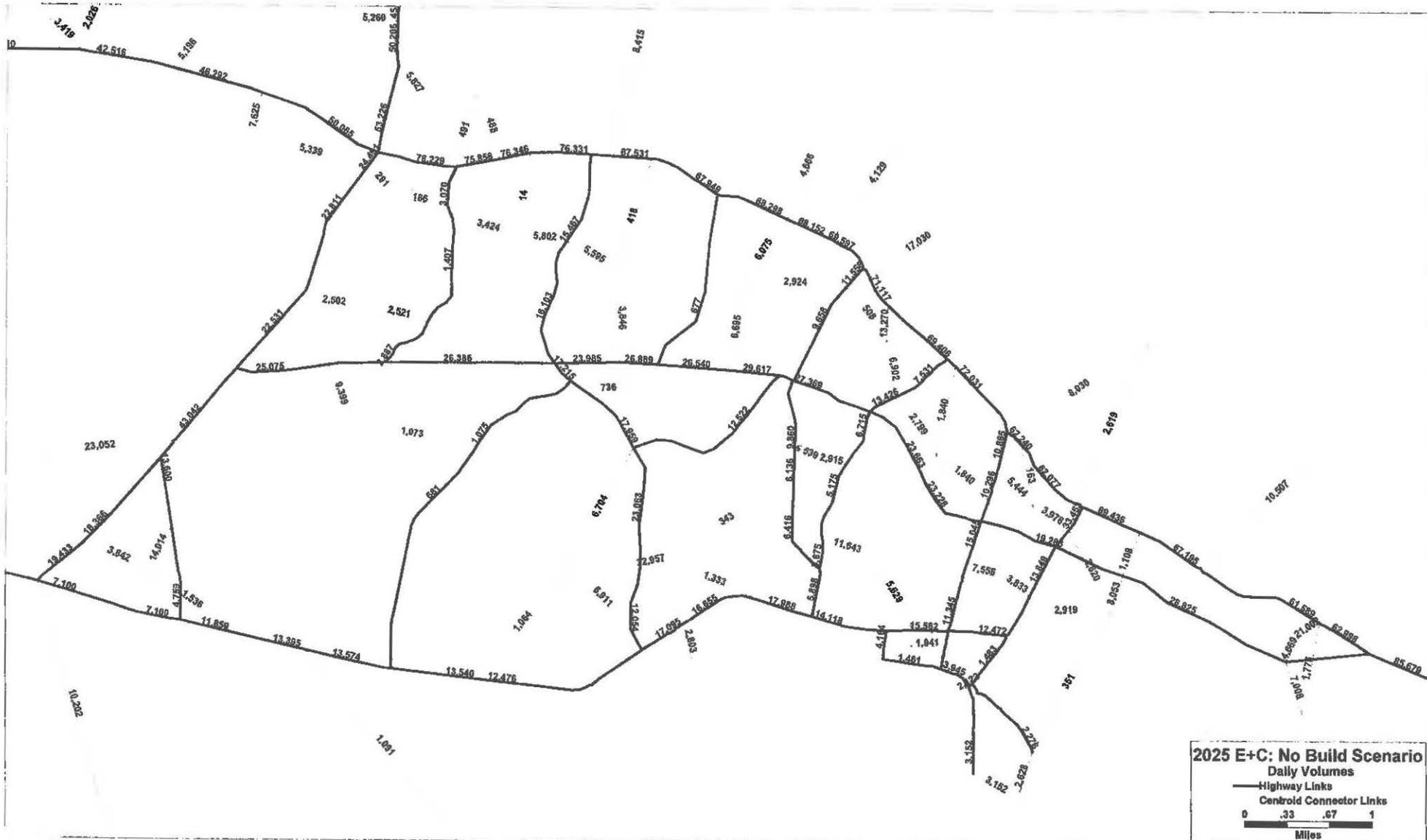


15-Min Count Period Beginning At	Hampton Pkwy Rd (Northbound)				Hampton Pkwy Rd (Southbound)				Bluffton Pkwy (Eastbound)				Bluffton Pkwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	0	6	0	5	2	2	0	6	104	6	0	13	139	12	0	301	
4:15 PM	9	0	3	0	4	2	2	0	3	101	3	1	5	117	13	0	263	
4:30 PM	7	1	8	0	7	1	3	0	6	125	8	2	7	139	10	0	324	
4:45 PM	6	0	9	0	9	1	5	0	3	132	5	1	5	136	11	0	323	1211
5:00 PM	3	0	11	0	10	0	3	0	4	136	7	4	17	157	8	0	360	1270
5:15 PM	3	1	12	0	3	0	4	0	5	155	3	1	6	163	15	0	371	1378
5:30 PM	3	0	10	0	6	1	1	0	7	117	0	1	4	169	20	0	339	1393
5:45 PM	4	0	5	0	9	0	4	0	6	118	3	0	6	138	19	2	314	1384
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	12	4	48	0	12	0	16	0	20	620	12	4	24	652	60	0	1484	
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	4	0		8	
Pedestrians						4											4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:









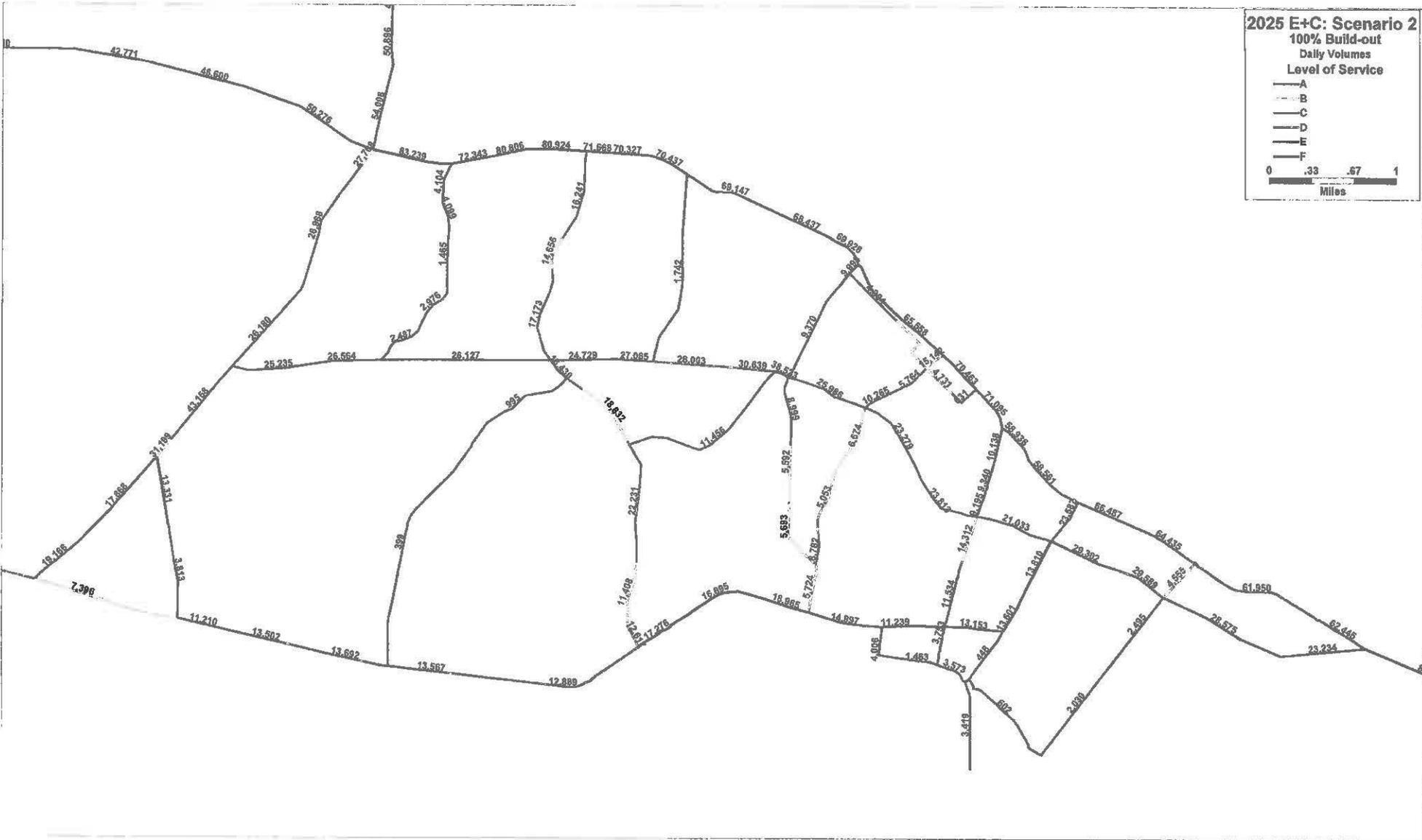
2025 E+C: Scenario 2

100% Build-out

Daily Volumes

Level of Service

- A
- B
- C
- D
- E
- F





**INTERSECTION VOLUME DEVELOPMENT**

**SC 170 at US 278 Westbound Ramps  
AM PEAK HOUR**

Description	SC 170 Northbound			SC 170 Southbound			US 278 WB On-Ramp Eastbound			US 278 WB Off-Ramp Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	143	403	0	0	1,264	69	0	0	0	87	0	805
Heavy Vehicle %	9%			8%						6%		
Peak Hour Factor	0.89			0.93			0.92			0.81		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	188	531	0	0	1,665	91	0	0	0	115	0	1,060
Approved Development Traffic	0	0	0	0	0	0	0	0	0	2	0	19
<b>New Trips</b>												
Trip Distribution IN					17%							
Trip Distribution OUT										2%		19%
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	52	0	0	0	0	2	0	21
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	52	0	0	0	0	2	0	21
<b>2018 Buildout Total</b>	<b>188</b>	<b>531</b>	<b>0</b>	<b>0</b>	<b>1,717</b>	<b>91</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>119</b>	<b>0</b>	<b>1,100</b>

**PM PEAK HOUR**

Description	SC 170 Northbound			SC 170 Southbound			US 278 WB On-Ramp Eastbound			US 278 WB Off-Ramp Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	132	445	0	0	1,153	114	0	0	0	82	0	896
Heavy Vehicle %	6%			3%						4%		
Peak Hour Factor	0.92			0.94			0.92			0.87		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	174	586	0	0	1,519	150	0	0	0	108	0	1,180
Approved Development Traffic	0	0	0	0	0	0	0	0	0	6	0	64
<b>New Trips</b>												
Trip Distribution IN					17%							
Trip Distribution OUT										2%		19%
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	51	0	0	0	0	9	0	85
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	51	0	0	0	0	9	0	85
<b>2018 Buildout Total</b>	<b>174</b>	<b>586</b>	<b>0</b>	<b>0</b>	<b>1,570</b>	<b>150</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>123</b>	<b>0</b>	<b>1,329</b>

**INTERSECTION VOLUME DEVELOPMENT**

**SC 170 at US 278 Eastbound Ramps  
AM PEAK HOUR**

Description	SC 170 Northbound			SC 170 Southbound			US 278 EB On-Ramp Eastbound			US 278 EB Off-Ramp Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	0	510	165	0	473	897	47	0	93	0	0	0
Heavy Vehicle %	8%			7%			19%					
Peak Hour Factor	0.93			0.92			0.92			0.92		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	0	672	217	0	623	1,182	62	0	123	0	0	0
Approved Development Traffic	0	0	9	0	0	44	0	0	0	0	0	0
<b>New Trips</b>												
Trip Distribution IN			3%			17%						
Trip Distribution OUT					2%							
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	9	0	2	52	0	0	0	0	0	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	9	0	2	52	0	0	0	0	0	0
<b>2018 Buildout Total</b>	<b>0</b>	<b>672</b>	<b>235</b>	<b>0</b>	<b>625</b>	<b>1,278</b>	<b>62</b>	<b>0</b>	<b>123</b>	<b>0</b>	<b>0</b>	<b>0</b>

**PM PEAK HOUR**

Description	SC 170 Northbound			SC 170 Southbound			US 278 EB On-Ramp Eastbound			US 278 EB Off-Ramp Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	0	487	128	0	568	667	87	0	113	0	0	0
Heavy Vehicle %	5%			3%			3%					
Peak Hour Factor	0.89			0.94			0.89			0.92		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	0	642	169	0	748	879	115	0	149	0	0	0
Approved Development Traffic	0	0	15	0	0	75	0	0	0	0	0	0
<b>New Trips</b>												
Trip Distribution IN			3%			17%						
Trip Distribution OUT					2%							
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	9	0	9	51	0	0	0	0	0	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	9	0	9	51	0	0	0	0	0	0
<b>2018 Buildout Total</b>	<b>0</b>	<b>642</b>	<b>193</b>	<b>0</b>	<b>757</b>	<b>1,005</b>	<b>115</b>	<b>0</b>	<b>149</b>	<b>0</b>	<b>0</b>	<b>0</b>

**INTERSECTION VOLUME DEVELOPMENT**

**Hampton Parkway at US 278  
AM PEAK HOUR**

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	0	0	41	0	0	0	0	1,882	13	0	1,401	0
Heavy Vehicle %	2%			2%			7%			5%		
Peak Hour Factor	0.85			0.92			0.95			0.83		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	51	0	54	0	0	0	3	2,476	17	48	1,846	0
Approved Development Traffic	16	67	13	37	61	0	16	44	77	27	18	0
New Trips												
Trip Distribution IN		25%						37%				23%
Trip Distribution OUT				38%	25%	22%					15%	
Pass-by Trips												
Trip Distribution IN							50%	-50%			-50%	50%
Trip Distribution OUT				50%		50%						
New Trips	0	76	0	41	27	24	113	0	0	0	16	70
Pass-by Trips	0	0	0	7	0	7	11	-11	0	0	-11	11
Total Project Trips	0	76	0	48	27	31	124	-11	0	0	5	81
2018 Buildout Total	67	143	67	85	88	31	143	2,509	94	75	1,869	81

2AMa  
2AMc

**PM PEAK HOUR**

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	0	0	24	0	0	0	0	1,532	22	0	2,023	0
Heavy Vehicle %	17%			2%			2%			4%		
Peak Hour Factor	0.82			0.92			0.95			0.91		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	30	0	32	0	0	0	11	2,007	29	112	2,665	0
Approved Development Traffic	127	157	99	50	170	0	18	77	79	95	25	0
New Trips												
Trip Distribution IN		25%						37%				23%
Trip Distribution OUT				38%	25%	22%					15%	
Pass-by Trips												
Trip Distribution IN							50%	-50%			-50%	50%
Trip Distribution OUT				50%		50%						
New Trips	0	75	0	170	112	98	111	0	0	0	67	69
Pass-by Trips	0	0	0	77	0	77	71	-71	0	0	-71	71
Total Project Trips	0	75	0	247	112	175	182	-71	0	0	-4	140
2018 Buildout Total	157	232	131	297	282	175	211	2,013	108	207	2,686	140

2PMa  
2PMc

## INTERSECTION VOLUME DEVELOPMENT

### Hampton Parkway at Bluffton Parkway AM PEAK HOUR

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			Bluffton Parkway Eastbound			Bluffton Parkway Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	24	3	34	45	2	45	21	520	38	28	308	31
Heavy Vehicle %	31%			4%			8%			5%		
Peak Hour Factor	0.80			0.82			0.93			0.85		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	32	4	45	59	3	59	28	685	50	37	406	41
Approved Development Traffic	0	4	0	30	3	18	26	0	0	0	0	43
<b>New Trips</b>												
Trip Distribution IN	2%						9%			14%		
Trip Distribution OUT				14%			2%			9%		
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	6	0	15	2	10	27	0	0	0	0	43
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	6	0	15	2	10	27	0	0	0	0	43
<b>2018 Buildout Total</b>	<b>32</b>	<b>14</b>	<b>45</b>	<b>104</b>	<b>8</b>	<b>87</b>	<b>81</b>	<b>685</b>	<b>50</b>	<b>37</b>	<b>406</b>	<b>127</b>

### PM PEAK HOUR

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			Bluffton Parkway Eastbound			Bluffton Parkway Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	15	1	42	28	2	13	26	540	15	32	625	54
Heavy Vehicle %	9%			2%			2%			2%		
Peak Hour Factor	0.91			0.72			0.88			0.92		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	20	1	55	37	3	17	34	711	20	42	823	71
Approved Development Traffic	0	6	0	91	7	55	45	0	0	0	0	76
<b>New Trips</b>												
Trip Distribution IN	2%						9%			14%		
Trip Distribution OUT				14%			2%			9%		
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	6	0	63	9	40	27	0	0	0	0	42
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	6	0	63	9	40	27	0	0	0	0	42
<b>2018 Buildout Total</b>	<b>20</b>	<b>13</b>	<b>55</b>	<b>191</b>	<b>19</b>	<b>112</b>	<b>106</b>	<b>711</b>	<b>20</b>	<b>42</b>	<b>823</b>	<b>189</b>

**INTERSECTION VOLUME DEVELOPMENT**

**Graves Road at US 278  
AM PEAK HOUR**

Description	Island West Park Northbound			Graves Road Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	7	0	10	5	0	6	2	1,948	25	20	1,445	3
Heavy Vehicle %	12%			36%			8%			5%		
Peak Hour Factor	0.94			0.88			0.71			0.55		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	0	0	22	0	0	15	0	2,566	33	0	1,951	4
Approved Development Traffic	0	0	45	0	0	5	0	48	46	0	40	26
<b>New Trips</b>												
Trip Distribution IN											23%	15%
Trip Distribution OUT						15%		38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	16	0	41	0	0	70	46
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	16	0	41	0	0	70	46
<b>2018 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>2,655</b>	<b>79</b>	<b>0</b>	<b>2,061</b>	<b>76</b>

**PM PEAK HOUR**

Description	Island West Park Northbound			Graves Road Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	28	0	47	2	0	2	7	1,677	26	44	1,968	4
Heavy Vehicle %	3%			2%			2%			4%		
Peak Hour Factor	0.75			0.50			0.93			0.98		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	0	0	99	0	0	6	0	2,207	34	0	2,704	5
Approved Development Traffic	0	0	52	0	0	11	0	174	52	0	102	36
<b>New Trips</b>												
Trip Distribution IN											23%	15%
Trip Distribution OUT						15%		38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	67	0	170	0	0	69	45
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	67	0	170	0	0	69	45
<b>2018 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>151</b>	<b>0</b>	<b>0</b>	<b>84</b>	<b>0</b>	<b>2,551</b>	<b>86</b>	<b>0</b>	<b>2,875</b>	<b>86</b>

**INTERSECTION VOLUME DEVELOPMENT**

**Island West Drive at US 278  
AM PEAK HOUR**

Description	Island West Drive Northbound			Driveway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	39	0	47	0	0	12	0	1,872	18	17	1,443	42
Heavy Vehicle %	2%			8%			6%			5%		
Peak Hour Factor	0.72			0.60			0.95			0.83		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	0	0	62	0	0	16	0	2,466	24	0	1,923	55
Approved Development Traffic	0	0	0	0	0	5	0	88	5	0	61	27
<b>New Trips</b>												
Trip Distribution IN											38%	
Trip Distribution OUT								38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	0	0	41	0	0	116	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	41	0	0	116	0
<b>2018 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>2,595</b>	<b>29</b>	<b>0</b>	<b>2,100</b>	<b>82</b>

**PM PEAK HOUR**

Description	Island West Drive Northbound			Driveway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	23	0	48	0	0	55	1	1,603	34	41	1,927	25
Heavy Vehicle %	2%			2%			3%			4%		
Peak Hour Factor	0.81			0.76			0.97			0.99		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	0	0	63	0	0	72	0	2,112	45	0	2,592	33
Approved Development Traffic	0	0	0	0	0	11	0	220	6	0	127	36
<b>New Trips</b>												
Trip Distribution IN											38%	
Trip Distribution OUT								38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	0	0	170	0	0	114	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	170	0	0	114	0
<b>2018 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>0</b>	<b>83</b>	<b>0</b>	<b>2,502</b>	<b>51</b>	<b>0</b>	<b>2,833</b>	<b>69</b>

## INTERSECTION VOLUME DEVELOPMENT

### Buckwalter Parkway at US 278 AM PEAK HOUR

Description	Buckwalter Parkway Northbound			Berkeley Hall Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	354	9	424	18	6	11	5	1,632	251	164	1,134	16
Peak Hour Factor	3% 0.85			2% 0.73			6% 0.96			5% 0.86		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	466	12	559	24	8	14	7	2,150	331	216	1,494	21
Approved Development Traffic	45	2	2	0	3	7	5	66	18	3	57	0
New Trips												
Trip Distribution IN	10%									28%		
Trip Distribution OUT							28%			10%		
Pass-by Trips												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	31	0	0	0	0	0	0	31	11	0	85	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	31	0	0	0	0	0	0	31	11	0	85	0
<b>2018 Buildout Total</b>	<b>542</b>	<b>14</b>	<b>561</b>	<b>24</b>	<b>11</b>	<b>21</b>	<b>12</b>	<b>2,247</b>	<b>360</b>	<b>219</b>	<b>1,636</b>	<b>21</b>

### PM PEAK HOUR

Description	Buckwalter Parkway Northbound			Berkeley Hall Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	283	22	181	20	17	8	9	1,298	309	247	1,739	17
Heavy Vehicle %	2%			2%			2%			2%		
Peak Hour Factor	0.89			0.94			0.94			0.91		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317	1.317
2018 Background Traffic	373	29	238	26	22	11	12	1,710	407	325	2,291	22
Approved Development Trips	83	5	5	0	9	11	6	170	45	8	116	0
New Trips												
Trip Distribution IN	10%									28%		
Trip Distribution OUT							28%			10%		
Pass-by Trips												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	30	0	0	0	0	0	0	125	45	0	84	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	30	0	0	0	0	0	0	125	45	0	84	0
<b>2018 Buildout Total</b>	<b>486</b>	<b>34</b>	<b>243</b>	<b>26</b>	<b>31</b>	<b>22</b>	<b>18</b>	<b>2,005</b>	<b>497</b>	<b>333</b>	<b>2,491</b>	<b>22</b>

**INTERSECTION VOLUME DEVELOPMENT**

**SC 170 at US 278 Westbound Ramps  
AM PEAK HOUR**

Description	SC 170 Northbound			SC 170 Southbound			US 278 WB On-Ramp Eastbound			US 278 WB Off-Ramp Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	143	403	0	0	1,264	69	0	0	0	87	0	805
Heavy Vehicle %	9%			8%			0.92			6%		
Peak Hour Factor	0.89			0.93			0.92			0.81		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	237	668	0	0	2,095	114	0	0	0	144	0	1,334
Approved Development Traffic	0	0	0	0	0	0	0	0	0	8	0	72
New Trips												
Trip Distribution IN					17%							
Trip Distribution OUT										2%		17%
Pass-by Trips												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	78	0	0	0	0	3	0	27
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	78	0	0	0	0	3	0	27
2023 Buildout Total	237	668	0	0	2,173	114	0	0	0	155	0	1,433

**PM PEAK HOUR**

Description	SC 170 Northbound			SC 170 Southbound			US 278 WB On-Ramp Eastbound			US 278 WB Off-Ramp Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	132	445	0	0	1,153	114	0	0	0	82	0	896
Heavy Vehicle %	6%			3%			0.92			4%		
Peak Hour Factor	0.92			0.94			0.92			0.87		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	219	738	0	0	1,911	189	0	0	0	136	0	1,485
Approved Development Traffic	0	0	0	0	0	0	0	0	0	15	0	157
New Trips												
Trip Distribution IN					17%							
Trip Distribution OUT										2%		17%
Pass-by Trips												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	80	0	0	0	0	12	0	105
Pass-by Trips	1	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	1	0	0	0	80	0	0	0	0	12	0	105
2023 Buildout Total	220	738	0	0	1,991	189	0	0	0	163	0	1,747

**INTERSECTION VOLUME DEVELOPMENT**

**SC 170 at US 278 Eastbound Ramps  
AM PEAK HOUR**

Description	SC 170 Northbound			SC 170 Southbound			US 278 EB On-Ramp Eastbound			US 278 EB Off-Ramp Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	0	510	165	0	473	897	47	0	93	0	0	0
Heavy Vehicle %	8%			7%			19%					
Peak Hour Factor	0.93			0.92			0.92			0.92		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	0	845	273	0	784	1,487	78	0	154	0	0	0
Approved Development Traffic	0	0	22	0	0	114	0	0	0	0	0	0
<b>New Trips</b>												
Trip Distribution IN			3%			17%						
Trip Distribution OUT					2%							
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	14	0	3	78	0	0	0	0	0	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	14	0	3	78	0	0	0	0	0	0
<b>2023 Buildout Total</b>	<b>0</b>	<b>845</b>	<b>309</b>	<b>0</b>	<b>787</b>	<b>1,679</b>	<b>78</b>	<b>0</b>	<b>154</b>	<b>0</b>	<b>0</b>	<b>0</b>

**PM PEAK HOUR**

Description	SC 170 Northbound			SC 170 Southbound			US 278 EB On-Ramp Eastbound			US 278 EB Off-Ramp Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	0	487	128	0	568	667	87	0	113	0	0	0
Heavy Vehicle %	5%			3%			3%					
Peak Hour Factor	0.89			0.94			0.89			0.92		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	0	807	212	0	941	1,105	144	0	187	0	0	0
Approved Development Traffic	0	0	32	0	0	165	0	0	0	0	0	0
<b>New Trips</b>												
Trip Distribution IN			3%			17%						
Trip Distribution OUT					2%							
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	14	0	12	80	0	0	0	0	0	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	14	0	12	80	0	0	0	0	0	0
<b>2023 Buildout Total</b>	<b>0</b>	<b>807</b>	<b>258</b>	<b>0</b>	<b>953</b>	<b>1,350</b>	<b>144</b>	<b>0</b>	<b>187</b>	<b>0</b>	<b>0</b>	<b>0</b>

**INTERSECTION VOLUME DEVELOPMENT**

**Hampton Parkway at US 278  
AM PEAK HOUR**

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	0	0	41	0	0	0	0	1,882	13	0	1,401	0
Heavy Vehicle %	2%			2%			7%			5%		
Peak Hour Factor	0.85			0.92			0.95			0.83		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	65	0	68	0	0	0	5	3,119	22	101	2,322	0
Approved Development Traffic	121	163	76	74	134	0	31	62	147	128	4	0
New Trips												
Trip Distribution IN		25%					37%					23%
Trip Distribution OUT				38%	25%	22%				15%		
Pass-by Trips												
Trip Distribution IN							50%	-50%			-50%	50%
Trip Distribution OUT				50%	50%							
New Trips	0	115	0	60	40	35	171	0	0	0	24	106
Pass-by Trips	0	0	0	8	0	8	13	-13	0	0	-13	13
Total Project Trips	0	115	0	68	40	43	184	-13	0	0	11	119
<b>2023 Buildout Total</b>	<b>186</b>	<b>278</b>	<b>144</b>	<b>142</b>	<b>174</b>	<b>43</b>	<b>220</b>	<b>3,168</b>	<b>169</b>	<b>229</b>	<b>2,337</b>	<b>119</b>

2AMa  
2AMc

**PM PEAK HOUR**

Description	Hampton Parkway Northbound			Hampton Parkway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	0	0	24	0	0	0	0	1,532	22	0	2,023	0
Heavy Vehicle %	17%			2%			2%			4%		
Peak Hour Factor	0.82			0.92			0.95			0.91		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	38	0	40	0	0	0	14	2,539	36	141	3,353	0
Approved Development Traffic	350	284	192	99	353	0	36	130	219	262	4	0
New Trips												
Trip Distribution IN		25%					37%					23%
Trip Distribution OUT				38%	25%	22%				15%		
Pass-by Trips												
Trip Distribution IN							50%	-50%			-50%	50%
Trip Distribution OUT				50%	50%							
New Trips	0	117	0	234	154	135	174	0	0	0	92	108
Pass-by Trips	0	0	0	94	0	94	87	-87	0	0	-87	87
Total Project Trips	0	117	0	328	154	229	261	-87	0	0	5	195
<b>2023 Buildout Total</b>	<b>388</b>	<b>401</b>	<b>232</b>	<b>427</b>	<b>507</b>	<b>229</b>	<b>311</b>	<b>2,582</b>	<b>255</b>	<b>403</b>	<b>3,362</b>	<b>195</b>

2PMa  
2PMc

## INTERSECTION VOLUME DEVELOPMENT

### Hampton Parkway at Bluffton Parkway AM PEAK HOUR

Description	Hampton Parkway <u>Northbound</u>			Hampton Parkway <u>Southbound</u>			Bluffton Parkway <u>Eastbound</u>			Bluffton Parkway <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	24	3	34	45	2	45	21	520	38	28	308	31
Heavy Vehicle %	31%			4%			8%			5%		
Peak Hour Factor	0.80			0.82			0.93			0.85		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	40	5	56	75	3	75	35	862	63	46	510	51
Approved Development Traffic	0	7	0	59	5	35	51	0	0	0	0	85
<b>New Trips</b>												
Trip Distribution IN		2%					9%					14%
Trip Distribution OUT				14%	2%	9%						
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	9	0	22	3	14	41	0	0	0	0	65
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	9	0	22	3	14	41	0	0	0	0	65
<b>2023 Buildout Total</b>	<b>40</b>	<b>21</b>	<b>56</b>	<b>156</b>	<b>11</b>	<b>124</b>	<b>127</b>	<b>862</b>	<b>63</b>	<b>46</b>	<b>510</b>	<b>201</b>

### PM PEAK HOUR

Description	Hampton Parkway <u>Northbound</u>			Hampton Parkway <u>Southbound</u>			Bluffton Parkway <u>Eastbound</u>			Bluffton Parkway <u>Westbound</u>		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	15	1	42	28	2	13	26	540	15	32	625	54
Heavy Vehicle %	9%			2%			2%			2%		
Peak Hour Factor	0.91			0.72			0.88			0.92		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	25	2	70	46	3	22	43	895	25	53	1,036	89
Approved Development Traffic	0	12	0	182	14	109	90	0	0	0	0	152
<b>New Trips</b>												
Trip Distribution IN		2%					9%					14%
Trip Distribution OUT				14%	2%	9%						
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	9	0	86	12	55	42	0	0	0	0	66
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	9	0	86	12	55	42	0	0	0	0	66
<b>2023 Buildout Total</b>	<b>25</b>	<b>23</b>	<b>70</b>	<b>314</b>	<b>29</b>	<b>186</b>	<b>175</b>	<b>895</b>	<b>25</b>	<b>53</b>	<b>1,036</b>	<b>307</b>

**INTERSECTION VOLUME DEVELOPMENT**

**Graves Road at US 278  
AM PEAK HOUR**

Description	Island West Park Northbound			Graves Road Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	7	0	10	5	0	6	2	1,948	25	20	1,445	3
Heavy Vehicle %	12%			36%			8%			5%		
Peak Hour Factor	0.94			0.88			0.71			0.55		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	0	0	29	0	0	18	0	3,224	41	0	2,456	5
Approved Development Traffic	0	0	89	0	0	10	0	120	92	0	122	52
<b>New Trips</b>												
Trip Distribution IN											23%	15%
Trip Distribution OUT						15%		38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	24	0	60	0	0	106	69
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	24	0	60	0	0	106	69
<b>2023 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>118</b>	<b>0</b>	<b>0</b>	<b>52</b>	<b>0</b>	<b>3,404</b>	<b>133</b>	<b>0</b>	<b>2,684</b>	<b>126</b>

**PM PEAK HOUR**

Description	Island West Park Northbound			Graves Road Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	28	0	47	2	0	2	7	1,677	26	44	1,968	4
Heavy Vehicle %	3%			2%			2%			4%		
Peak Hour Factor	0.75			0.50			0.93			0.98		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	0	0	124	0	0	6	0	2,779	43	0	3,403	7
Approved Development Traffic	0	0	104	0	0	21	0	397	104	0	245	71
<b>New Trips</b>												
Trip Distribution IN											23%	15%
Trip Distribution OUT						15%		38%				
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	92	0	234	0	0	108	70
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	92	0	234	0	0	108	70
<b>2023 Buildout Total</b>	<b>0</b>	<b>0</b>	<b>228</b>	<b>0</b>	<b>0</b>	<b>119</b>	<b>0</b>	<b>3,410</b>	<b>147</b>	<b>0</b>	<b>3,756</b>	<b>148</b>

**INTERSECTION VOLUME DEVELOPMENT**

**Island West Drive at US 278  
AM PEAK HOUR**

Description	Island West Drive Northbound			Driveway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	39	0	47	0	0	12	0	1,872	18	17	1,443	42
Heavy Vehicle %	2%			8%			6%			5%		
Peak Hour Factor	0.72			0.60			0.95			0.83		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	0	0	78	0	0	20	0	3,103	30	0	2,420	70
Approved Development Traffic	0	0	0	0	0	9	0	200	9	0	165	53
New Trips												
Trip Distribution IN											38%	
Trip Distribution OUT								38%				
Pass-by Trips												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	0	0	60	0	0	175	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	60	0	0	175	0
2023 Buildout Total	0	0	78	0	0	29	0	3,363	39	0	2,760	123

**PM PEAK HOUR**

Description	Island West Drive Northbound			Driveway Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	23	0	48	0	0	55	1	1,603	34	41	1,927	25
Heavy Vehicle %	2%			2%			3%			4%		
Peak Hour Factor	0.81			0.76			0.97			0.99		
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	0	0	80	0	0	91	0	2,655	56	0	3,262	41
Approved Development Traffic	0	0	0	0	0	21	0	490	11	0	295	71
New Trips												
Trip Distribution IN											38%	
Trip Distribution OUT								38%				
Pass-by Trips												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	0	0	0	0	0	0	0	234	0	0	178	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	1	0
Total Project Trips	0	0	0	0	0	0	0	234	0	0	179	0
2023 Buildout Total	0	0	80	0	0	112	0	3,379	67	0	3,736	112

**INTERSECTION VOLUME DEVELOPMENT**

**Buckwalter Parkway at US 278  
AM PEAK HOUR**

Description	Buckwalter Parkway Northbound			Berkeley Hall Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 AM Volumes	354	9	424	18	6	11	5	1,632	251	164	1,134	16
		3%			2%			6%			5%	
Peak Hour Factor		0.85			0.73			0.96			0.86	
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	587	15	703	30	10	18	8	2,705	416	272	1,879	27
Approved Development Traffic	99	4	4	0	6	14	9	152	39	5	145	0
<b>New Trips</b>												
Trip Distribution IN	10%										28%	
Trip Distribution OUT								28%	10%			
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	46	0	0	0	0	0	0	44	16	0	129	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	46	0	0	0	0	0	0	44	16	0	129	0
<b>2023 Buildout Total</b>	<b>732</b>	<b>19</b>	<b>707</b>	<b>30</b>	<b>16</b>	<b>32</b>	<b>17</b>	<b>2,901</b>	<b>471</b>	<b>277</b>	<b>2,153</b>	<b>27</b>

**PM PEAK HOUR**

Description	Buckwalter Parkway Northbound			Berkeley Hall Southbound			US 278 Eastbound			US 278 Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing 2012 PM Volumes	283	22	181	20	17	8	9	1,298	309	247	1,739	17
Heavy Vehicle %		2%			2%			2%			2%	
Peak Hour Factor		0.89			0.94			0.94			0.91	
Annual Growth Rate	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
Growth Factor	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657	1.657
2023 Background Traffic	469	36	300	33	28	13	15	2,151	512	409	2,882	28
Approved Development Trips	172	10	10	0	18	21	12	379	99	16	267	0
<b>New Trips</b>												
Trip Distribution IN	10%										28%	
Trip Distribution OUT								28%	10%			
<b>Pass-by Trips</b>												
Trip Distribution IN												
Trip Distribution OUT												
New Trips	47	0	0	0	0	0	0	172	62	0	131	0
Pass-by Trips	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	47	0	0	0	0	0	0	172	62	0	131	0
<b>2023 Buildout Total</b>	<b>688</b>	<b>46</b>	<b>310</b>	<b>33</b>	<b>46</b>	<b>34</b>	<b>27</b>	<b>2,702</b>	<b>673</b>	<b>425</b>	<b>3,280</b>	<b>28</b>

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

Existing AM  
 1/21/2013

	↖	→	↗	↖	←	↗	↖	↑	↗	↘	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖↖	↖↖	↖	↖↖	↑	↖	↖	↑	↖
Volume (vph)	5	1632	251	164	1134	16	354	9	424	18	6	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1703	3406	1524	3335	3438	1538	3434	1863	1584	1761	1853	1575
Flt Permitted	0.12	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	215	3406	1524	3335	3438	1538	3434	1863	1584	1761	1853	1575
Peak-hour factor, PHF	0.96	0.96	0.96	0.86	0.86	0.86	0.85	0.85	0.85	0.73	0.73	0.73
Adj. Flow (vph)	5	1700	261	191	1319	19	416	11	499	25	8	15
RTOR Reduction (vph)	0	0	77	0	0	9	0	0	176	0	0	14
Lane Group Flow (vph)	5	1700	184	191	1319	10	416	11	323	25	8	1
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	92.4	81.3	81.3	16.1	86.3	86.3	22.3	22.3	22.3	11.7	11.7	11.7
Effective Green, g (s)	92.4	81.3	81.3	16.1	86.3	86.3	22.3	22.3	22.3	11.7	11.7	11.7
Actuated g/C Ratio	0.58	0.51	0.51	0.10	0.54	0.54	0.14	0.14	0.14	0.07	0.07	0.07
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Grp Cap (vph)	227	1730	774	335	1854	829	478	259	220	128	135	115
v/s Ratio Prot	0.00	c0.50		c0.06	c0.38		0.12	0.01		c0.01	0.00	
v/s Ratio Perm	0.01		0.12			0.01			c0.20			0.00
v/c Ratio	0.02	0.98	0.24	0.57	0.71	0.01	0.87	0.04	1.47	0.20	0.06	0.01
Uniform Delay, d1	18.1	38.7	22.0	68.6	27.5	17.1	67.4	59.6	68.8	69.7	69.0	68.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	17.9	0.7	6.9	2.4	0.0	19.0	0.3	234.6	3.4	0.8	0.2
Delay (s)	18.3	56.6	22.7	75.5	29.9	17.1	86.5	59.9	303.5	73.1	69.9	68.9
Level of Service	B	E	C	E	C	B	F	E	F	E	E	E
Approach Delay (s)		52.0			35.4			203.1			71.3	
Approach LOS		D			D			F			E	

Intersection Summary

HCM 2000 Control Delay	77.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

Existing AM  
 1/21/2013

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1882	13	0	1401	0	41
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.83	0.83	0.85	0.85
Hourly flow rate (vph)	1981	14	0	1688	0	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1981		2825	991
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1981		2825	991
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	80
cM capacity (veh/h)			277		14	245
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>
Volume Total	991	991	14	844	844	48
Volume Left	0	0	0	0	0	0
Volume Right	0	0	14	0	0	48
cSH	1700	1700	1700	1700	1700	245
Volume to Capacity	0.58	0.58	0.01	0.50	0.50	0.20
Queue Length 95th (ft)	0	0	0	0	0	18
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	23.3
Lane LOS						C
Approach Delay (s)	0.0			0.0		23.3
Approach LOS						C
<b>Intersection Summary</b>						
Average Delay			0.3			
Intersection Capacity Utilization			62.0%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

Existing AM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SET	SEB
Lane Configurations		↑↑	↑	↑	↑↑	↑	↑		↑			↑
Volume (veh/h)	0	1872	18	17	1443	42	39	0	47	0	0	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.83	0.83	0.83	0.72	0.72	0.72	0.60	0.60	0.60
Hourly flow rate (vph)	0	1971	19	20	1739	51	54	0	65	0	0	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1789			1989			2901	3801	985	2830	3769	869
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1789			1989			2901	3801	985	2830	3769	869
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.7	6.7	7.1
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	100			93			0	100	74	100	100	93
cM capacity (veh/h)	326			274			6	4	247	5	3	283
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	SE 1		
Volume Total	985	985	19	20	869	869	51	54	65	20		
Volume Left	0	0	0	20	0	0	0	54	0	0		
Volume Right	0	0	19	0	0	0	51	0	65	20		
cSH	1700	1700	1700	274	1700	1700	1700	6	247	283		
Volume to Capacity	0.58	0.58	0.01	0.07	0.51	0.51	0.03	8.73	0.26	0.07		
Queue Length 95th (ft)	0	0	0	6	0	0	0	Err	26	6		
Control Delay (s)	0.0	0.0	0.0	19.2	0.0	0.0	0.0	Err	24.7	18.7		
Lane LOS				C				F	C	C		
Approach Delay (s)	0.0			0.2				4547.9		18.7		
Approach LOS								F		C		

Intersection Summary

Average Delay	138.1
Intersection Capacity Utilization	61.7%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

Existing AM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗		↔			↕			↕	
Volume (veh/h)	2	1948	25	20	1445	3	7	0	10	5	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.71	0.71	0.71	0.55	0.55	0.55
Hourly flow rate (vph)	2	2072	27	23	1642	3	10	0	14	9	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1645			2099			2954	3768	1036	2744	3792	823
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1645			2099			2954	3768	1036	2744	3792	823
tC, single (s)	4.3			4.2			7.7	6.7	7.1	8.2	7.2	7.6
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.6	4.1	3.4	3.9	4.4	3.7
p0 queue free %	99			91			0	100	93	0	100	96
cM capacity (veh/h)	363			248			5	3	212	5	2	254
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>SB 1</b>					
Volume Total	693	1382	27	844	824	24	20					
Volume Left	2	0	0	23	0	10	9					
Volume Right	0	0	27	0	3	14	11					
cSH	363	1700	1700	248	1700	11	10					
Volume to Capacity	0.01	0.81	0.02	0.09	0.48	2.11	1.95					
Queue Length 95th (ft)	0	0	0	7	0	97	85					
Control Delay (s)	0.2	0.0	0.0	4.2	0.0	1178.0	1166.0					
Lane LOS	A			A		F	F					
Approach Delay (s)	0.1			2.1		1178.0	1166.0					
Approach LOS						F	F					

**Intersection Summary**

Average Delay		14.5					
Intersection Capacity Utilization		65.2%		ICU Level of Service		C	
Analysis Period (min)		15					

HCM Unsignalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

Existing AM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	87	0	805	143	403	0	0	1264	69
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	107	0	994	161	453	0	0	1359	74
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2901	2133	680	1454	2133	226	1359			453		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2901	2133	680	1454	2133	226	1359			453		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.3			4.3		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	0	100	100	0	100	0	66			100		
cM capacity (veh/h)	0	32	394	64	30	764	467			1063		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	107	994	161	226	226	680	680	74				
Volume Left	107	0	161	0	0	0	0	0				
Volume Right	0	994	0	0	0	0	0	74				
cSH	64	764	467	1700	1700	1700	1700	1700				
Volume to Capacity	1.67	1.30	0.34	0.13	0.13	0.40	0.40	0.04				
Queue Length 95th (ft)	240	960	38	0	0	0	0	0				
Control Delay (s)	465.3	162.8	16.7	0.0	0.0	0.0	0.0	0.0				
Lane LOS	F	F	C									
Approach Delay (s)	192.3		4.4			0.0						
Approach LOS	F											

Intersection Summary

Average Delay		68.1										
Intersection Capacity Utilization		67.7%		ICU Level of Service				C				
Analysis Period (min)		15										

HCM Unsignalized Intersection Capacity Analysis  
 63: SC 170 & US 278 EB off-ramp

Existing AM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	47	0	93	0	0	0	0	510	165	0	473	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Hourly flow rate (vph)	51	0	101	0	0	0	0	548	177	0	514	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	788	1240	257	805	1063	274	514			726		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	788	1240	257	805	1063	274	514			726		
tC, single (s)	7.9	6.9	7.3	7.5	6.5	6.9	4.3			4.2		
tC, 2 stage (s)												
tF (s)	3.7	4.2	3.5	3.5	4.0	3.3	2.3			2.3		
p0 queue free %	80	100	85	100	100	100	100			100		
cM capacity (veh/h)	253	152	693	234	222	723	1007			841		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>						
Volume Total	152	274	274	177	257	257						
Volume Left	51	0	0	0	0	0						
Volume Right	101	0	0	177	0	0						
cSH	754	1700	1700	1700	1700	1700						
Volume to Capacity	0.20	0.16	0.16	0.10	0.15	0.15						
Queue Length 95th (ft)	19	0	0	0	0	0						
Control Delay (s)	15.0	0.0	0.0	0.0	0.0	0.0						
Lane LOS	C											
Approach Delay (s)	15.0	0.0			0.0							
Approach LOS	C											
<b>Intersection Summary</b>												
Average Delay			1.6									
Intersection Capacity Utilization			58.9%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

Existing AM  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	520	38	28	308	31	24	3	34	45	2	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.85	0.85	0.85	0.80	0.80	0.80	0.82	0.82	0.82
Hourly flow rate (vph)	23	559	41	33	362	36	30	4	42	55	2	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									2			
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	399			600			907	1069	280	776	1073	181
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	399			600			907	1069	280	776	1073	181
tC, single (s)	4.3			4.2			8.1	7.1	7.5	7.6	6.6	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.8	4.3	3.6	3.5	4.0	3.3
p0 queue free %	98			97			82	98	93	78	99	93
cM capacity (veh/h)	1115			953			168	169	638	250	204	824
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>WB 4</b>	<b>NB 1</b>	<b>SB 1</b>	<b>SB 2</b>	
Volume Total	23	280	280	41	33	181	181	36	76	55	57	
Volume Left	23	0	0	0	33	0	0	0	30	55	0	
Volume Right	0	0	0	41	0	0	0	36	42	0	55	
cSH	1115	1700	1700	1700	953	1700	1700	1700	381	250	730	
Volume to Capacity	0.02	0.16	0.16	0.02	0.03	0.11	0.11	0.02	0.20	0.22	0.08	
Queue Length 95th (ft)	2	0	0	0	3	0	0	0	18	20	6	
Control Delay (s)	8.3	0.0	0.0	0.0	8.9	0.0	0.0	0.0	20.2	23.4	10.4	
Lane LOS	A				A				C	C	B	
Approach Delay (s)	0.3				0.7				20.2	16.8		
Approach LOS									C	C		
<b>Intersection Summary</b>												
Average Delay			3.1									
Intersection Capacity Utilization			36.9%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

Existing PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↕	↗	↖↖	↕↕	↗	↖↖	↑	↗	↵	↑	↗
Volume (vph)	9	1298	309	247	1739	17	283	22	181	20	17	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.05	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	93	3539	1583	3433	3539	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	10	1381	329	271	1911	19	318	25	203	21	18	9
RTOR Reduction (vph)	0	0	113	0	0	8	0	0	179	0	0	8
Lane Group Flow (vph)	10	1381	216	271	1911	11	318	25	24	21	18	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	91.4	80.3	80.3	29.1	98.3	98.3	20.3	20.3	20.3	11.7	11.7	11.7
Effective Green, g (s)	91.4	80.3	80.3	29.1	98.3	98.3	20.3	20.3	20.3	11.7	11.7	11.7
Actuated g/C Ratio	0.54	0.47	0.47	0.17	0.58	0.58	0.12	0.12	0.12	0.07	0.07	0.07
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Grp Cap (vph)	159	1671	747	587	2046	915	414	224	190	121	127	108
v/s Ratio Prot	0.00	0.39		c0.08	c0.54		c0.09	0.01		c0.01	0.01	
v/s Ratio Perm	0.03		0.14			0.01			0.02			0.00
v/c Ratio	0.06	0.83	0.29	0.46	0.93	0.01	0.77	0.11	0.13	0.17	0.14	0.01
Uniform Delay, d1	31.4	38.8	27.4	63.4	32.9	15.2	72.6	66.8	66.9	74.6	74.4	73.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	4.8	1.0	2.6	9.4	0.0	12.8	1.0	1.4	3.1	2.3	0.1
Delay (s)	32.1	43.6	28.4	66.0	42.3	15.2	85.4	67.8	68.3	77.7	76.8	73.8
Level of Service	C	D	C	E	D	B	F	E	E	E	E	E
Approach Delay (s)		40.7			45.0			78.2			76.6	
Approach LOS		D			D			E			E	

Intersection Summary

HCM 2000 Control Delay	47.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

Existing PM  
 1/21/2013

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Volume (veh/h)	1532	22	0	2023	0	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.91	0.91	0.75	0.75
Hourly flow rate (vph)	1613	23	0	2223	0	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1613		2724	806
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1613		2724	806
tC, single (s)			4.2		7.1	7.2
tC, 2 stage (s)						
tF (s)			2.2		3.7	3.5
p0 queue free %			100		100	89
cM capacity (veh/h)			391		13	295
<b>Direction, Lane #</b>						
	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	806	806	23	1112	1112	32
Volume Left	0	0	0	0	0	0
Volume Right	0	0	23	0	0	32
cSH	1700	1700	1700	1700	1700	295
Volume to Capacity	0.47	0.47	0.01	0.65	0.65	0.11
Queue Length 95th (ft)	0	0	0	0	0	9
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	18.7
Lane LOS						C
Approach Delay (s)	0.0			0.0		18.7
Approach LOS						C
<b>Intersection Summary</b>						
Average Delay			0.2			
Intersection Capacity Utilization			59.3%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

Existing PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑	↑	↑		↑			↑
Volume (veh/h)	0	1603	34	41	1927	25	23	0	48	0	0	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76	0.76
Hourly flow rate (vph)	0	1653	35	41	1946	25	28	0	59	0	0	72
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1972			1688			2781	3707	826	2915	3717	973
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1972			1688			2781	3707	826	2915	3717	973
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			89			0	100	81	100	100	71
cM capacity (veh/h)	286			366			6	4	315	5	4	252
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>WB 4</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>		
Volume Total	826	826	35	41	973	973	25	28	59	72		
Volume Left	0	0	0	41	0	0	0	28	0	0		
Volume Right	0	0	35	0	0	0	25	0	59	72		
cSH	1700	1700	1700	366	1700	1700	1700	6	315	252		
Volume to Capacity	0.49	0.49	0.02	0.11	0.57	0.57	0.01	4.96	0.19	0.29		
Queue Length 95th (ft)	0	0	0	9	0	0	0	Err	17	29		
Control Delay (s)	0.0	0.0	0.0	16.1	0.0	0.0	0.0	Err	19.1	25.0		
Lane LOS				C				F	C	C		
Approach Delay (s)	0.0			0.3				3252.0		25.0		
Approach LOS								F		C		
<b>Intersection Summary</b>												
Average Delay			74.5									
Intersection Capacity Utilization			70.0%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

Existing PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗		↔↔			↕			↕	
Volume (veh/h)	7	1677	26	44	1968	4	28	0	47	2	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	8	1803	28	45	2008	4	37	0	63	4	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2012			1831			2916	3920	902	3079	3946	1006
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2012			1831			2916	3920	902	3079	3946	1006
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			86			0	100	78	0	100	98
cM capacity (veh/h)	280			321			6	3	279	3	3	239
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>SB 1</b>					
Volume Total	609	1202	28	1049	1008	100	8					
Volume Left	8	0	0	45	0	37	4					
Volume Right	0	0	28	0	4	63	4					
cSH	280	1700	1700	321	1700	15	7					
Volume to Capacity	0.03	0.71	0.02	0.14	0.59	6.63	1.17					
Queue Length 95th (ft)	2	0	0	12	0	Err	45					
Control Delay (s)	1.0	0.0	0.0	6.7	0.0	Err	1095.5					
Lane LOS	A			A		F	F					
Approach Delay (s)	0.3			3.4		Err	1095.5					
Approach LOS						F	F					
<b>Intersection Summary</b>												
Average Delay			253.8									
Intersection Capacity Utilization			97.7%		ICU Level of Service				F			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

Existing PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	82	0	896	132	445	0	0	1153	114
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94	0.94
Hourly flow rate (vph)	0	0	0	94	0	1030	143	484	0	0	1227	121
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2785	1997	613	1384	1997	242	1227			484		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2785	1997	613	1384	1997	242	1227			484		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	0	100	100	0	100	0	74			100		
cM capacity (veh/h)	0	44	435	80	43	753	542			1068		
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>				
Volume Total	94	1030	143	242	242	613	613	121				
Volume Left	94	0	143	0	0	0	0	0				
Volume Right	0	1030	0	0	0	0	0	121				
cSH	80	753	542	1700	1700	1700	1700	1700				
Volume to Capacity	1.17	1.37	0.26	0.14	0.14	0.36	0.36	0.07				
Queue Length 95th (ft)	172	1088	26	0	0	0	0	0				
Control Delay (s)	247.3	191.5	14.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	F	F	B									
Approach Delay (s)	196.2		3.2			0.0						
Approach LOS	F											
<b>Intersection Summary</b>												
Average Delay			71.8									
Intersection Capacity Utilization			74.4%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 63: SC 170 & US 278 EB off-ramp

Existing PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SEB	SBR
Lane Configurations												
Volume (veh/h)	87	0	113	0	0	0	0	487	128	0	568	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94	0.94
Hourly flow rate (vph)	98	0	127	0	0	0	0	547	144	0	604	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	878	1295	302	849	1151	274	604			691		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	878	1295	302	849	1151	274	604			691		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	59	100	82	100	100	100	100			100		
cM capacity (veh/h)	241	160	691	207	196	724	949			893		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>						
Volume Total	225	274	274	144	302	302						
Volume Left	98	0	0	0	0	0						
Volume Right	127	0	0	144	0	0						
cSH	553	1700	1700	1700	1700	1700						
Volume to Capacity	0.41	0.16	0.16	0.08	0.18	0.18						
Queue Length 95th (ft)	49	0	0	0	0	0						
Control Delay (s)	19.4	0.0	0.0	0.0	0.0	0.0						
Lane LOS	C											
Approach Delay (s)	19.4	0.0			0.0							
Approach LOS	C											
<b>Intersection Summary</b>												
Average Delay			2.9									
Intersection Capacity Utilization			44.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

Existing PM  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SEB	SBR
Lane Configurations												
Volume (veh/h)	26	540	15	32	625	54	15	1	42	28	2	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72
Hourly flow rate (vph)	30	614	17	35	679	59	16	1	46	39	3	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									2			
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	738			631			1101	1480	307	1138	1439	340
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	738			631			1101	1480	307	1138	1439	340
tC, single (s)	4.1			4.1			7.7	6.7	7.1	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	97			96			88	99	93	72	98	97
cM capacity (veh/h)	864			948			143	109	669	137	123	656
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>WB 4</b>	<b>NB 1</b>	<b>SB 1</b>	<b>SB 2</b>	
Volume Total	30	307	307	17	35	340	340	59	64	39	21	
Volume Left	30	0	0	0	35	0	0	0	16	39	0	
Volume Right	0	0	0	17	0	0	0	59	46	0	18	
cSH	864	1700	1700	1700	948	1700	1700	1700	509	137	415	
Volume to Capacity	0.03	0.18	0.18	0.01	0.04	0.20	0.20	0.03	0.13	0.28	0.05	
Queue Length 95th (ft)	3	0	0	0	3	0	0	0	11	27	4	
Control Delay (s)	9.3	0.0	0.0	0.0	8.9	0.0	0.0	0.0	17.3	41.5	14.1	
Lane LOS	A				A				C	E	B	
Approach Delay (s)	0.4				0.4				17.3	32.0		
Approach LOS									C	D		
<b>Intersection Summary</b>												
Average Delay			2.3									
Intersection Capacity Utilization			38.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2018 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SBR
Lane Configurations	↵	↶↶↶	↷	↵↵	↶↶↶	↷	↵↵	↑	↷	↵	↑	↷
Volume (vph)	12	2216	349	219	1551	21	511	14	561	24	11	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.08	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	149	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	13	2357	371	241	1704	23	574	16	630	26	12	22
RTOR Reduction (vph)	0	0	122	0	0	12	0	0	114	0	0	21
Lane Group Flow (vph)	13	2357	249	241	1704	11	574	16	516	26	12	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	65.5	63.5	63.5	11.6	73.1	73.1	38.3	38.3	38.3	8.0	8.0	8.0
Effective Green, g (s)	65.5	63.5	63.5	11.6	73.1	73.1	38.3	38.3	38.3	8.0	8.0	8.0
Actuated g/C Ratio	0.44	0.42	0.42	0.08	0.49	0.49	0.26	0.26	0.26	0.05	0.05	0.05
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	86	2152	670	265	2478	771	885	480	408	93	98	84
v/s Ratio Prot	0.00	c0.46		c0.07	c0.34		0.17	0.01		c0.01	0.01	
v/s Ratio Perm	0.06		0.16			0.01			c0.32			0.00
v/c Ratio	0.15	1.10	0.37	0.91	0.69	0.01	0.65	0.03	1.26	0.28	0.12	0.01
Uniform Delay, d1	26.1	43.2	29.6	68.7	29.6	19.9	49.8	41.9	55.9	68.2	67.7	67.3
Progression Factor	1.62	1.24	2.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	48.7	1.1	32.1	1.6	0.0	1.6	0.0	137.5	1.6	0.6	0.1
Delay (s)	42.7	102.2	62.4	100.7	31.2	19.9	51.5	42.0	193.3	69.9	68.2	67.3
Level of Service	D	F	E	F	C	B	D	D	F	E	E	E
Approach Delay (s)		96.5			39.6			124.6			68.6	
Approach LOS		F			D			F			E	

Intersection Summary

HCM 2000 Control Delay	83.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2018 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	👉👉	👉👉👉	👉	👉👉	👉👉👉	👉	👉👉	👉	👉	👉👉	👉	👉
Volume (vph)	19	2520	94	75	1864	0	67	67	67	37	61	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7		7.7	7.7	7.9	7.7	7.7	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	1.00	1.00	0.97	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	3367	4988		2993	1863	1380	3433	1863	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	3367	4988		2993	1863	1380	3433	1863	
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	21	2653	99	82	2048	0	89	73	89	40	66	0
RTOR Reduction (vph)	0	0	29	0	0	0	0	0	71	0	0	0
Lane Group Flow (vph)	21	2653	70	82	2048	0	89	73	18	40	66	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	3.7	94.4	102.4	8.2	98.9		8.0	13.3	21.5	4.1	9.4	
Effective Green, g (s)	3.7	94.4	102.4	8.2	98.9		8.0	13.3	21.5	4.1	9.4	
Actuated g/C Ratio	0.02	0.63	0.68	0.05	0.66		0.05	0.09	0.14	0.03	0.06	
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7		7.7	7.7	7.9	7.7	7.7	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	84	3200	1080	184	3288		159	165	197	93	116	
v/s Ratio Prot	0.01	c0.52	0.00	c0.02	c0.41		c0.03	c0.04	0.00	0.01	c0.04	
v/s Ratio Perm			0.04						0.01			
v/c Ratio	0.25	0.83	0.06	0.45	0.62		0.56	0.44	0.09	0.43	0.57	
Uniform Delay, d1	71.8	21.5	7.9	68.7	14.8		69.3	64.8	55.8	71.8	68.3	
Progression Factor	1.00	1.00	1.00	0.83	1.95		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	2.6	0.0	1.4	0.7		4.2	1.9	0.2	3.2	6.3	
Delay (s)	73.4	24.2	7.9	58.2	29.5		73.5	66.7	56.0	75.0	74.6	
Level of Service	E	C	A	E	C		E	E	E	E	E	
Approach Delay (s)		24.0			30.6			65.3			74.7	
Approach LOS		C			C			E			E	

Intersection Summary

HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

2018 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑			↑			↑
Volume (veh/h)	0	2554	29	0	1984	82	0	0	62	0	0	21
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76	0.76
Hourly flow rate (vph)	0	2633	30	0	2004	83	0	0	77	0	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2087			2663			3329	4720	878	2958	4667	668
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2087			2663			3329	4720	878	2958	4667	668
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	74	100	100	93
cM capacity (veh/h)	258			149			3	1	291	5	1	401
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>WB 4</b>	<b>NB 1</b>	<b>SB 1</b>		
Volume Total	878	878	878	30	668	668	668	83	77	28		
Volume Left	0	0	0	0	0	0	0	0	0	0		
Volume Right	0	0	0	30	0	0	0	83	77	28		
cSH	1700	1700	1700	1700	1700	1700	1700	1700	291	401		
Volume to Capacity	0.52	0.52	0.52	0.02	0.39	0.39	0.39	0.05	0.26	0.07		
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	26	6		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.7	14.6		
Lane LOS									C	B		
Approach Delay (s)	0.0				0.0				21.7	14.6		
Approach LOS									C	B		
<b>Intersection Summary</b>												
Average Delay			0.4									
Intersection Capacity Utilization			59.9%		ICU Level of Service					B		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2018 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑				↑			↑
Volume (veh/h)	0	2614	79	0	1991	30	0	0	67	0	0	20
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2811	85	0	2032	31	0	0	89	0	0	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.57			0.57	0.57	0.57	0.57	0.57	
vC, conflicting volume	2062			2896			3528	4873	937	3073	4943	693
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2062			1679			2791	5156	0	1991	5278	693
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	85	100	100	90
cM capacity (veh/h)	267			210			4	0	615	17	0	386
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	937	937	937	85	813	813	437	89	40			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	85	0	0	31	89	40			
cSH	1700	1700	1700	1700	1700	1700	1700	615	386			
Volume to Capacity	0.55	0.55	0.55	0.05	0.48	0.48	0.26	0.15	0.10			
Queue Length 95th (ft)	0	0	0	0	0	0	0	13	9			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	15.4			
Lane LOS								B	C			
Approach Delay (s)	0.0				0.0			11.8	15.4			
Approach LOS								B	C			
<b>Intersection Summary</b>												
Average Delay			0.3									
Intersection Capacity Utilization			61.3%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

2018 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘		↗	↘	↗			↗	↘
Volume (vph)	0	0	0	117	0	1079	188	531	0	0	1665	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0		4.0	6.0	6.0			6.0	6.0
Lane Util. Factor				1.00		1.00	1.00	0.95			0.91	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1736		1553	1703	3406			5036	1568
Flt Permitted				0.95		1.00	0.06	1.00			1.00	1.00
Satd. Flow (perm)				1736		1553	110	3406			5036	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	134	0	1240	204	577	0	0	1771	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	48
Lane Group Flow (vph)	0	0	0	134	0	1240	204	577	0	0	1771	49
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	6%	6%	6%	3%	3%	3%
Turn Type				Prot		Free	pm+pt	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						Free	2					6
Actuated Green, G (s)				19.0		120.0	89.0	89.0			61.0	61.0
Effective Green, g (s)				19.0		120.0	89.0	89.0			61.0	61.0
Actuated g/C Ratio				0.16		1.00	0.74	0.74			0.51	0.51
Clearance Time (s)				6.0			6.0	6.0			6.0	6.0
Lane Grp Cap (vph)				274		1553	373	2526			2559	797
v/s Ratio Prot				0.08			0.10	0.17			0.35	
v/s Ratio Perm						c0.80	0.31					0.03
v/c Ratio				0.49		0.80	0.55	0.23			0.69	0.06
Uniform Delay, d1				46.1		0.0	27.8	4.8			22.4	15.0
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				6.1		4.4	5.7	0.2			1.6	0.1
Delay (s)				52.2		4.4	33.5	5.0			23.9	15.1
Level of Service				D		A	C	A			C	B
Approach Delay (s)		0.0			9.0			12.5			23.5	
Approach LOS		A			A			B			C	

Intersection Summary

HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 63: SC 170 & US 278 EB off-ramp

2018 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SEB	SBR
Lane Configurations												
Volume (veh/h)	62	0	123	0	0	0	0	672	226	0	623	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94	0.94
Hourly flow rate (vph)	70	0	138	0	0	0	0	755	254	0	663	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1108	
pX, platoon unblocked												
vC, conflicting volume	1040	1672	331	1086	1418	378	663			1009		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1040	1672	331	1086	1418	378	663			1009		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	62	100	79	100	100	100	100			100		
cM capacity (veh/h)	183	94	661	135	136	620	902			677		
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2						
Volume Total	208	378	378	254	331	331						
Volume Left	70	0	0	0	0	0						
Volume Right	138	0	0	254	0	0						
cSH	546	1700	1700	1700	1700	1700						
Volume to Capacity	0.38	0.22	0.22	0.15	0.19	0.19						
Queue Length 95th (ft)	44	0	0	0	0	0						
Control Delay (s)	20.0	0.0	0.0	0.0	0.0	0.0						
Lane LOS	C											
Approach Delay (s)	20.0	0.0			0.0							
Approach LOS	C											

Intersection Summary

Average Delay	2.2
Intersection Capacity Utilization	44.6%
Analysis Period (min)	15
ICU Level of Service	A

HCM Signalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

2018 AM Bkgd  
1/21/2013

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗		↑	↗	↘	↓	↙
Volume (vph)	54	685	50	37	406	84	32	8	45	89	6	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1676	1482	1770	1603	
Flt Permitted	0.48	1.00	1.00	0.30	1.00	1.00		0.80	1.00	0.73	1.00	
Satd. Flow (perm)	893	3539	1583	558	3539	1583		1392	1482	1357	1603	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72
Adj. Flow (vph)	61	778	57	40	441	91	35	9	49	124	8	107
RTOR Reduction (vph)	0	0	26	0	0	42	0	0	31	0	68	0
Lane Group Flow (vph)	61	778	31	40	441	49	0	44	18	124	47	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	NA
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	43.0	43.0	43.0	43.0	43.0	43.0		29.0	29.0	29.0	29.0	
Effective Green, g (s)	43.0	43.0	43.0	43.0	43.0	43.0		29.0	29.0	29.0	29.0	
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54		0.36	0.36	0.36	0.36	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	479	1902	850	299	1902	850		504	537	491	581	
v/s Ratio Prot		c0.22			0.12							0.03
v/s Ratio Perm	0.07		0.02	0.07		0.03		0.03	0.01	c0.09		
v/c Ratio	0.13	0.41	0.04	0.13	0.23	0.06		0.09	0.03	0.25	0.08	
Uniform Delay, d1	9.2	11.0	8.7	9.2	9.8	8.8		16.8	16.5	17.9	16.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.7	0.1	0.9	0.3	0.1		0.3	0.1	1.2	0.3	
Delay (s)	9.7	11.6	8.8	10.1	10.1	9.0		17.1	16.6	19.1	17.0	
Level of Service	A	B	A	B	B	A		B	B	B	B	
Approach Delay (s)		11.3			9.9			16.8			18.1	
Approach LOS		B			A			B			B	

Intersection Summary

HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2018 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	2247	360	219	1636	21	542	14	561	24	11	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.07	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	122	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	13	2390	383	241	1798	23	609	16	630	26	12	22
RTOR Reduction (vph)	0	0	125	0	0	12	0	0	114	0	0	21
Lane Group Flow (vph)	13	2390	258	241	1798	11	609	16	516	26	12	1
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	65.5	63.5	63.5	11.6	73.1	73.1	38.3	38.3	38.3	8.0	8.0	8.0
Effective Green, g (s)	65.5	63.5	63.5	11.6	73.1	73.1	38.3	38.3	38.3	8.0	8.0	8.0
Actuated g/C Ratio	0.44	0.42	0.42	0.08	0.49	0.49	0.26	0.26	0.26	0.05	0.05	0.05
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	75	2152	670	265	2478	771	885	480	408	93	98	84
v/s Ratio Prot	0.00	c0.47		c0.07	c0.35		0.18	0.01		c0.01	0.01	
v/s Ratio Perm	0.07		0.16			0.01			c0.32			0.00
v/c Ratio	0.17	1.11	0.39	0.91	0.73	0.01	0.69	0.03	1.26	0.28	0.12	0.01
Uniform Delay, d1	26.8	43.2	29.8	68.7	30.5	19.9	50.5	41.9	55.9	68.2	67.7	67.3
Progression Factor	1.63	1.34	2.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	54.7	1.1	32.1	1.9	0.0	2.2	0.0	137.5	1.6	0.6	0.1
Delay (s)	44.4	112.6	66.9	100.7	32.4	19.9	52.7	42.0	193.3	69.9	68.2	67.3
Level of Service	D	F	E	F	C	B	D	D	F	E	E	E
Approach Delay (s)		106.0			40.2			123.1			68.6	
Approach LOS		F			D			F			E	

Intersection Summary

HCM 2000 Control Delay	87.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2018 AM  
 1/22/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	143	2509	94	75	1869	81	67	143	67	85	88	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	155	2641	99	82	2054	88	89	155	89	92	96	34
RTOR Reduction (vph)	0	0	32	0	0	33	0	0	71	0	0	28
Lane Group Flow (vph)	155	2641	67	82	2054	55	89	155	18	92	96	6
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	11.0	90.4	97.6	6.5	85.9	93.1	7.2	15.9	22.4	7.2	15.9	26.9
Effective Green, g (s)	11.0	90.4	97.6	6.5	85.9	93.1	7.2	15.9	22.4	7.2	15.9	26.9
Actuated g/C Ratio	0.07	0.60	0.65	0.04	0.57	0.62	0.05	0.11	0.15	0.05	0.11	0.18
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	251	3064	1030	145	2856	982	143	197	206	164	197	283
v/s Ratio Prot	c0.05	c0.52	0.00	0.02	0.41	0.00	c0.03	c0.08	0.00	0.03	0.05	0.00
v/s Ratio Perm			0.04			0.03			0.01			0.00
v/c Ratio	0.62	0.86	0.06	0.57	0.72	0.06	0.62	0.79	0.09	0.56	0.49	0.02
Uniform Delay, d1	67.5	24.6	9.6	70.4	23.3	11.2	70.1	65.4	55.0	69.9	63.2	50.7
Progression Factor	1.00	1.00	1.00	0.85	1.61	4.28	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.5	3.5	0.0	3.9	1.3	0.0	8.2	18.4	0.2	4.3	1.9	0.0
Delay (s)	71.9	28.1	9.6	64.1	38.7	47.9	78.2	83.8	55.2	74.2	65.1	50.7
Level of Service	E	C	A	E	D	D	E	F	E	E	E	D
Approach Delay (s)		29.8			40.0			74.7			66.7	
Approach LOS		C			D			E			E	

Intersection Summary

HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

2018 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑			↑			↑
Volume (veh/h)	0	2595	29	0	2100	82	0	0	62	0	0	21
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76	0.76
Hourly flow rate (vph)	0	2675	30	0	2121	83	0	0	77	0	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2204			2705			3410	4879	892	3090	4826	707
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2204			2705			3410	4879	892	3090	4826	707
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	73	100	100	93
cM capacity (veh/h)	232			144			3	1	285	4	1	378
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>WB 4</b>	<b>NB 1</b>	<b>SB 1</b>		
Volume Total	892	892	892	30	707	707	707	83	77	28		
Volume Left	0	0	0	0	0	0	0	0	0	0		
Volume Right	0	0	0	30	0	0	0	83	77	28		
cSH	1700	1700	1700	1700	1700	1700	1700	1700	285	378		
Volume to Capacity	0.52	0.52	0.52	0.02	0.42	0.42	0.42	0.05	0.27	0.07		
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	26	6		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2	15.3		
Lane LOS									C	C		
Approach Delay (s)	0.0				0.0				22.2	15.3		
Approach LOS									C	C		
<b>Intersection Summary</b>												
Average Delay			0.4									
Intersection Capacity Utilization			60.6%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2018 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑				↑			↑
Volume (veh/h)	0	2655	79	0	2061	76	0	0	67	0	0	36
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2855	85	0	2103	78	0	0	89	0	0	72
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.54			0.54	0.54	0.54	0.54	0.54	
vC, conflicting volume	2181			2940			3628	5035	952	3183	5082	740
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2181			1634			2898	5484	0	2080	5568	740
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	85	100	100	80
cM capacity (veh/h)	240			209			3	0	588	14	0	359
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	952	952	952	85	841	841	498	89	72			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	85	0	0	78	89	72			
cSH	1700	1700	1700	1700	1700	1700	1700	588	359			
Volume to Capacity	0.56	0.56	0.56	0.05	0.49	0.49	0.29	0.15	0.20			
Queue Length 95th (ft)	0	0	0	0	0	0	0	13	18			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.2	17.5			
Lane LOS								B	C			
Approach Delay (s)	0.0				0.0			12.2	17.5			
Approach LOS								B	C			
<b>Intersection Summary</b>												
Average Delay			0.4									
Intersection Capacity Utilization			62.1%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

2018 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘	↘	↘	↘	↕	↕	↘	↕	↘
Volume (vph)	0	0	0	119	0	1100	188	531	0	0	1717	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0		4.0	6.0	6.0			6.0	6.0
Lane Util. Factor				1.00		1.00	1.00	0.95			0.95	1.00
Flt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1736		1553	1703	3406			3505	1568
Flt Permitted				0.95		1.00	0.08	1.00			1.00	1.00
Satd. Flow (perm)				1736		1553	143	3406			3505	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	137	0	1264	204	577	0	0	1827	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	40
Lane Group Flow (vph)	0	0	0	137	0	1264	204	577	0	0	1827	57
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	6%	6%	6%	3%	3%	3%
Turn Type				Prot		Free	pm+pt	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						Free	2					6
Actuated Green, G (s)				7.0		75.0	56.0	56.0			44.0	44.0
Effective Green, g (s)				7.0		75.0	56.0	56.0			44.0	44.0
Actuated g/C Ratio				0.09		1.00	0.75	0.75			0.59	0.59
Clearance Time (s)				6.0			6.0	6.0			6.0	6.0
Lane Grp Cap (vph)				162		1553	231	2543			2056	919
v/s Ratio Prot				0.08			0.07	0.17			0.52	
v/s Ratio Perm						c0.81	c0.59					0.04
v/c Ratio				0.85		0.81	0.88	0.23			0.89	0.06
Uniform Delay, d1				33.5		0.0	20.5	2.9			13.4	6.6
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				39.0		4.8	35.3	0.2			6.2	0.1
Delay (s)				72.5		4.8	55.7	3.1			19.6	6.8
Level of Service				E		A	E	A			B	A
Approach Delay (s)		0.0			11.4			16.9			19.0	
Approach LOS		A			B			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			16.0			HCM 2000 Level of Service					B	
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)				18.0		
Intersection Capacity Utilization			77.8%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis  
63: SC 170 & US 278 EB off-ramp

2018 AM  
1/22/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	62	0	123	0	0	0	0	672	235	0	625	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94	0.94
Hourly flow rate (vph)	70	0	138	0	0	0	0	755	264	0	665	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1108	
pX, platoon unblocked												
vC, conflicting volume	1042	1684	332	1088	1420	378	665			1019		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1042	1684	332	1088	1420	378	665			1019		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	62	100	79	100	100	100	100			100		
cM capacity (veh/h)	182	92	660	135	135	620	900			671		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>						
Volume Total	208	378	378	264	332	332						
Volume Left	70	0	0	0	0	0						
Volume Right	138	0	0	264	0	0						
cSH	544	1700	1700	1700	1700	1700						
Volume to Capacity	0.38	0.22	0.22	0.16	0.20	0.20						
Queue Length 95th (ft)	44	0	0	0	0	0						
Control Delay (s)	20.1	0.0	0.0	0.0	0.0	0.0						
Lane LOS	C											
Approach Delay (s)	20.1	0.0			0.0							
Approach LOS	C											
<b>Intersection Summary</b>												
Average Delay			2.2									
Intersection Capacity Utilization			44.6%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

2018 AM  
1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	685	50	37	406	127	32	14	45	104	8	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Fit	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.86	
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1684	1482	1770	1607	
Fit Permitted	0.50	1.00	1.00	0.29	1.00	1.00		0.82	1.00	0.72	1.00	
Satd. Flow (perm)	924	3539	1583	538	3539	1583		1426	1482	1349	1607	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72
Adj. Flow (vph)	92	778	57	40	441	138	35	15	49	144	11	121
RTOR Reduction (vph)	0	0	34	0	0	83	0	0	29	0	73	0
Lane Group Flow (vph)	92	778	23	40	441	55	0	50	20	144	59	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0		16.0	16.0	16.0	16.0	
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0		16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40		0.40	0.40	0.40	0.40	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	369	1415	633	215	1415	633		570	592	539	642	
v/s Ratio Prot		c0.22			0.12						0.04	
v/s Ratio Perm	0.10		0.01	0.07		0.03		0.04	0.01	c0.11		
v/c Ratio	0.25	0.55	0.04	0.19	0.31	0.09		0.09	0.03	0.27	0.09	
Uniform Delay, d1	8.0	9.2	7.3	7.8	8.2	7.5		7.5	7.3	8.1	7.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	1.5	0.1	1.9	0.6	0.3		0.3	0.1	1.2	0.3	
Delay (s)	9.6	10.8	7.4	9.7	8.8	7.7		7.8	7.4	9.3	7.8	
Level of Service	A	B	A	A	A	A		A	A	A	A	
Approach Delay (s)		10.4			8.6			7.6			8.6	
Approach LOS		B			A			A			A	

Intersection Summary

HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2018 PM bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	1880	452	333	2407	22	456	34	243	28	31	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	6.3	7.7	7.7	7.9	6.3	6.3	7.9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Fit Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	106	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	19	2000	481	366	2645	24	512	38	273	28	33	23
RTOR Reduction (vph)	0	0	104	0	0	9	0	0	60	0	0	21
Lane Group Flow (vph)	19	2000	377	366	2645	15	512	38	213	28	33	2
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6	4	3	3	1	4	4	5
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	74.5	70.5	94.6	18.8	85.3	93.3	24.1	24.1	42.9	8.0	8.0	12.0
Effective Green, g (s)	74.5	70.5	94.6	18.8	85.3	93.3	24.1	24.1	42.9	8.0	8.0	12.0
Actuated g/C Ratio	0.50	0.47	0.63	0.13	0.57	0.62	0.16	0.16	0.29	0.05	0.05	0.08
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	6.3	7.7	7.7	7.9	6.3	6.3	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	97	2389	998	430	2891	984	557	302	457	93	98	126
v/s Ratio Prot	0.01	0.39	0.06	c0.11	c0.52	0.00	c0.15	0.02	0.06	0.02	c0.02	0.00
v/s Ratio Perm	0.09		0.18			0.01			0.07			0.00
v/c Ratio	0.20	0.84	0.38	0.85	0.91	0.02	0.92	0.13	0.47	0.30	0.34	0.01
Uniform Delay, d1	29.3	34.7	13.4	64.2	29.1	10.8	62.0	53.9	44.1	68.3	68.4	63.6
Progression Factor	1.60	1.60	1.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	2.7	0.2	14.9	5.8	0.0	20.2	0.2	0.8	1.8	2.0	0.0
Delay (s)	47.8	58.3	24.7	79.1	34.9	10.8	82.2	54.1	44.9	70.1	70.5	63.6
Level of Service	D	E	C	E	C	B	F	D	D	E	E	E
Approach Delay (s)		51.8			40.0			68.5			68.5	
Approach LOS		D			D			E			E	

Intersection Summary

HCM 2000 Control Delay	48.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2018 PM bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	TT	TTT	T	TT	TTT	T	TT	↑	T	TT	↑	T
Volume (vph)	29	2084	108	207	2690	0	157	157	131	170	170	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7		7.7	7.7	7.9	7.7	7.7	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	1.00	1.00	0.97	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	3367	4988		2993	1863	1380	3433	1863	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	3367	4988		2993	1863	1380	3433	1863	
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	32	2194	114	227	2956	0	209	171	175	185	185	0
RTOR Reduction (vph)	0	0	45	0	0	0	0	0	66	0	0	0
Lane Group Flow (vph)	32	2194	69	227	2956	0	209	171	109	185	185	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	3.2	79.9	91.2	12.8	89.5		11.3	18.2	31.0	9.1	16.0	
Effective Green, g (s)	3.2	79.9	91.2	12.8	89.5		11.3	18.2	31.0	9.1	16.0	
Actuated g/C Ratio	0.02	0.53	0.61	0.09	0.60		0.08	0.12	0.21	0.06	0.11	
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7		7.7	7.7	7.9	7.7	7.7	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	73	2708	962	287	2976		225	226	285	208	198	
v/s Ratio Prot	0.01	0.43	0.01	c0.07	c0.59		c0.07	0.09	0.03	0.05	c0.10	
v/s Ratio Perm			0.04						0.05			
v/c Ratio	0.44	0.81	0.07	0.79	0.99		0.93	0.76	0.38	0.89	0.93	
Uniform Delay, d1	72.5	28.8	12.1	67.3	30.0		69.0	63.8	51.3	70.0	66.5	
Progression Factor	1.00	1.00	1.00	0.83	1.46		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.2	2.7	0.0	9.2	11.7		40.3	13.5	0.9	33.6	45.3	
Delay (s)	76.7	31.6	12.1	64.9	55.4		109.3	77.2	52.1	103.5	111.8	
Level of Service	E	C	B	E	E		F	E	D	F	F	
Approach Delay (s)		31.2			56.0			81.4			107.7	
Approach LOS		C			E			F			F	

Intersection Summary

HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

2018 PM bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑			↑			↑
Volume (veh/h)	0	2332	51	0	2719	69	0	0	63	0	0	83
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76	0.76
Hourly flow rate (vph)	0	2404	53	0	2746	70	0	0	78	0	0	109
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2816			2457			3429	5220	801	3626	5203	915
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2816			2457			3429	5220	801	3626	5203	915
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	76	100	100	60
cM capacity (veh/h)	132			181			2	0	327	1	0	275
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	801	801	801	53	915	915	915	70	78	109		
Volume Left	0	0	0	0	0	0	0	0	0	0		
Volume Right	0	0	0	53	0	0	0	70	78	109		
cSH	1700	1700	1700	1700	1700	1700	1700	1700	327	275		
Volume to Capacity	0.47	0.47	0.47	0.03	0.54	0.54	0.54	0.04	0.24	0.40		
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	23	45		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4	26.5		
Lane LOS									C	D		
Approach Delay (s)	0.0				0.0				19.4	26.5		
Approach LOS									C	D		
<b>Intersection Summary</b>												
Average Delay			0.8									
Intersection Capacity Utilization			64.3%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2018 PM bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑				↗			↗
Volume (veh/h)	0	2381	86	0	2806	41	0	0	151	0	0	17
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2560	92	0	2863	42	0	0	201	0	0	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.64			0.64	0.64	0.64	0.64	0.64	
vC, conflicting volume	2905			2653			3549	5465	853	3939	5537	975
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2905			1605			3009	6013	0	3621	6125	975
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	71	100	100	86
cM capacity (veh/h)	123			251			3	0	690	1	0	251
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	853	853	853	92	1145	1145	614	201	34			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	92	0	0	42	201	34			
cSH	1700	1700	1700	1700	1700	1700	1700	690	251			
Volume to Capacity	0.50	0.50	0.50	0.05	0.67	0.67	0.36	0.29	0.14			
Queue Length 95th (ft)	0	0	0	0	0	0	0	30	12			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	21.6			
Lane LOS								B	C			
Approach Delay (s)	0.0				0.0			12.4	21.6			
Approach LOS								B	C			
<b>Intersection Summary</b>												
Average Delay			0.6									
Intersection Capacity Utilization			65.1%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

2018 PM bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	114	0	1244	174	586	0	0	1519	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0		4.0	6.0	6.0			6.0	6.0
Lane Util. Factor				1.00		1.00	1.00	0.95			0.91	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Fit Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1736		1553	1703	3406			5036	1568
Fit Permitted				0.95		1.00	0.08	1.00			1.00	1.00
Satd. Flow (perm)				1736		1553	139	3406			5036	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	131	0	1430	189	637	0	0	1616	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	81
Lane Group Flow (vph)	0	0	0	131	0	1430	189	637	0	0	1616	79
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	6%	6%	6%	3%	3%	3%
Turn Type				Prot		Free	pm+pt	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						Free	2					6
Actuated Green, G (s)				21.0		120.0	87.0	87.0			59.0	59.0
Effective Green, g (s)				21.0		120.0	87.0	87.0			59.0	59.0
Actuated g/C Ratio				0.18		1.00	0.72	0.72			0.49	0.49
Clearance Time (s)				6.0			6.0	6.0			6.0	6.0
Lane Grp Cap (vph)				303		1553	387	2469			2476	770
v/s Ratio Prot				0.08			0.09	0.19			0.32	
v/s Ratio Perm						c0.92	0.26					0.05
v/c Ratio				0.43		0.92	0.49	0.26			0.65	0.10
Uniform Delay, d1				44.2		0.0	21.2	5.6			22.8	16.3
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				4.4		10.4	4.4	0.3			1.4	0.3
Delay (s)				48.6		10.4	25.6	5.8			24.2	16.6
Level of Service				D		B	C	A			C	B
Approach Delay (s)		0.0			13.6			10.4			23.5	
Approach LOS		A			B			B			C	

Intersection Summary

HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
63: SC 170 & US 278 EB off-ramp

2018 PM bkgd  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	115	0	149	0	0	0	0	642	184	0	748	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94	0.94
Hourly flow rate (vph)	129	0	167	0	0	0	0	721	207	0	796	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1108	
pX, platoon unblocked												
vC, conflicting volume	1156	1724	398	1119	1517	361	796			928		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1156	1724	398	1119	1517	361	796			928		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	14	100	72	100	100	100	100			100		
cM capacity (veh/h)	150	87	599	116	118	636	803			726		
<b>Direction, Lane:#</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>						
Volume Total	297	361	361	207	398	398						
Volume Left	129	0	0	0	0	0						
Volume Right	167	0	0	207	0	0						
cSH	345	1700	1700	1700	1700	1700						
Volume to Capacity	0.86	0.21	0.21	0.12	0.23	0.23						
Queue Length 95th (ft)	199	0	0	0	0	0						
Control Delay (s)	50.5	0.0	0.0	0.0	0.0	0.0						
Lane LOS	F											
Approach Delay (s)	50.5	0.0			0.0							
Approach LOS	F											
<b>Intersection Summary</b>												
Average Delay			7.4									
Intersection Capacity Utilization			44.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

2018 PM bkgd  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	711	20	42	823	147	20	7	55	128	10	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Fr't	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1681	1482	1770	1618	
Flt Permitted	0.25	1.00	1.00	0.29	1.00	1.00		0.81	1.00	0.74	1.00	
Satd. Flow (perm)	471	3539	1583	539	3539	1583		1420	1482	1374	1618	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72
Adj. Flow (vph)	90	808	23	46	895	160	22	8	60	178	14	100
RTOR Reduction (vph)	0	0	11	0	0	74	0	0	39	0	65	0
Lane Group Flow (vph)	90	808	12	46	895	86	0	30	21	178	49	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	59.0	59.0	59.0	59.0	59.0	59.0		39.0	39.0	39.0	39.0	
Effective Green, g (s)	59.0	59.0	59.0	59.0	59.0	59.0		39.0	39.0	39.0	39.0	
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54		0.35	0.35	0.35	0.35	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	252	1898	849	289	1898	849		503	525	487	573	
v/s Ratio Prot		0.23			c0.25						0.03	
v/s Ratio Perm	0.19		0.01	0.09		0.05		0.02	0.01	c0.13		
v/c Ratio	0.36	0.43	0.01	0.16	0.47	0.10		0.06	0.04	0.37	0.09	
Uniform Delay, d1	14.6	15.3	11.9	12.9	15.8	12.5		23.4	23.2	26.3	23.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.9	0.7	0.0	1.2	0.8	0.2		0.2	0.1	2.1	0.3	
Delay (s)	18.5	16.0	11.9	14.1	16.7	12.7		23.6	23.4	28.4	23.9	
Level of Service	B	B	B	B	B	B		C	C	C	C	
Approach Delay (s)		16.2			16.0			23.5			26.7	
Approach LOS		B			B			C			C	

Intersection Summary

HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2018 PM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	2005	497	333	2491	22	486	34	243	26	31	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	6.3	7.7	7.7	7.9	6.3	6.3	7.9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	104	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	19	2133	529	366	2737	24	546	38	273	28	33	23
RTOR Reduction (vph)	0	0	110	0	0	9	0	0	58	0	0	21
Lane Group Flow (vph)	19	2133	419	366	2737	15	546	38	215	28	33	2
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6	4	3	3	1	4	4	5
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	75.5	71.5	96.2	17.2	84.7	92.7	24.7	24.7	41.9	8.0	8.0	12.0
Effective Green, g (s)	75.5	71.5	96.2	17.2	84.7	92.7	24.7	24.7	41.9	8.0	8.0	12.0
Actuated g/C Ratio	0.50	0.48	0.64	0.11	0.56	0.62	0.16	0.16	0.28	0.05	0.05	0.08
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	6.3	7.7	7.7	7.9	6.3	6.3	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	96	2423	1015	393	2871	978	570	309	446	93	98	126
v/s Ratio Prot	0.01	0.42	0.07	c0.11	c0.54	0.00	c0.16	0.02	0.06	0.02	c0.02	0.00
v/s Ratio Perm	0.09		0.20			0.01			0.08			0.00
v/c Ratio	0.20	0.88	0.41	0.93	0.95	0.02	0.96	0.12	0.48	0.30	0.34	0.01
Uniform Delay, d1	31.9	35.4	13.1	65.8	30.8	11.0	62.1	53.4	45.0	68.3	68.4	63.6
Progression Factor	1.60	1.65	2.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	3.6	0.2	28.6	9.0	0.0	27.2	0.2	0.8	1.8	2.0	0.0
Delay (s)	51.8	61.9	27.0	94.4	39.8	11.1	89.3	53.6	45.8	70.1	70.5	63.6
Level of Service	D	E	C	F	D	B	F	D	D	E	E	E
Approach Delay (s)		54.9			45.9			73.9			68.5	
Approach LOS		D			D			E			E	

Intersection Summary

HCM 2000 Control Delay	53.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2018 PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	2013	108	207	2686	140	157	232	131	297	282	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	229	2119	114	227	2952	152	209	252	175	323	307	190
RTOR Reduction (vph)	0	0	40	0	0	36	0	0	65	0	0	66
Lane Group Flow (vph)	229	2119	74	227	2952	116	209	252	110	323	307	124
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	9.1	75.6	84.9	12.8	79.3	91.6	9.3	19.3	32.1	12.3	22.3	31.4
Effective Green, g (s)	9.1	75.6	84.9	12.8	79.3	91.6	9.3	19.3	32.1	12.3	22.3	31.4
Actuated g/C Ratio	0.06	0.50	0.57	0.09	0.53	0.61	0.06	0.13	0.21	0.08	0.15	0.21
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	208	2562	895	287	2636	966	185	239	295	281	276	331
v/s Ratio Prot	0.07	0.42	0.01	c0.07	c0.59	0.01	0.07	0.14	0.03	c0.09	c0.16	0.02
v/s Ratio Perm			0.04			0.06			0.05			0.06
v/c Ratio	1.10	0.83	0.08	0.79	1.12	0.12	1.13	1.05	0.37	1.15	1.11	0.38
Uniform Delay, d1	70.5	31.6	14.8	67.3	35.4	12.3	70.3	65.3	50.3	68.8	63.9	50.9
Progression Factor	1.00	1.00	1.00	0.82	1.32	2.08	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	92.0	3.2	0.0	9.0	57.7	0.0	105.3	73.3	0.8	100.3	87.7	0.7
Delay (s)	162.5	34.9	14.9	64.2	104.3	25.5	175.7	138.6	51.1	169.1	151.6	51.6
Level of Service	F	C	B	E	F	C	F	F	D	F	F	D
Approach Delay (s)		45.8			98.0			126.7			135.3	
Approach LOS		D			F			F			F	

Intersection Summary

HCM 2000 Control Delay	87.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

2018 PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑			↑			↑
Volume (veh/h)	0	2502	51	0	2833	69	0	0	63	0	0	83
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76	0.76
Hourly flow rate (vph)	0	2579	53	0	2862	70	0	0	78	0	0	109
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2931			2632			3642	5511	860	3799	5494	954
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2931			2632			3642	5511	860	3799	5494	954
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	74	100	100	58
cM capacity (veh/h)	118			154			1	0	299	1	0	259
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>WB 4</b>	<b>NB 1</b>	<b>SB 1</b>		
Volume Total	860	860	860	53	954	954	954	70	78	109		
Volume Left	0	0	0	0	0	0	0	0	0	0		
Volume Right	0	0	0	53	0	0	0	70	78	109		
cSH	1700	1700	1700	1700	1700	1700	1700	1700	299	259		
Volume to Capacity	0.51	0.51	0.51	0.03	0.56	0.56	0.56	0.04	0.26	0.42		
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	25	49		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2	28.6		
Lane LOS									C	D		
Approach Delay (s)	0.0				0.0				21.2	28.6		
Approach LOS									C	D		
<b>Intersection Summary</b>												
Average Delay			0.8									
Intersection Capacity Utilization			66.5%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2018 PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑				↑			↑
Volume (veh/h)	0	2551	86	0	2875	86	0	0	151	0	0	84
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	2743	92	0	2934	88	0	0	201	0	0	168
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.64			0.64	0.64	0.64	0.64	0.64	
vC, conflicting volume	3021			2835			3889	5764	914	4093	5813	1022
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3021			1899			3545	6476	0	3864	6552	1022
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	71	100	100	28
cM capacity (veh/h)	111			193			0	0	692	1	0	234
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	914	914	914	92	1173	1173	674	201	168			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	92	0	0	88	201	168			
cSH	1700	1700	1700	1700	1700	1700	1700	692	234			
Volume to Capacity	0.54	0.54	0.54	0.05	0.69	0.69	0.40	0.29	0.72			
Queue Length 95th (ft)	0	0	0	0	0	0	0	30	121			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	52.0			
Lane LOS								B	F			
Approach Delay (s)	0.0				0.0			12.3	52.0			
Approach LOS								B	F			
<b>Intersection Summary</b>												
Average Delay			1.8									
Intersection Capacity Utilization			69.3%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
61: SC 170 & US 278/US 278 WB off ramp

2018 PM  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘		↗	↘	↗			↗	↗
Volume (vph)	0	0	0	123	0	1329	174	586	0	0	1570	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0		4.0	6.0	6.0			6.0	6.0
Lane Util. Factor				1.00		1.00	1.00	0.95			0.91	1.00
Fr't				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1736		1553	1703	3406			5036	1568
Flt Permitted				0.95		1.00	0.07	1.00			1.00	1.00
Satd. Flow (perm)				1736		1553	125	3406			5036	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	141	0	1528	189	637	0	0	1670	160
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	81
Lane Group Flow (vph)	0	0	0	141	0	1528	189	637	0	0	1670	79
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	6%	6%	6%	3%	3%	3%
Turn Type				Prot		Free	pm+pt	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						Free	2					6
Actuated Green, G (s)				21.0		120.0	87.0	87.0			59.0	59.0
Effective Green, g (s)				21.0		120.0	87.0	87.0			59.0	59.0
Actuated g/C Ratio				0.18		1.00	0.72	0.72			0.49	0.49
Clearance Time (s)				6.0			6.0	6.0			6.0	6.0
Lane Grp Cap (vph)				303		1553	379	2469			2476	770
v/s Ratio Prot				0.08			0.09	0.19			0.33	
v/s Ratio Perm						c0.98	0.27					0.05
v/c Ratio				0.47		0.98	0.50	0.26			0.67	0.10
Uniform Delay, d1				44.5		0.0	23.7	5.6			23.2	16.3
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				5.1		19.3	4.6	0.3			1.5	0.3
Delay (s)				49.5		19.3	28.3	5.8			24.7	16.6
Level of Service				D		B	C	A			C	B
Approach Delay (s)		0.0			21.9			11.0			24.0	
Approach LOS		A			C			B			C	

Intersection Summary

HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
63: SC 170 & US 278 EB off-ramp

2018 PM  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								↑↑			↑↑	
Volume (veh/h)	115	0	149	0	0	0	0	642	193	0	757	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94	0.94
Hourly flow rate (vph)	129	0	167	0	0	0	0	721	217	0	805	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1108	
pX, platoon unblocked												
vC, conflicting volume	1166	1744	403	1124	1527	361	805			938		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1166	1744	403	1124	1527	361	805			938		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	13	100	72	100	100	100	100			100		
cM capacity (veh/h)	148	85	594	115	117	636	796			720		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>						
Volume Total	297	361	361	217	403	403						
Volume Left	129	0	0	0	0	0						
Volume Right	167	0	0	217	0	0						
cSH	340	1700	1700	1700	1700	1700						
Volume to Capacity	0.87	0.21	0.21	0.13	0.24	0.24						
Queue Length 95th (ft)	205	0	0	0	0	0						
Control Delay (s)	52.3	0.0	0.0	0.0	0.0	0.0						
Lane LOS	F											
Approach Delay (s)	52.3	0.0			0.0							
Approach LOS	F											
<b>Intersection Summary</b>												
Average Delay			7.6									
Intersection Capacity Utilization			44.6%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

2018 PM  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↗	↘	↕	↗		↕	↗	↘	↕	↗
Volume (vph)	106	711	20	42	823	189	20	13	55	191	19	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1691	1482	1770	1623	
Flt Permitted	0.25	1.00	1.00	0.29	1.00	1.00		0.81	1.00	0.73	1.00	
Satd. Flow (perm)	471	3539	1583	539	3539	1583		1419	1482	1367	1623	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72
Adj. Flow (vph)	120	808	23	46	895	205	22	14	60	265	26	156
RTOR Reduction (vph)	0	0	11	0	0	95	0	0	39	0	77	0
Lane Group Flow (vph)	120	808	12	46	895	110	0	36	21	265	105	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	59.0	59.0	59.0	59.0	59.0	59.0		39.0	39.0	39.0	39.0	
Effective Green, g (s)	59.0	59.0	59.0	59.0	59.0	59.0		39.0	39.0	39.0	39.0	
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54		0.35	0.35	0.35	0.35	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	252	1898	849	289	1898	849		503	525	484	575	
v/s Ratio Prot		0.23			0.25							0.06
v/s Ratio Perm	c0.25		0.01	0.09		0.07		0.03	0.01	c0.19		
v/c Ratio	0.48	0.43	0.01	0.16	0.47	0.13		0.07	0.04	0.55	0.18	
Uniform Delay, d1	15.9	15.3	11.9	12.9	15.8	12.7		23.5	23.2	28.4	24.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.3	0.7	0.0	1.2	0.8	0.3		0.3	0.1	4.4	0.7	
Delay (s)	22.2	16.0	11.9	14.1	16.7	13.0		23.8	23.4	32.8	25.2	
Level of Service	C	B	B	B	B	B		C	C	C	C	
Approach Delay (s)		16.7			15.9			23.5			29.7	
Approach LOS		B			B			C			C	

Intersection Summary

HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2023 AM Bkgd  
 1/21/2013

	↖	→	↗	↖	←	↖	↗	↑	↖	↗	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑	↗	↖	↑	↗
Volume (vph)	17	2857	455	277	2024	27	686	19	707	30	16	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Fit Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	119	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	18	3039	484	304	2224	30	771	21	794	32	17	34
RTOR Reduction (vph)	0	0	125	0	0	15	0	0	108	0	0	32
Lane Group Flow (vph)	18	3039	359	304	2224	15	771	21	686	32	17	2
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	65.7	62.7	62.7	13.4	73.1	73.1	37.3	37.3	37.3	8.0	8.0	8.0
Effective Green, g (s)	65.7	62.7	62.7	13.4	73.1	73.1	37.3	37.3	37.3	8.0	8.0	8.0
Actuated g/C Ratio	0.44	0.42	0.42	0.09	0.49	0.49	0.25	0.25	0.25	0.05	0.05	0.05
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	85	2125	661	306	2478	771	862	467	397	93	98	84
v/s Ratio Prot	0.00	c0.60		c0.09	c0.44		0.22	0.01		c0.02	0.01	
v/s Ratio Perm	0.09		0.23			0.01			c0.43			0.00
v/c Ratio	0.21	1.43	0.54	0.99	0.90	0.02	0.89	0.04	1.73	0.34	0.17	0.02
Uniform Delay, d1	31.4	43.6	32.9	68.3	35.0	19.9	54.4	42.8	56.4	68.5	67.8	67.3
Progression Factor	1.59	1.44	2.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	193.8	0.3	49.4	5.7	0.0	11.7	0.0	337.8	2.2	0.8	0.1
Delay (s)	50.0	256.8	67.2	117.7	40.7	19.9	66.1	42.9	394.1	70.7	68.7	67.4
Level of Service	D	F	E	F	D	B	E	D	F	E	E	E
Approach Delay (s)		229.8			49.6			230.0			68.9	
Approach LOS		F			D			F			E	

Intersection Summary

HCM 2000 Control Delay	168.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	124.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2023 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	TT	TTT	T	TT	TTT	T	TT	T	T	TT	T	T
Volume (vph)	36	3181	169	229	2326	0	186	163	144	74	134	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7		7.7	7.7	7.9	7.7	7.7	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	1.00	1.00	0.97	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	3367	4988		2993	1863	1380	3433	1863	
Fit Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	3367	4988		2993	1863	1380	3433	1863	
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	39	3348	178	252	2556	0	248	177	192	80	146	0
RTOR Reduction (vph)	0	0	34	0	0	0	0	0	66	0	0	0
Lane Group Flow (vph)	39	3348	144	252	2556	0	248	177	126	80	146	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	3.4	83.6	93.9	11.2	91.4		10.3	19.7	30.9	5.5	14.9	
Effective Green, g (s)	3.4	83.6	93.9	11.2	91.4		10.3	19.7	30.9	5.5	14.9	
Actuated g/C Ratio	0.02	0.56	0.63	0.07	0.61		0.07	0.13	0.21	0.04	0.10	
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7		7.7	7.7	7.9	7.7	7.7	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	77	2834	990	251	3039		205	244	284	125	185	
v/s Ratio Prot	0.01	c0.66	0.01	c0.07	c0.51		c0.08	c0.10	0.03	0.02	0.08	
v/s Ratio Perm			0.08						0.06			
v/c Ratio	0.51	1.18	0.15	1.00	0.84		1.21	0.73	0.44	0.64	0.79	
Uniform Delay, d1	72.5	33.2	11.5	69.4	23.5		69.8	62.6	52.0	71.3	66.0	
Progression Factor	1.00	1.00	1.00	0.89	1.64		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.2	85.6	0.1	45.3	1.9		130.9	10.2	1.1	10.7	19.7	
Delay (s)	77.6	118.8	11.6	107.2	40.5		200.8	72.8	53.2	81.9	85.7	
Level of Service	E	F	B	F	D		F	E	D	F	F	
Approach Delay (s)		113.0			46.5			118.1			84.4	
Approach LOS		F			D			F			F	

Intersection Summary

HCM 2000 Control Delay	86.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

2023 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑			↑			↑
Volume (veh/h)	0	3303	39	0	2585	123	0	0	78	0	0	29
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76	0.76
Hourly flow rate (vph)	0	3405	40	0	2611	124	0	0	96	0	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2735			3445			4314	6141	1135	3842	6056	870
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2735			3445			4314	6141	1135	3842	6056	870
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	51	100	100	87
cM capacity (veh/h)	142			71			0	0	196	1	0	295
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	1135	1135	1135	40	870	870	870	124	96	38		
Volume Left	0	0	0	0	0	0	0	0	0	0		
Volume Right	0	0	0	40	0	0	0	124	96	38		
cSH	1700	1700	1700	1700	1700	1700	1700	1700	196	295		
Volume to Capacity	0.67	0.67	0.67	0.02	0.51	0.51	0.51	0.07	0.49	0.13		
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	61	11		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.9	19.0		
Lane LOS									E	C		
Approach Delay (s)	0.0				0.0				39.9	19.0		
Approach LOS									E	C		
<b>Intersection Summary</b>												
Average Delay			0.7									
Intersection Capacity Utilization			75.3%		ICU Level of Service				D			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2023 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑				↗			↗
Volume (veh/h)	0	3344	133	0	2578	57	0	0	118	0	0	28
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	3596	143	0	2631	58	0	0	157	0	0	56
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.46			0.46	0.46	0.46	0.46	0.46	
vC, conflicting volume	2689			3739			4529	6284	1199	4016	6398	906
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2689			2828			4563	8420	0	3436	8670	906
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	68	100	100	80
cM capacity (veh/h)	151			58			0	0	492	1	0	279
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	1199	1199	1199	143	1052	1052	584	157	56			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	143	0	0	58	157	56			
cSH	1700	1700	1700	1700	1700	1700	1700	492	279			
Volume to Capacity	0.71	0.71	0.71	0.08	0.62	0.62	0.34	0.32	0.20			
Queue Length 95th (ft)	0	0	0	0	0	0	0	34	18			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	21.1			
Lane LOS								C	C			
Approach Delay (s)	0.0				0.0			15.7	21.1			
Approach LOS								C	C			
<b>Intersection Summary</b>												
Average Delay			0.6									
Intersection Capacity Utilization			78.6%		ICU Level of Service				D			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

2023 AM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations				↘		↗	↘	↗	↑		↗	↘	
Volume (vph)	0	0	0	152	0	1406	237	668	0	0	2095	114	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)				6.0		4.0	6.0	6.0			6.0	6.0	
Lane Util. Factor				1.00		1.00	1.00	0.95			0.91	1.00	
Flt				1.00		0.85	1.00	1.00			1.00	0.85	
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00	
Satd. Flow (prot)				1736		1553	1703	3406			5036	1568	
Flt Permitted				0.95		1.00	0.05	1.00			1.00	1.00	
Satd. Flow (perm)				1736		1553	97	3406			5036	1568	
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94	0.94	
Adj. Flow (vph)	0	0	0	175	0	1616	258	726	0	0	2229	121	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	58	
Lane Group Flow (vph)	0	0	0	175	0	1616	258	726	0	0	2229	63	
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	6%	6%	6%	3%	3%	3%	
Turn Type				Prot		Free	pm+pt	NA			NA	Perm	
Protected Phases				3			5	2			6		
Permitted Phases						Free	2					6	
Actuated Green, G (s)				20.0		130.0	98.0	98.0			68.0	68.0	
Effective Green, g (s)				20.0		130.0	98.0	98.0			68.0	68.0	
Actuated g/C Ratio				0.15		1.00	0.75	0.75			0.52	0.52	
Clearance Time (s)				6.0			6.0	6.0			6.0	6.0	
Lane Grp Cap (vph)				267		1553	369	2567			2634	820	
v/s Ratio Prot				0.10			0.13	0.21			0.44		
v/s Ratio Perm						c1.04	0.40					0.04	
v/c Ratio				0.66		1.04	0.70	0.28			0.85	0.08	
Uniform Delay, d1				51.8		65.0	38.2	5.0			26.5	15.4	
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2				11.9		34.1	10.5	0.3			3.6	0.2	
Delay (s)				63.7		99.1	48.7	5.3			30.1	15.6	
Level of Service				E		F	D	A			C	B	
Approach Delay (s)		0.0			95.7			16.7			29.4		
Approach LOS		A			F			B			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			50.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.21										
Actuated Cycle Length (s)			130.0						18.0				
Intersection Capacity Utilization			75.4%										D
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis  
63: SC 170 & US 278 EB off-ramp

2023 AM Bkgd  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations											
Volume (veh/h)	78	0	154	0	0	0	0	845	295	0	784
Sign Control		Stop			Stop			Free			Free
Grade		0%			0%			0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94
Hourly flow rate (vph)	88	0	173	0	0	0	0	949	331	0	834
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)			6								
Median type								None			None
Median storage (veh)											
Upstream signal (ft)											1108
pX, platoon unblocked											
vC, conflicting volume	1309	2115	417	1366	1783	475	834			1281	
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	1309	2115	417	1366	1783	475	834			1281	
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2	
tC, 2 stage (s)											
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2	
p0 queue free %	24	100	70	100	100	100	100			100	
cM capacity (veh/h)	116	49	582	74	81	536	776			532	
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2					
Volume Total	261	475	475	331	417	417					
Volume Left	88	0	0	0	0	0					
Volume Right	173	0	0	331	0	0					
cSH	345	1700	1700	1700	1700	1700					
Volume to Capacity	0.76	0.28	0.28	0.19	0.25	0.25					
Queue Length 95th (ft)	149	0	0	0	0	0					
Control Delay (s)	42.0	0.0	0.0	0.0	0.0	0.0					
Lane LOS	E										
Approach Delay (s)	42.0	0.0			0.0						
Approach LOS	E										
<b>Intersection Summary</b>											
Average Delay			4.6								
Intersection Capacity Utilization			44.6%		ICU Level of Service				A		
Analysis Period (min)			15								

HCM Signalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

2023 AM Bkgd  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	86	862	63	46	510	136	40	12	56	134	8	110	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	1.00		
Fr't	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.86		
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00	0.95	1.00		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1678	1482	1770	1602		
Flt Permitted	0.33	1.00	1.00	0.27	1.00	1.00		0.69	1.00	0.58	1.00		
Satd. Flow (perm)	606	3539	1583	509	3539	1583		1207	1482	1073	1602		
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72	
Adj. Flow (vph)	98	980	72	50	554	148	44	13	62	186	11	153	
RTOR Reduction (vph)	0	0	35	0	0	90	0	0	51	0	93	0	
Lane Group Flow (vph)	98	980	37	50	554	58	0	57	11	186	71	0	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	2%	2%	2%	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		
Protected Phases	7	4			8			2		1	6		
Permitted Phases	4		4	8		8	2		2	6			
Actuated Green, G (s)	67.0	67.0	67.0	51.0	51.0	51.0		24.0	24.0	51.0	51.0		
Effective Green, g (s)	67.0	67.0	67.0	51.0	51.0	51.0		24.0	24.0	51.0	51.0		
Actuated g/C Ratio	0.52	0.52	0.52	0.39	0.39	0.39		0.18	0.18	0.39	0.39		
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0		
Lane Grp Cap (vph)	401	1823	815	199	1388	621		222	273	533	628		
v/s Ratio Prot	0.02	c0.28			0.16					c0.06	0.04		
v/s Ratio Perm	0.11		0.02	0.10		0.04		0.05	0.01	c0.08			
v/c Ratio	0.24	0.54	0.05	0.25	0.40	0.09		0.26	0.04	0.35	0.11		
Uniform Delay, d1	17.2	21.1	15.6	26.6	28.5	24.9		45.4	43.6	27.0	25.1		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
Incremental Delay, d2	1.4	1.1	0.1	3.0	0.9	0.3		2.8	0.3	1.8	0.4		
Delay (s)	18.6	22.3	15.7	29.6	29.3	25.2		48.1	43.8	28.8	25.5		
Level of Service	B	C	B	C	C	C		D	D	C	C		
Approach Delay (s)		21.5			28.5			45.9			27.2		
Approach LOS		C			C			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			25.8		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.50										
Actuated Cycle Length (s)			130.0		Sum of lost time (s)				24.0				
Intersection Capacity Utilization			56.3%		ICU Level of Service				B				
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2023 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑			↑	
Volume (vph)	17	2901	471	277	2153	27	732	19	707	30	16	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	119	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	18	3086	501	304	2366	30	822	21	794	32	17	34
RTOR Reduction (vph)	0	0	127	0	0	15	0	0	108	0	0	32
Lane Group Flow (vph)	18	3086	374	304	2366	15	822	21	686	32	17	2
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	65.7	62.7	62.7	13.4	73.1	73.1	37.3	37.3	37.3	8.0	8.0	8.0
Effective Green, g (s)	65.7	62.7	62.7	13.4	73.1	73.1	37.3	37.3	37.3	8.0	8.0	8.0
Actuated g/C Ratio	0.44	0.42	0.42	0.09	0.49	0.49	0.25	0.25	0.25	0.05	0.05	0.05
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	85	2125	661	306	2478	771	862	467	397	93	98	84
v/s Ratio Prot	0.00	c0.61		c0.09	c0.47		0.24	0.01		c0.02	0.01	
v/s Ratio Perm	0.09		0.24			0.01			c0.43			0.00
v/c Ratio	0.21	1.45	0.57	0.99	0.95	0.02	0.95	0.04	1.73	0.34	0.17	0.02
Uniform Delay, d1	34.0	43.6	33.3	68.3	36.9	19.9	55.5	42.8	56.4	68.5	67.8	67.3
Progression Factor	1.59	1.46	2.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	203.8	0.3	49.4	10.2	0.0	20.1	0.0	337.8	2.2	0.8	0.1
Delay (s)	54.0	267.3	67.9	117.7	47.1	19.9	75.6	42.9	394.1	70.7	68.7	67.4
Level of Service	D	F	E	F	D	B	E	D	F	E	E	E
Approach Delay (s)		238.5			54.7			229.7			68.9	
Approach LOS		F			D			F			E	

Intersection Summary

HCM 2000 Control Delay	173.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	125.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
13: Hampton Parkway & US 278

2023 AM  
1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	3168	169	229	2337	119	186	278	144	142	174	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	239	3335	178	252	2568	129	248	302	192	154	189	47
RTOR Reduction (vph)	0	0	35	0	0	38	0	0	66	0	0	38
Lane Group Flow (vph)	239	3335	143	252	2568	91	248	302	126	154	189	9
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	11.4	82.3	92.6	10.1	81.0	87.3	10.3	21.3	31.4	6.3	17.3	28.7
Effective Green, g (s)	11.4	82.3	92.6	10.1	81.0	87.3	10.3	21.3	31.4	6.3	17.3	28.7
Actuated g/C Ratio	0.08	0.55	0.62	0.07	0.54	0.58	0.07	0.14	0.21	0.04	0.12	0.19
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	260	2789	977	226	2693	921	205	264	288	144	214	302
v/s Ratio Prot	0.07	c0.66	0.01	c0.07	0.51	0.00	c0.08	c0.16	0.03	0.04	0.10	0.00
v/s Ratio Perm			0.08			0.05			0.06			0.00
w/c Ratio	0.92	1.20	0.15	1.12	0.95	0.10	1.21	1.14	0.44	1.07	0.88	0.03
Uniform Delay, d1	68.8	33.9	12.1	70.0	32.7	13.9	69.8	64.3	51.6	71.8	65.4	49.3
Progression Factor	1.00	1.00	1.00	0.89	1.45	2.56	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	34.6	91.9	0.1	79.4	5.9	0.0	130.9	99.9	1.1	94.7	32.0	0.0
Delay (s)	103.4	125.7	12.1	141.9	53.4	35.6	200.8	164.3	52.7	166.6	97.3	49.4
Level of Service	F	F	B	F	D	D	F	F	D	F	F	D
Approach Delay (s)		118.9			60.2			147.6			118.9	
Approach LOS		F			E			F			F	

Intersection Summary

HCM 2000 Control Delay	99.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

2023 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗			↗		↗
Volume (veh/h)	0	3363	39	0	2760	123	0	0	78	0	29
Sign Control		Free			Free			Yield			Yield
Grade		0%			0%			0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76
Hourly flow rate (vph)	0	3467	40	0	2788	124	0	0	96	0	38
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type		None			None						
Median storage (veh)											
Upstream signal (ft)											
pX, platoon unblocked											
vC, conflicting volume	2912			3507			4434	6379	1156	4040	6295
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	2912			3507			4434	6379	1156	4040	6295
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5
tC, 2 stage (s)											
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0
p0 queue free %	100			100			100	100	49	100	100
cM capacity (veh/h)	120			67			0	0	190	0	269
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	
Volume Total	1156	1156	1156	40	929	929	929	124	96	38	
Volume Left	0	0	0	0	0	0	0	0	0	0	
Volume Right	0	0	0	40	0	0	0	124	96	38	
cSH	1700	1700	1700	1700	1700	1700	1700	1700	190	269	
Volume to Capacity	0.68	0.68	0.68	0.02	0.55	0.55	0.55	0.07	0.51	0.14	
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	63	12	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.0	20.6	
Lane LOS									E	C	
Approach Delay (s)	0.0				0.0				42.0	20.6	
Approach LOS									E	C	
<b>Intersection Summary</b>											
Average Delay			0.7								
Intersection Capacity Utilization			76.5%		ICU Level of Service					D	
Analysis Period (min)			15								

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2023 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑				↑			↑
Volume (veh/h)	0	3404	133	0	2684	126	0	0	118	0	0	52
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	3660	143	0	2739	129	0	0	157	0	0	104
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.46			0.46	0.46	0.46	0.46	0.46	
vC, conflicting volume	2867			3803			4677	6528	1220	4180	6606	977
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2867			2998			4882	8871	0	3811	9040	977
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	69	100	100	58
cM capacity (veh/h)	128			51			0	0	502	0	0	250
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	1220	1220	1220	143	1096	1096	676	157	104			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	143	0	0	129	157	104			
cSH	1700	1700	1700	1700	1700	1700	1700	502	250			
Volume to Capacity	0.72	0.72	0.72	0.08	0.64	0.64	0.40	0.31	0.42			
Queue Length 95th (ft)	0	0	0	0	0	0	0	33	48			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	29.3			
Lane LOS								C	D			
Approach Delay (s)	0.0				0.0			15.4	29.3			
Approach LOS								C	D			
<b>Intersection Summary</b>												
Average Delay			0.8									
Intersection Capacity Utilization			79.7%		ICU Level of Service				D			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

2023 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘	←	↙	↘	↕	↙	↘	↕	↙
Volume (vph)	0	0	0	155	0	1433	237	668	0	0	2173	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0		4.0	6.0	6.0			6.0	6.0
Lane Util. Factor				1.00		1.00	1.00	0.95			0.95	1.00
Fr <sub>t</sub>				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1736		1553	1703	3406			3505	1568
Flt Permitted				0.95		1.00	0.04	1.00			1.00	1.00
Satd. Flow (perm)				1736		1553	68	3406			3505	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	178	0	1647	258	726	0	0	2312	121
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	40
Lane Group Flow (vph)	0	0	0	178	0	1647	258	726	0	0	2312	81
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	6%	6%	6%	3%	3%	3%
Turn Type				Prot		Free	pm+pt	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						Free	2					6
Actuated Green, G (s)				15.0		150.0	123.0	123.0			100.0	100.0
Effective Green, g (s)				15.0		150.0	123.0	123.0			100.0	100.0
Actuated g/C Ratio				0.10		1.00	0.82	0.82			0.67	0.67
Clearance Time (s)				6.0			6.0	6.0			6.0	6.0
Lane Grp Cap (vph)				173		1553	241	2792			2336	1045
v/s Ratio Prot				0.10			0.12	0.21			0.66	
v/s Ratio Perm						c1.06	0.76					0.05
v/c Ratio				1.03		1.06	1.07	0.26			0.99	0.08
Uniform Delay, d <sub>1</sub>				67.5		75.0	59.1	3.1			24.5	8.8
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d <sub>2</sub>				76.2		40.8	77.9	0.2			16.4	0.1
Delay (s)				143.7		115.8	137.0	3.3			40.9	8.9
Level of Service				F		F	F	A			D	A
Approach Delay (s)		0.0			118.5			38.4			39.3	
Approach LOS		A			F			D			D	

Intersection Summary

HCM 2000 Control Delay	66.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 63: SC 170 & US 278 EB off-ramp

2023 AM  
 1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	78	0	154	0	0	0	0	845	309	0	787	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94	0.94
Hourly flow rate (vph)	88	0	173	0	0	0	0	949	347	0	837	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1108	
pX, platoon unblocked												
vC, conflicting volume	1312	2134	419	1368	1787	475	837			1297		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1312	2134	419	1368	1787	475	837			1297		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	24	100	70	100	100	100	100			100		
cM capacity (veh/h)	115	48	580	74	81	536	774			525		
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2						
Volume Total	261	475	475	347	419	419						
Volume Left	88	0	0	0	0	0						
Volume Right	173	0	0	347	0	0						
cSH	343	1700	1700	1700	1700	1700						
Volume to Capacity	0.76	0.28	0.28	0.20	0.25	0.25						
Queue Length 95th (ft)	150	0	0	0	0	0						
Control Delay (s)	42.4	0.0	0.0	0.0	0.0	0.0						
Lane LOS	E											
Approach Delay (s)	42.4	0.0			0.0							
Approach LOS	E											
<b>Intersection Summary</b>												
Average Delay			4.6									
Intersection Capacity Utilization			44.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

2023 AM  
1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	862	63	46	510	201	40	21	56	156	11	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Fr't	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1688	1482	1770	1606	
Flt Permitted	0.31	1.00	1.00	0.29	1.00	1.00		0.72	1.00	0.58	1.00	
Satd. Flow (perm)	570	3539	1583	531	3539	1583		1248	1482	1072	1606	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72
Adj. Flow (vph)	144	980	72	50	554	218	44	23	62	217	15	172
RTOR Reduction (vph)	0	0	36	0	0	141	0	0	50	0	102	0
Lane Group Flow (vph)	144	980	36	50	554	77	0	67	12	217	85	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	65.0	65.0	65.0	46.0	46.0	46.0		25.0	25.0	53.0	53.0	
Effective Green, g (s)	65.0	65.0	65.0	46.0	46.0	46.0		25.0	25.0	53.0	53.0	
Actuated g/C Ratio	0.50	0.50	0.50	0.35	0.35	0.35		0.19	0.19	0.41	0.41	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	405	1769	791	187	1252	560		240	285	555	654	
v/s Ratio Prot	0.04	c0.28			0.16					c0.07	0.05	
v/s Ratio Perm	0.14		0.02	0.09		0.05		0.05	0.01	c0.09		
v/c Ratio	0.36	0.55	0.05	0.27	0.44	0.14		0.28	0.04	0.39	0.13	
Uniform Delay, d1	18.9	22.5	16.6	30.0	32.2	28.5		44.8	42.7	26.2	24.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.4	1.3	0.1	3.5	1.1	0.5		2.9	0.3	2.1	0.4	
Delay (s)	21.3	23.7	16.7	33.5	33.3	29.0		47.7	43.0	28.2	24.5	
Level of Service	C	C	B	C	C	C		D	D	C	C	
Approach Delay (s)		23.0			32.2			45.4			26.5	
Approach LOS		C			C			D			C	

Intersection Summary

HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2023 PM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↑	↔	↔	↑	↔
Volume (vph)	27	2530	611	425	3149	28	641	46	310	33	46	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Friction	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Fit Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	106	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	29	2691	650	467	3460	31	720	52	348	35	49	36
RTOR Reduction (vph)	0	0	187	0	0	14	0	0	156	0	0	34
Lane Group Flow (vph)	29	2691	463	467	3460	17	720	52	192	35	49	2
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	75.0	70.0	70.0	16.1	81.1	81.1	25.3	25.3	25.3	10.0	10.0	10.0
Effective Green, g (s)	75.0	70.0	70.0	16.1	81.1	81.1	25.3	25.3	25.3	10.0	10.0	10.0
Actuated g/C Ratio	0.50	0.47	0.47	0.11	0.54	0.54	0.17	0.17	0.17	0.07	0.07	0.07
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Grp Cap (vph)	108	2373	738	368	2749	855	584	317	269	117	123	105
v/s Ratio Prot	0.01	0.53		c0.14	c0.68		c0.21	0.03		0.02	c0.03	
v/s Ratio Perm	0.12		0.29			0.01			0.12			0.00
v/c Ratio	0.27	1.13	0.63	1.27	1.26	0.02	1.23	0.16	0.71	0.30	0.40	0.02
Uniform Delay, d1	33.8	40.0	30.2	67.0	34.5	16.0	62.4	53.3	58.9	66.7	67.1	65.4
Progression Factor	1.43	1.57	2.55	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	62.4	1.4	140.9	119.5	0.0	119.1	1.1	14.9	6.4	9.4	0.4
Delay (s)	50.4	125.2	78.3	207.8	153.9	16.0	181.5	54.4	73.8	73.1	76.5	65.8
Level of Service	D	F	E	F	F	B	F	D	E	E	E	E
Approach Delay (s)		115.5			159.2			142.1			72.3	
Approach LOS		F			F			F			E	

Intersection Summary

HCM 2000 Control Delay	138.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 13: Hampton Parkway & US 278

2023 PM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	2669	255	403	3357	0	388	284	232	99	353	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7		7.7	7.7	7.9	7.7	7.7	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	1.00	1.00	0.97	1.00	
Flt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	3367	4988		2993	1863	1380	3433	1863	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	3367	4988		2993	1863	1380	3433	1863	
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	54	2809	268	443	3689	0	517	309	309	108	384	0
RTOR Reduction (vph)	0	0	67	0	0	0	0	0	57	0	0	0
Lane Group Flow (vph)	54	2809	201	443	3689	0	517	309	252	108	384	0
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	3.2	65.3	82.6	13.1	75.2		17.3	34.5	47.6	7.1	24.3	
Effective Green, g (s)	3.2	65.3	82.6	13.1	75.2		17.3	34.5	47.6	7.1	24.3	
Actuated g/C Ratio	0.02	0.44	0.55	0.09	0.50		0.12	0.23	0.32	0.05	0.16	
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7		7.7	7.7	7.9	7.7	7.7	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	73	2213	871	294	2500		345	428	437	162	301	
v/s Ratio Prot	0.02	0.55	0.03	c0.13	c0.74		c0.17	0.17	0.05	0.03	c0.21	
v/s Ratio Perm			0.10						0.13			
v/c Ratio	0.74	1.27	0.23	1.51	1.48		1.50	0.72	0.58	0.67	1.28	
Uniform Delay, d1	73.0	42.4	17.3	68.5	37.4		66.3	53.3	42.8	70.3	62.9	
Progression Factor	1.00	1.00	1.00	0.83	1.45		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	32.0	124.9	0.1	229.7	214.2		239.1	5.9	1.9	9.9	147.4	
Delay (s)	105.0	167.3	17.5	286.5	268.4		305.4	59.2	44.6	80.2	210.2	
Level of Service	F	F	B	F	F		F	E	D	F	F	
Approach Delay (s)		153.4			270.3			167.4			181.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	211.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	122.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

2023 PM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗			↗			↗
Volume (veh/h)	0	3145	67	0	3557	112	0	0	80	0	0	112
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76	0.76
Hourly flow rate (vph)	0	3242	69	0	3593	113	0	0	99	0	0	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	3706			3311			4587	6948	1081	4772	6904	1198
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3706			3311			4587	6948	1081	4772	6904	1198
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	54	100	100	17
cM capacity (veh/h)	57			81			0	0	213	0	0	178
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>WB 4</b>	<b>NB 1</b>	<b>SB 1</b>		
Volume Total	1081	1081	1081	69	1198	1198	1198	113	99	147		
Volume Left	0	0	0	0	0	0	0	0	0	0		
Volume Right	0	0	0	69	0	0	0	113	99	147		
cSH	1700	1700	1700	1700	1700	1700	1700	1700	213	178		
Volume to Capacity	0.64	0.64	0.64	0.04	0.70	0.70	0.70	0.07	0.46	0.83		
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	56	144		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	81.5		
Lane LOS									E	F		
Approach Delay (s)	0.0				0.0				35.7	81.5		
Approach LOS									E	F		
<b>Intersection Summary</b>												
Average Delay			2.1									
Intersection Capacity Utilization			82.3%		ICU Level of Service				E			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2023 PM Bkgd  
 1/21/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑				↗			↗
Volume (veh/h)	0	3176	147	0	3648	78	0	0	228	0	0	27
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	3415	158	0	3722	80	0	0	304	0	0	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.58			0.58	0.58	0.58	0.58	0.58	
vC, conflicting volume	3802			3573			4710	7217	1138	5205	7335	1281
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3802			2894			4864	9207	0	5721	9412	1281
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	51	100	100	65
cM capacity (veh/h)	53			69			0	0	624	0	0	156
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	1138	1138	1138	158	1489	1489	824	304	54			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	158	0	0	80	304	54			
cSH	1700	1700	1700	1700	1700	1700	1700	624	156			
Volume to Capacity	0.67	0.67	0.67	0.09	0.88	0.88	0.48	0.49	0.35			
Queue Length 95th (ft)	0	0	0	0	0	0	0	67	36			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.1	39.7			
Lane LOS								C	E			
Approach Delay (s)	0.0				0.0			16.1	39.7			
Approach LOS								C	E			
<b>Intersection Summary</b>												
Average Delay			0.9									
Intersection Capacity Utilization			82.2%		ICU Level of Service				E			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

2023 PM Bkgd  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations				↘	↘	↗	↘	↗			↗
Volume (vph)	0	0	0	151	0	1642	219	738	0	0	1991
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0		4.0	6.0	6.0			6.0
Lane Util. Factor				1.00		1.00	1.00	0.95			0.91
Frt				1.00		0.85	1.00	1.00			1.00
Flt Protected				0.95		1.00	0.95	1.00			1.00
Satd. Flow (prot)				1736		1553	1703	3406			5036
Flt Permitted				0.95		1.00	0.07	1.00			1.00
Satd. Flow (perm)				1736		1553	124	3406			5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94
Adj. Flow (vph)	0	0	0	174	0	1887	238	802	0	0	2118
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	114
Lane Group Flow (vph)	0	0	0	174	0	1887	238	802	0	0	2118
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	6%	6%	6%	3%	3%
Turn Type				Prot		Free	pm+pt	NA			Perm
Protected Phases				3			5	2			6
Permitted Phases						Free	2				6
Actuated Green, G (s)				30.0		120.0	78.0	78.0			52.0
Effective Green, g (s)				30.0		120.0	78.0	78.0			52.0
Actuated g/C Ratio				0.25		1.00	0.65	0.65			0.43
Clearance Time (s)				6.0			6.0	6.0			6.0
Lane Grp Cap (vph)				434		1553	343	2213			2182
v/s Ratio Prot				0.10			0.12	0.24			0.42
v/s Ratio Perm						c1.22	0.34				0.06
v/c Ratio				0.40		1.22	0.69	0.36			0.97
Uniform Delay, d1				37.5		60.0	33.6	9.6			33.3
Progression Factor				1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2				2.7		102.9	11.0	0.5			13.5
Delay (s)				40.3		162.9	44.6	10.1			46.8
Level of Service				D		F	D	B			D
Approach Delay (s)		0.0			152.6			18.0			44.5
Approach LOS		A			F			B			D

Intersection Summary

HCM 2000 Control Delay	80.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
63: SC 170 & US 278 EB off-ramp

2023 PM Bkgd  
1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (veh/h)	144	0	187	0	0	0	0	807	244	0	941	0	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94	0.94	
Hourly flow rate (vph)	162	0	210	0	0	0	0	907	274	0	1001	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)			6										
Median type								None			None		
Median storage (veh)													
Upstream signal (ft)											1108		
pX, platoon unblocked													
vC, conflicting volume	1454	2182	501	1407	1908	453	1001			1181			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1454	2182	501	1407	1908	453	1001			1181			
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	0	100	59	100	100	100	100			100			
cM capacity (veh/h)	90	45	513	58	68	554	669			582			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2							
Volume Total	372	453	453	274	501	501							
Volume Left	162	0	0	0	0	0							
Volume Right	210	0	0	274	0	0							
cSH	179	1700	1700	1700	1700	1700							
Volume to Capacity	2.07	0.27	0.27	0.16	0.29	0.29							
Queue Length 95th (ft)	722	0	0	0	0	0							
Control Delay (s)	543.8	0.0	0.0	0.0	0.0	0.0							
Lane LOS	F												
Approach Delay (s)	543.8	0.0			0.0								
Approach LOS	F												
<b>Intersection Summary</b>													
Average Delay			79.2										
Intersection Capacity Utilization			44.6%		ICU Level of Service					A			
Analysis Period (min)			15										

HCM Signalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

2023 PM Bkgd  
1/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	895	25	53	1036	241	25	13	70	228	17	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1688	1482	1770	1616	
Flt Permitted	0.09	1.00	1.00	0.28	1.00	1.00		0.72	1.00	0.57	1.00	
Satd. Flow (perm)	175	3539	1583	523	3539	1583		1258	1482	1058	1616	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72
Adj. Flow (vph)	151	1017	28	58	1126	262	27	14	77	317	24	182
RTOR Reduction (vph)	0	0	12	0	0	123	0	0	65	0	117	0
Lane Group Flow (vph)	151	1017	16	58	1126	139	0	41	12	317	89	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	78.0	78.0	78.0	58.0	58.0	58.0		21.0	21.0	50.0	50.0	
Effective Green, g (s)	78.0	78.0	78.0	58.0	58.0	58.0		21.0	21.0	50.0	50.0	
Actuated g/C Ratio	0.56	0.56	0.56	0.41	0.41	0.41		0.15	0.15	0.36	0.36	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	257	1971	881	216	1466	655		188	222	494	577	
v/s Ratio Prot	0.06	c0.29			c0.32					c0.11	0.06	
v/s Ratio Perm	0.27		0.01	0.11		0.09		0.03	0.01	c0.12		
v/c Ratio	0.59	0.52	0.02	0.27	0.77	0.21		0.22	0.05	0.64	0.15	
Uniform Delay, d1	23.5	19.3	13.9	27.0	35.2	26.3		52.3	51.0	35.4	30.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.5	1.0	0.0	3.0	3.9	0.7		2.7	0.4	6.3	0.6	
Delay (s)	33.0	20.2	13.9	30.1	39.1	27.1		54.9	51.4	41.7	31.2	
Level of Service	C	C	B	C	D	C		D	D	D	C	
Approach Delay (s)		21.7			36.6			52.6			37.6	
Approach LOS		C			D			D			D	

Intersection Summary

HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 12: Buckwalter Parkway/Berkeley Hall & US 278

2023 PM  
 1/21/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  		  		  			  	  
Volume (vph)	27	2702	673	425	3280	28	688	46	310	33	46	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Total Lost time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Flt Permitted	0.06	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	105	5085	1583	3433	5085	1583	3467	1881	1599	1761	1853	1575
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	29	2874	716	467	3604	31	773	52	348	35	49	36
RTOR Reduction (vph)	0	0	193	0	0	14	0	0	156	0	0	34
Lane Group Flow (vph)	29	2874	523	467	3604	17	773	52	192	35	49	2
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	2		2			6			3			4
Actuated Green, G (s)	76.0	71.0	71.0	15.1	81.1	81.1	25.3	25.3	25.3	10.0	10.0	10.0
Effective Green, g (s)	76.0	71.0	71.0	15.1	81.1	81.1	25.3	25.3	25.3	10.0	10.0	10.0
Actuated g/C Ratio	0.51	0.47	0.47	0.10	0.54	0.54	0.17	0.17	0.17	0.07	0.07	0.07
Clearance Time (s)	7.9	6.7	6.7	7.9	6.7	6.7	7.7	7.7	7.7	6.3	6.3	6.3
Lane Grp Cap (vph)	108	2406	749	345	2749	855	584	317	269	117	123	105
v/s Ratio Prot	0.01	0.57		c0.14	c0.71		c0.22	0.03		0.02	c0.03	
v/s Ratio Perm	0.13		0.33			0.01			0.12			0.00
v/c Ratio	0.27	1.19	0.70	1.35	1.31	0.02	1.32	0.16	0.71	0.30	0.40	0.02
Uniform Delay, d1	33.8	39.5	31.1	67.5	34.5	16.0	62.4	53.3	58.9	66.7	67.1	65.4
Progression Factor	1.40	1.51	2.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	88.8	1.5	177.1	142.7	0.0	157.3	1.1	14.9	6.4	9.4	0.4
Delay (s)	48.8	148.5	71.4	244.5	177.1	16.0	219.7	54.4	73.8	73.1	76.5	65.8
Level of Service	D	F	E	F	F	B	F	D	E	E	E	E
Approach Delay (s)		132.4			183.6			169.1			72.3	
Approach LOS		F			F			F			E	

Intersection Summary

HCM 2000 Control Delay	159.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	28.6
Intersection Capacity Utilization	112.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
13: Hampton Parkway & US 278

2023 PM  
1/21/2013

	↖	→	↘	↙	←	↖	↘	↑	↖	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↖↖↖	↖	↖↖	↖↖↖	↖	↖↖	↑	↖	↖↖	↑	↖
Volume (vph)	311	2582	255	403	3362	195	388	401	232	427	507	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3367	4988	1583	2993	1863	1380	3433	1863	1583
Peak-hour factor, PHF	0.92	0.95	0.95	0.91	0.91	0.92	0.75	0.92	0.75	0.92	0.92	0.92
Adj. Flow (vph)	338	2718	268	443	3695	212	517	436	309	464	551	249
RTOR Reduction (vph)	0	0	41	0	0	44	0	0	61	0	0	61
Lane Group Flow (vph)	338	2718	227	443	3695	168	517	436	248	464	551	188
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%	17%	2%	17%	2%	2%	2%
Turn Type	Prot	NA	pm+ov									
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	10.1	67.3	82.6	8.1	65.3	77.6	15.3	32.3	40.4	12.3	29.3	39.4
Effective Green, g (s)	10.1	67.3	82.6	8.1	65.3	77.6	15.3	32.3	40.4	12.3	29.3	39.4
Actuated g/C Ratio	0.07	0.45	0.55	0.05	0.44	0.52	0.10	0.22	0.27	0.08	0.20	0.26
Clearance Time (s)	7.9	6.7	7.7	7.9	6.7	7.7	7.7	7.7	7.9	7.7	7.7	7.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	231	2281	871	181	2171	818	305	401	371	281	363	415
v/s Ratio Prot	0.10	0.53	0.03	c0.13	c0.74	0.02	c0.17	c0.23	0.04	0.14	c0.30	0.03
v/s Ratio Perm			0.12			0.09			0.14			0.09
v/c Ratio	1.46	1.19	0.26	2.45	1.70	0.20	1.70	1.09	0.67	1.65	1.52	0.45
Uniform Delay, d1	70.0	41.4	17.7	71.0	42.4	19.5	67.3	58.9	48.8	68.8	60.4	46.3
Progression Factor	1.00	1.00	1.00	0.82	1.37	1.74	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	230.7	90.9	0.2	652.9	316.1	0.0	326.6	70.5	4.5	308.5	246.8	0.8
Delay (s)	300.6	132.2	17.8	711.0	374.3	33.9	393.9	129.3	53.4	377.3	307.1	47.1
Level of Service	F	F	B	F	F	C	F	F	D	F	F	D
Approach Delay (s)		140.1			392.0			219.1			281.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	274.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	136.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 27: Island West Drive/Driveway & US 278

2023 PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑			↑			↑
Volume (veh/h)	0	3379	67	0	3736	112	0	0	80	0	0	112
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.81	0.81	0.81	0.76	0.76	0.76
Hourly flow rate (vph)	0	3484	69	0	3774	113	0	0	99	0	0	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	3887			3553			4889	7370	1161	5034	7326	1258
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3887			3553			4889	7370	1161	5034	7326	1258
tC, single (s)	4.2			4.2			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	48	100	100	9
cM capacity (veh/h)	48			64			0	0	188	0	0	162
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1		
Volume Total	1161	1161	1161	69	1258	1258	1258	113	99	147		
Volume Left	0	0	0	0	0	0	0	0	0	0		
Volume Right	0	0	0	69	0	0	0	113	99	147		
cSH	1700	1700	1700	1700	1700	1700	1700	1700	188	162		
Volume to Capacity	0.68	0.68	0.68	0.04	0.74	0.74	0.74	0.07	0.52	0.91		
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	67	164		
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.4	104.2		
Lane LOS									E	F		
Approach Delay (s)	0.0				0.0				43.4	104.2		
Approach LOS									E	F		
<b>Intersection Summary</b>												
Average Delay				2.6								
Intersection Capacity Utilization			85.8%		ICU Level of Service				E			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 55: Island West Park/Graves Road & US 278

2023 PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NET	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑				↗			↗
Volume (veh/h)	0	3410	147	0	3756	148	0	0	228	0	0	119
Sign Control		Free			Free			Yield			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.75	0.75	0.75	0.50	0.50	0.50
Hourly flow rate (vph)	0	3667	158	0	3833	151	0	0	304	0	0	238
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		928										
pX, platoon unblocked				0.56			0.56	0.56	0.56	0.56	0.56	
vC, conflicting volume	3984			3825			5182	7650	1222	5434	7733	1353
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3984			3303			5710	10087	0	6157	10233	1353
tC, single (s)	4.1			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			0	100	50	100	100	0
cM capacity (veh/h)	45			46			0	0	610	0	0	140
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>EB 4</b>	<b>WB 1</b>	<b>WB 2</b>	<b>WB 3</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	1222	1222	1222	158	1533	1533	918	304	238			
Volume Left	0	0	0	0	0	0	0	0	0			
Volume Right	0	0	0	158	0	0	151	304	238			
cSH	1700	1700	1700	1700	1700	1700	1700	610	140			
Volume to Capacity	0.72	0.72	0.72	0.09	0.90	0.90	0.54	0.50	1.70			
Queue Length 95th (ft)	0	0	0	0	0	0	0	70	435			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6	400.3			
Lane LOS								C	F			
Approach Delay (s)	0.0				0.0			16.6	400.3			
Approach LOS								C	F			
<b>Intersection Summary</b>												
Average Delay			12.0									
Intersection Capacity Utilization			89.9%		ICU Level of Service				E			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
 61: SC 170 & US 278/US 278 WB off ramp

2023 PM  
 1/21/2013

	↖	→	↗	↖	←	↖	↗	↑	↖	↗	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘		↗	↘	↗			↗	↘
Volume (vph)	0	0	0	163	0	1747	220	738	0	0	1991	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0		4.0	6.0	6.0			6.0	6.0
Lane Util. Factor				1.00		1.00	1.00	0.95			0.91	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1736		1553	1703	3406			5036	1568
Flt Permitted				0.95		1.00	0.07	1.00			1.00	1.00
Satd. Flow (perm)				1736		1553	124	3406			5036	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.87	0.87	0.87	0.92	0.92	0.92	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	187	0	2008	239	802	0	0	2118	201
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	114
Lane Group Flow (vph)	0	0	0	187	0	2008	239	802	0	0	2118	87
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	6%	6%	6%	3%	3%	3%
Turn Type				Prot		Free	pm+pt	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						Free	2					6
Actuated Green, G (s)				30.0		120.0	78.0	78.0			52.0	52.0
Effective Green, g (s)				30.0		120.0	78.0	78.0			52.0	52.0
Actuated g/C Ratio				0.25		1.00	0.65	0.65			0.43	0.43
Clearance Time (s)				6.0			6.0	6.0			6.0	6.0
Lane Grp Cap (vph)				434		1553	343	2213			2182	679
v/s Ratio Prot				0.11			0.12	0.24			0.42	
v/s Ratio Perm						c1.29	0.34					0.06
v/c Ratio				0.43		1.29	0.70	0.36			0.97	0.13
Uniform Delay, d1				37.8		60.0	33.7	9.6			33.3	20.4
Progression Factor				1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				3.1		136.8	11.1	0.5			13.5	0.4
Delay (s)				40.9		196.8	44.8	10.1			46.8	20.8
Level of Service				D		F	D	B			D	C
Approach Delay (s)		0.0			183.5			18.1			44.5	
Approach LOS		A			F			B			D	

Intersection Summary

HCM 2000 Control Delay	94.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis  
 63: SC 170 & US 278 EB off-ramp

2023 PM  
 1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	144	0	187	0	0	0	0	807	258	0	953	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.89	0.89	0.89	0.94	0.94	0.94
Hourly flow rate (vph)	162	0	210	0	0	0	0	907	290	0	1014	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			6									
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											1108	
pX, platoon unblocked												
vC, conflicting volume	1467	2210	507	1414	1921	453	1014			1197		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1467	2210	507	1414	1921	453	1014			1197		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	59	100	100	100	100			100		
cM capacity (veh/h)	88	43	508	57	66	554	662			573		
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2						
Volume Total	372	453	453	290	507	507						
Volume Left	162	0	0	0	0	0						
Volume Right	210	0	0	290	0	0						
cSH	175	1700	1700	1700	1700	1700						
Volume to Capacity	2.12	0.27	0.27	0.17	0.30	0.30						
Queue Length 95th (ft)	733	0	0	0	0	0						
Control Delay (s)	566.1	0.0	0.0	0.0	0.0	0.0						
Lane LOS	F											
Approach Delay (s)	566.1	0.0			0.0							
Approach LOS	F											
<b>Intersection Summary</b>												
Average Delay			81.5									
Intersection Capacity Utilization			44.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis  
70: Hampton Parkway & Bluffton Parkway

2023 PM  
1/21/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	895	25	53	1036	307	25	23	70	314	29	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Flt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1699	1482	1770	1621	
Flt Permitted	0.11	1.00	1.00	0.28	1.00	1.00		0.73	1.00	0.53	1.00	
Satd. Flow (perm)	207	3539	1583	525	3539	1583		1272	1482	980	1621	
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.72	0.72	0.72
Adj. Flow (vph)	199	1017	28	58	1126	334	27	25	77	436	40	258
RTOR Reduction (vph)	0	0	14	0	0	223	0	0	63	0	148	0
Lane Group Flow (vph)	199	1017	14	58	1126	111	0	52	14	436	150	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	44.0	44.0	44.0	30.0	30.0	30.0		16.0	16.0	34.0	34.0	
Effective Green, g (s)	44.0	44.0	44.0	30.0	30.0	30.0		16.0	16.0	34.0	34.0	
Actuated g/C Ratio	0.49	0.49	0.49	0.33	0.33	0.33		0.18	0.18	0.38	0.38	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	240	1730	773	175	1179	527		226	263	475	612	
v/s Ratio Prot	c0.07	0.29			c0.32					c0.12	0.09	
v/s Ratio Perm	0.33		0.01	0.11		0.07		0.04	0.01	c0.22		
v/c Ratio	0.83	0.59	0.02	0.33	0.96	0.21		0.23	0.05	0.92	0.24	
Uniform Delay, d1	19.1	16.5	11.9	22.5	29.3	21.5		31.7	30.7	25.6	19.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.0	1.5	0.0	5.0	17.4	0.9		2.4	0.4	25.2	1.0	
Delay (s)	46.0	18.0	11.9	27.5	46.8	22.4		34.1	31.1	50.8	20.2	
Level of Service	D	B	B	C	D	C		C	C	D	C	
Approach Delay (s)		22.3			40.7			32.3			38.4	
Approach LOS		C			D			C			D	

Intersection Summary

HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		AM			Analysis Year		2012		
Project Description									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N		2		Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On			
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>		818		<input type="checkbox"/> No <input type="checkbox"/> Off			
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>				L <sub>down</sub> = ft			
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>		1730		V <sub>D</sub> = veh/h			
		Ramp Volume, V <sub>R</sub>		897					
		Freeway Free-Flow Speed, S <sub>FF</sub>		55.0					
		Ramp Free-Flow Speed, S <sub>FR</sub>		35.0					
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF x f <sub>HV</sub> x f <sub>p</sub>	
Freeway	1730	0.92	Level	7	0	0.966	1.00	1946	
Ramp	897	0.95	Level	7	0	0.966	1.00	977	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v <sub>12</sub>					Estimation of v <sub>12</sub>				
L <sub>EQ</sub> =		V <sub>12</sub> = V <sub>F</sub> (P <sub>FM</sub> )			L <sub>EQ</sub> =		V <sub>12</sub> = V <sub>R</sub> + (V <sub>F</sub> - V <sub>R</sub> )P <sub>FD</sub>		
		(Equation 13-6 or 13-7)					(Equation 13-12 or 13-13)		
P <sub>FM</sub> =		1.000 using Equation (Exhibit 13-6)			P <sub>FD</sub> =		using Equation (Exhibit 13-7)		
V <sub>12</sub> =		1946 pc/h			V <sub>12</sub> =		pc/h		
V <sub>3</sub> or V <sub>av34</sub>		0 pc/h (Equation 13-14 or 13-17)			V <sub>3</sub> or V <sub>av34</sub>		pc/h (Equation 13-14 or 13-17)		
Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h?		<input type="checkbox"/> Yes <input type="checkbox"/> No			Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2		<input type="checkbox"/> Yes <input type="checkbox"/> No			Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2		<input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V <sub>12a</sub> =		pc/h (Equation 13-16, 13-18, or 13-19)			If Yes, V <sub>12a</sub> =		pc/h (Equation 13-16, 13-18, or 13-19)		
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	2923	Exhibit 13-8		No	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	2923	Exhibit 13-8 4600:All		No	V <sub>12</sub>		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
D <sub>R</sub> = 5.475 + 0.00734 v <sub>R</sub> + 0.0078 V <sub>12</sub> - 0.00627 L <sub>A</sub>					D <sub>R</sub> = 4.252 + 0.0086 V <sub>12</sub> - 0.009 L <sub>D</sub>				
D <sub>R</sub> = 22.7 (pc/mi/ln)					D <sub>R</sub> = (pc/mi/ln)				
LOS = C (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M <sub>S</sub> = 0.336 (Exhibit 13-11)					D <sub>S</sub> = (Exhibit 13-12)				
S <sub>R</sub> = 50.6 mph (Exhibit 13-11)					S <sub>R</sub> = mph (Exhibit 13-12)				
S <sub>0</sub> = N/A mph (Exhibit 13-11)					S <sub>0</sub> = mph (Exhibit 13-12)				
S = 50.6 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		PM			Analysis Year		2012		
Project Description									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N		2		Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On			
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>		818		<input type="checkbox"/> No <input type="checkbox"/> Off			
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>				L <sub>down</sub> = ft			
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>		1426		V <sub>D</sub> = veh/h			
		Ramp Volume, V <sub>R</sub>		667					
		Freeway Free-Flow Speed, S <sub>FF</sub>		55.0					
		Ramp Free-Flow Speed, S <sub>FR</sub>		35.0					
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF × f <sub>HV</sub> × f <sub>p</sub>	
Freeway	1426	0.94	Level	2	0	0.990	1.00	1532	
Ramp	667	0.95	Level	2	0	0.990	1.00	709	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v <sub>12</sub>					Estimation of v <sub>12</sub>				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L <sub>EQ</sub> = P <sub>FM</sub> = 1.000 using Equation (Exhibit 13-6) V <sub>12</sub> = 1532 pc/h V <sub>3</sub> or V <sub>av34</sub> = 0 pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L <sub>EQ</sub> = P <sub>FD</sub> = using Equation (Exhibit 13-7) V <sub>12</sub> = pc/h V <sub>3</sub> or V <sub>av34</sub> = pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	2241	Exhibit 13-8		No	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	2241	Exhibit 13-8		No	V <sub>12</sub>		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D <sub>R</sub> = 17.5 (pc/mi/ln) LOS = B (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D <sub>R</sub> = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M <sub>S</sub> = 0.300 (Exhibit 13-11) S <sub>R</sub> = 51.1 mph (Exhibit 13-11) S <sub>0</sub> = N/A mph (Exhibit 13-11) S = 51.1 mph (Exhibit 13-13)					D <sub>S</sub> = (Exhibit 13-12) S <sub>R</sub> = mph (Exhibit 13-12) S <sub>0</sub> = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		AM Bkgd			Analysis Year		2018		
Project Description									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N		2		Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On			
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>		818		<input type="checkbox"/> No <input type="checkbox"/> Off			
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>				L <sub>down</sub> = ft			
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>		2388		V <sub>D</sub> = veh/h			
		Ramp Volume, V <sub>R</sub>		1226					
		Freeway Free-Flow Speed, S <sub>FF</sub>		55.0					
		Ramp Free-Flow Speed, S <sub>FR</sub>		35.0					
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF × f <sub>HV</sub> × f <sub>p</sub>	
Freeway	2388	0.92	Level	7	0	0.966	1.00	2686	
Ramp	1226	0.95	Level	7	0	0.966	1.00	1336	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v <sub>12</sub>					Estimation of v <sub>12</sub>				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13)				
L <sub>EQ</sub> =					L <sub>EQ</sub> =				
P <sub>FM</sub> = 1.000 using Equation (Exhibit 13-6)					P <sub>FD</sub> = using Equation (Exhibit 13-7)				
V <sub>12</sub> = 2686 pc/h					V <sub>12</sub> = pc/h				
V <sub>3</sub> or V <sub>av34</sub> 0 pc/h (Equation 13-14 or 13-17)					V <sub>3</sub> or V <sub>av34</sub> pc/h (Equation 13-14 or 13-17)				
Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)					If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	4022	Exhibit 13-8		No	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	4022	Exhibit 13-8	4600:All	No	V <sub>12</sub>		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$				
D <sub>R</sub> = 31.1 (pc/mi/in)					D <sub>R</sub> = (pc/mi/in)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M <sub>S</sub> = 0.481 (Exhibit 13-11)					D <sub>s</sub> = (Exhibit 13-12)				
S <sub>R</sub> = 48.7 mph (Exhibit 13-11)					S <sub>R</sub> = mph (Exhibit 13-12)				
S <sub>D</sub> = N/A mph (Exhibit 13-11)					S <sub>D</sub> = mph (Exhibit 13-12)				
S = 48.7 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		AM			Analysis Year		2018		
Project Description									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N		2		Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>		818		<input type="checkbox"/> No <input type="checkbox"/> Off			
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>				L <sub>down</sub> = ft			
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>		2511		V <sub>D</sub> = veh/h			
		Ramp Volume, V <sub>R</sub>		1278					
		Freeway Free-Flow Speed, S <sub>FF</sub>		55.0					
		Ramp Free-Flow Speed, S <sub>FR</sub>		35.0					
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF x f <sub>HV</sub> x f <sub>p</sub>	
Freeway	2511	0.92	Level	7	0	0.966	1.00	2825	
Ramp	1278	0.95	Level	7	0	0.966	1.00	1392	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v <sub>12</sub>					Estimation of v <sub>12</sub>				
L <sub>EQ</sub> =		V <sub>12</sub> = V <sub>F</sub> (P <sub>FM</sub> )			L <sub>EQ</sub> =		V <sub>12</sub> = V <sub>R</sub> + (V <sub>F</sub> - V <sub>R</sub> )P <sub>FD</sub>		
		(Equation 13-6 or 13-7)					(Equation 13-12 or 13-13)		
P <sub>FM</sub> =		1.000 using Equation (Exhibit 13-6)			P <sub>FD</sub> =		using Equation (Exhibit 13-7)		
V <sub>12</sub> =		2825 pc/h			V <sub>12</sub> =		pc/h		
V <sub>3</sub> or V <sub>av34</sub>		0 pc/h (Equation 13-14 or 13-17)			V <sub>3</sub> or V <sub>av34</sub>		pc/h (Equation 13-14 or 13-17)		
Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h?		<input type="checkbox"/> Yes <input type="checkbox"/> No			Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2		<input type="checkbox"/> Yes <input type="checkbox"/> No			Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2		<input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V <sub>12a</sub> =		pc/h (Equation 13-16, 13-18, or 13-19)			If Yes, V <sub>12a</sub> =		pc/h (Equation 13-16, 13-18, or 13-19)		
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	4217	Exhibit 13-8		No	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	4217	Exhibit 13-8 4600:All		No	V <sub>12</sub>		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
D <sub>R</sub> = 5.475 + 0.00734 v <sub>R</sub> + 0.0078 v <sub>12</sub> - 0.00627 L <sub>A</sub>					D <sub>R</sub> = 4.252 + 0.0086 v <sub>12</sub> - 0.009 L <sub>D</sub>				
D <sub>R</sub> = 32.6 (pc/mi/ln)					D <sub>R</sub> = (pc/mi/ln)				
LOS = D (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M <sub>S</sub> = 0.528 (Exhibit 13-11)					D <sub>s</sub> = (Exhibit 13-12)				
S <sub>R</sub> = 48.1 mph (Exhibit 13-11)					S <sub>R</sub> = mph (Exhibit 13-12)				
S <sub>0</sub> = N/A mph (Exhibit 13-11)					S <sub>0</sub> = mph (Exhibit 13-12)				
S = 48.1 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihi Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		PM Bkgd			Analysis Year		2018		
Project Description									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N		2		Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N		1		<input type="checkbox"/> Yes <input type="checkbox"/> On			
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>		818		<input type="checkbox"/> No <input type="checkbox"/> Off			
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>				L <sub>down</sub> = ft			
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>		2008		Ramp Volume, V <sub>R</sub>		954	
		Ramp Volume, V <sub>R</sub>		954		Freeway Free-Flow Speed, S <sub>FF</sub>		55.0	
		Freeway Free-Flow Speed, S <sub>FF</sub>		55.0		Ramp Free-Flow Speed, S <sub>FR</sub>		35.0	
		Ramp Free-Flow Speed, S <sub>FR</sub>		35.0		V <sub>D</sub> = veh/h			
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF x f <sub>HV</sub> x f <sub>p</sub>	
Freeway	2008	0.94	Level	2	0	0.990	1.00	2158	
Ramp	954	0.95	Level	2	0	0.990	1.00	1014	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v <sub>12</sub>					Estimation of v <sub>12</sub>				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L <sub>EQ</sub> = P <sub>FM</sub> = 1.000 using Equation (Exhibit 13-6) V <sub>12</sub> = 2158 pc/h V <sub>3</sub> or V <sub>av34</sub> = 0 pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L <sub>EQ</sub> = P <sub>FD</sub> = using Equation (Exhibit 13-7) V <sub>12</sub> = pc/h V <sub>3</sub> or V <sub>av34</sub> = pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity	LOS F?			Actual	Capacity	LOS F?	
V <sub>FO</sub>	3172	Exhibit 13-8	No		V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable	Violation?			Actual	Max Desirable	Violation?	
V <sub>R12</sub>	3172	Exhibit 13-8	4600:All No		V <sub>12</sub>		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ D <sub>R</sub> = 24.6 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ D <sub>R</sub> = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M <sub>S</sub> = 0.357 (Exhibit 13-11) S <sub>R</sub> = 50.4 mph (Exhibit 13-11) S <sub>0</sub> = N/A mph (Exhibit 13-11) S = 50.4 mph (Exhibit 13-13)					D <sub>S</sub> = (Exhibit 13-12) S <sub>R</sub> = mph (Exhibit 13-12) S <sub>0</sub> = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		PM			Analysis Year		2018		
Project Description									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N			2			Downstream Adj Ramp	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> On		Ramp Number of Lanes, N			1			<input type="checkbox"/> Yes <input type="checkbox"/> On	
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>			818			<input type="checkbox"/> No <input type="checkbox"/> Off	
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>						L <sub>down</sub> = ft	
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>			2139			V <sub>D</sub> = veh/h	
		Ramp Volume, V <sub>R</sub>			1005				
		Freeway Free-Flow Speed, S <sub>FF</sub>			55.0				
		Ramp Free-Flow Speed, S <sub>FR</sub>			35.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF x f <sub>HV</sub> x f <sub>p</sub>	
Freeway	2139	0.94	Level	2	0	0.990	1.00	2298	
Ramp	1005	0.95	Level	2	0	0.990	1.00	1068	
UpStream:									
DownStream:									
Merge Areas					Diverge Areas				
Estimation of v <sub>12</sub>					Estimation of v <sub>12</sub>				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L <sub>EQ</sub> = P <sub>FM</sub> = 1.000 using Equation (Exhibit 13-6) V <sub>12</sub> = 2298 pc/h V <sub>3</sub> or V <sub>av34</sub> = 0 pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L <sub>EQ</sub> = P <sub>FD</sub> = using Equation (Exhibit 13-7) V <sub>12</sub> = pc/h V <sub>3</sub> or V <sub>av34</sub> = pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	3366	Exhibit 13-8		No	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	3366	Exhibit 13-8		No	V <sub>12</sub>		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D <sub>R</sub> = 26.1 (pc/mi/ln) LOS = C (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D <sub>R</sub> = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M <sub>S</sub> = 0.377 (Exhibit 13-11) S <sub>R</sub> = 50.1 mph (Exhibit 13-11) S <sub>0</sub> = N/A mph (Exhibit 13-11) S = 50.1 mph (Exhibit 13-13)					D <sub>S</sub> = (Exhibit 13-12) S <sub>R</sub> = mph (Exhibit 13-12) S <sub>0</sub> = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		AM Bkgd			Analysis Year		2023		
Project Description									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N			2			Downstream Adj Ramp	
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1			<input type="checkbox"/> Yes <input type="checkbox"/> On	
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>			818			<input type="checkbox"/> No <input type="checkbox"/> Off	
L <sub>up</sub> = ft		Deceleration Lane Length, L <sub>D</sub>						L <sub>down</sub> = ft	
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>			3055			V <sub>D</sub> = veh/h	
		Ramp Volume, V <sub>R</sub>			1601				
		Freeway Free-Flow Speed, S <sub>FF</sub>			55.0				
		Ramp Free-Flow Speed, S <sub>FR</sub>			35.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF x f <sub>HV</sub> x f <sub>p</sub>	
Freeway	3055	0.92	Level	7	0	0.966	1.00	3437	
Ramp	1601	0.95	Level	7	0	0.966	1.00	1744	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v <sub>12</sub>					Estimation of v <sub>12</sub>				
L <sub>EQ</sub> =		V <sub>12</sub> = V <sub>F</sub> (P <sub>FM</sub> )			L <sub>EQ</sub> =		V <sub>12</sub> = V <sub>R</sub> + (V <sub>F</sub> - V <sub>R</sub> )P <sub>FD</sub>		
		(Equation 13-6 or 13-7)					(Equation 13-12 or 13-13)		
P <sub>FM</sub> =		1.000 using Equation (Exhibit 13-6)			P <sub>FD</sub> =		using Equation (Exhibit 13-7)		
V <sub>12</sub> =		3437 pc/h			V <sub>12</sub> =		pc/h		
V <sub>3</sub> or V <sub>av34</sub>		0 pc/h (Equation 13-14 or 13-17)			V <sub>3</sub> or V <sub>av34</sub>		pc/h (Equation 13-14 or 13-17)		
Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h?		<input type="checkbox"/> Yes <input type="checkbox"/> No			Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h?		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2		<input type="checkbox"/> Yes <input type="checkbox"/> No			Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2		<input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V <sub>12a</sub> =		pc/h (Equation 13-16, 13-18, or 13-19)			If Yes, V <sub>12a</sub> =		pc/h (Equation 13-16, 13-18, or 13-19)		
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	5181	Exhibit 13-8		Yes	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	5181	Exhibit 13-8		4600:All	Yes	V <sub>12</sub>	Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
D <sub>R</sub> = 5.475 + 0.00734 v <sub>R</sub> + 0.0078 V <sub>12</sub> - 0.00627 L <sub>A</sub>					D <sub>R</sub> = 4.252 + 0.0086 V <sub>12</sub> - 0.009 L <sub>D</sub>				
D <sub>R</sub> = 40.0 (pc/mi/ln)					D <sub>R</sub> = (pc/mi/ln)				
LOS = F (Exhibit 13-2)					LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M <sub>S</sub> = 0.957 (Exhibit 13-11)					D <sub>S</sub> = (Exhibit 13-12)				
S <sub>R</sub> = 42.6 mph (Exhibit 13-11)					S <sub>R</sub> = mph (Exhibit 13-12)				
S <sub>D</sub> = N/A mph (Exhibit 13-11)					S <sub>D</sub> = mph (Exhibit 13-12)				
S = 42.6 mph (Exhibit 13-13)					S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		AM			Analysis Year		2023		
Project Description									
<b>Inputs</b>									
Upstream Adj Ramp		Freeway Number of Lanes, N			2		Downstream Adj Ramp		
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1		<input type="checkbox"/> Yes <input type="checkbox"/> On		
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>			818		<input type="checkbox"/> No <input type="checkbox"/> Off		
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>					L <sub>down</sub> = ft		
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>			3248		V <sub>D</sub> = veh/h		
		Ramp Volume, V <sub>R</sub>			1679				
		Freeway Free-Flow Speed, S <sub>FF</sub>			55.0				
		Ramp Free-Flow Speed, S <sub>FR</sub>			35.0				
<b>Conversion to pc/h Under Base Conditions</b>									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF x f <sub>HV</sub> x f <sub>p</sub>	
Freeway	3248	0.92	Level	7	0	0.966	1.00	3654	
Ramp	1679	0.95	Level	7	0	0.966	1.00	1829	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
<b>Estimation of v<sub>12</sub></b>					<b>Estimation of v<sub>12</sub></b>				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L <sub>EQ</sub> = P <sub>FM</sub> = 1.000 using Equation (Exhibit 13-6) V <sub>12</sub> = 3654 pc/h V <sub>3</sub> or V <sub>av34</sub> = 0 pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2? Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L <sub>EQ</sub> = P <sub>FD</sub> = using Equation (Exhibit 13-7) V <sub>12</sub> = pc/h V <sub>3</sub> or V <sub>av34</sub> = pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)				
<b>Capacity Checks</b>					<b>Capacity Checks</b>				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	5483	Exhibit 13-8		Yes	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
<b>Flow Entering Merge Influence Area</b>					<b>Flow Entering Diverge Influence Area</b>				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	5483	Exhibit 13-8		Yes	V <sub>12</sub>		Exhibit 13-8		
<b>Level of Service Determination (if not F)</b>					<b>Level of Service Determination (if not F)</b>				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D <sub>R</sub> = 42.3 (pc/mi/ln) LOS = F (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D <sub>R</sub> = (pc/mi/ln) LOS = (Exhibit 13-2)				
<b>Speed Determination</b>					<b>Speed Determination</b>				
M <sub>S</sub>	1.202 (Exhibit 13-11)				D <sub>s</sub>	(Exhibit 13-12)			
S <sub>R</sub>	39.4 mph (Exhibit 13-11)				S <sub>R</sub>	mph (Exhibit 13-12)			
S <sub>0</sub>	N/A mph (Exhibit 13-11)				S <sub>0</sub>	mph (Exhibit 13-12)			
S	39.4 mph (Exhibit 13-13)				S	mph (Exhibit 13-13)			

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		PM Bkgd			Analysis Year		2023		
Project Description									
Inputs									
Upstream Adj Ramp		Freeway Number of Lanes, N			2			Downstream Adj Ramp	
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N			1			<input type="checkbox"/> Yes <input type="checkbox"/> On	
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>			818			<input type="checkbox"/> No <input type="checkbox"/> Off	
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>						L <sub>down</sub> = ft	
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>			2680			V <sub>D</sub> = veh/h	
		Ramp Volume, V <sub>R</sub>			1270				
		Freeway Free-Flow Speed, S <sub>FF</sub>			55.0				
		Ramp Free-Flow Speed, S <sub>FR</sub>			35.0				
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF x f <sub>HV</sub> x f <sub>p</sub>	
Freeway	2680	0.94	Level	2	0	0.990	1.00	2880	
Ramp	1270	0.95	Level	2	0	0.990	1.00	1350	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v <sub>12</sub>					Estimation of v <sub>12</sub>				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) P <sub>FM</sub> = 1.000 using Equation (Exhibit 13-6) V <sub>12</sub> = 2880 pc/h V <sub>3</sub> or V <sub>av34</sub> = 0 pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) P <sub>FD</sub> = using Equation (Exhibit 13-7) V <sub>12</sub> = pc/h V <sub>3</sub> or V <sub>av34</sub> = pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	4230	Exhibit 13-8		No	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
Flow Entering Merge Influence Area					Flow Entering Diverge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	4230	Exhibit 13-8		No	V <sub>12</sub>		Exhibit 13-8		
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 V_R + 0.0078 V_{12} - 0.00627 L_A$ D <sub>R</sub> = 32.7 (pc/mi/ln) LOS = D (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D <sub>R</sub> = (pc/mi/ln) LOS = (Exhibit 13-2)				
Speed Determination					Speed Determination				
M <sub>S</sub> = 0.532 (Exhibit 13-11) S <sub>R</sub> = 48.1 mph (Exhibit 13-11) S <sub>0</sub> = N/A mph (Exhibit 13-11) S = 48.1 mph (Exhibit 13-13)					D <sub>s</sub> = (Exhibit 13-12) S <sub>R</sub> = mph (Exhibit 13-12) S <sub>0</sub> = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		Bihl Engineering			Freeway/Dir of Travel		US 278 EB		
Agency or Company					Junction				
Date Performed		1/21/2013			Jurisdiction				
Analysis Time Period		PM			Analysis Year		2023		
Project Description									
<b>Inputs</b>									
Upstream Adj Ramp		Freeway Number of Lanes, N				2		Downstream Adj Ramp	
<input type="checkbox"/> Yes <input type="checkbox"/> On		Ramp Number of Lanes, N				1		<input type="checkbox"/> Yes <input type="checkbox"/> On	
<input type="checkbox"/> No <input type="checkbox"/> Off		Acceleration Lane Length, L <sub>A</sub>				818		<input type="checkbox"/> No <input type="checkbox"/> Off	
L <sub>up</sub> = ft		Deceleration Lane Length L <sub>D</sub>						L <sub>down</sub> = ft	
V <sub>u</sub> = veh/h		Freeway Volume, V <sub>F</sub>				2890		V <sub>D</sub> = veh/h	
		Ramp Volume, V <sub>R</sub>				1350			
		Freeway Free-Flow Speed, S <sub>FF</sub>				55.0			
		Ramp Free-Flow Speed, S <sub>FR</sub>				35.0			
<b>Conversion to pc/h Under Base Conditions</b>									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f <sub>HV</sub>	f <sub>p</sub>	v = V/PHF × f <sub>HV</sub> × f <sub>p</sub>	
Freeway	2890	0.94	Level	2	0	0.990	1.00	3105	
Ramp	1350	0.95	Level	2	0	0.990	1.00	1435	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
<b>Estimation of v<sub>12</sub></b>					<b>Estimation of v<sub>12</sub></b>				
$V_{12} = V_F (P_{FM})$ (Equation 13-6 or 13-7) L <sub>EQ</sub> = P <sub>FM</sub> = 1.000 using Equation (Exhibit 13-6) V <sub>12</sub> = 3105 pc/h V <sub>3</sub> or V <sub>av34</sub> = 0 pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 13-12 or 13-13) L <sub>EQ</sub> = P <sub>FD</sub> = using Equation (Exhibit 13-7) V <sub>12</sub> = pc/h V <sub>3</sub> or V <sub>av34</sub> = pc/h (Equation 13-14 or 13-17) Is V <sub>3</sub> or V <sub>av34</sub> > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V <sub>3</sub> or V <sub>av34</sub> > 1.5 * V <sub>12</sub> /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V <sub>12a</sub> = pc/h (Equation 13-16, 13-18, or 13-19)				
<b>Capacity Checks</b>					<b>Capacity Checks</b>				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V <sub>FO</sub>	4540	Exhibit 13-8		Yes	V <sub>F</sub>		Exhibit 13-8		
					V <sub>FO</sub> = V <sub>F</sub> - V <sub>R</sub>		Exhibit 13-8		
					V <sub>R</sub>		Exhibit 13-10		
<b>Flow Entering Merge Influence Area</b>					<b>Flow Entering Diverge Influence Area</b>				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V <sub>R12</sub>	4540	Exhibit 13-8 4600:All		No	V <sub>12</sub>		Exhibit 13-8		
<b>Level of Service Determination (if not F)</b>					<b>Level of Service Determination (if not F)</b>				
$D_R = 5.475 + 0.00734 V_R + 0.0078 V_{12} - 0.00627 L_A$ D <sub>R</sub> = 35.1 (pc/mi/ln) LOS = F (Exhibit 13-2)					$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$ D <sub>R</sub> = (pc/mi/ln) LOS = (Exhibit 13-2)				
<b>Speed Determination</b>					<b>Speed Determination</b>				
M <sub>S</sub> = 0.629 (Exhibit 13-11) S <sub>R</sub> = 46.8 mph (Exhibit 13-11) S <sub>0</sub> = N/A mph (Exhibit 13-11) S = 46.8 mph (Exhibit 13-13)					D <sub>S</sub> = (Exhibit 13-12) S <sub>R</sub> = mph (Exhibit 13-12) S <sub>0</sub> = mph (Exhibit 13-12) S = mph (Exhibit 13-13)				

# JOHNSON & DAVIS, PA

ATTORNEYS AND COUNSELORS AT LAW

BARRY L. JOHNSON\*  
HUTSON S. DAVIS, JR. \*\*

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\*\* Certified S.C. Mediator

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TELEFAX (843) 815-7122

BARRY L. JOHNSON  
BARRY@JD-PA.COM

## MEMORANDUM

**TO:** File  
**FROM:** Barry  
**DATE:** October 20, 2015  
**RE:** Okatie Study Group (Graves) Rezoning  
Evidence Outline and Book

---

### Points of Argument

1. Transition of Neighborhood from Rural to Urban

a. Physical evidence (Maps, 1984-2015)

b. Record of Increased Property Taxes

- i. For his 83 acres, over past 4 years since Rezoning Applications filed, County charged Robert Graves an average per year of \$23,054.89, or \$277.77 average per acre per year, while charging a nearby 40 acres, in similar timeframe an average per year of \$196.03, or \$4.90 average per acre per year.
- ii. The above tax assessments reflect recognition that at least since 2011, Robert L. Graves' 80+ acres has not been considered by Beaufort County as rural.

### Evidence

1. Aerial Maps

- iii. The Robert L. Graves property is not classified as Ag/Vacant as some others in the area, but is classified as Residential Single Family/Improved.
  - 2. Tax screens
- iv. Since at least September 25, 2001, Beaufort County's Planning Staff has recognized that 21 acres of the subject property was then ready for Commercial Suburban Zoning.
  - 3. Report to Beaufort County Planning Commission Beaufort Planning Department dated 9/25/01, entitled "Proposed Comprehensive Plan and Zoning Map Amendment for Southern County".
- v. The 2003 Traffic Study by Beaufort County justified placement of traffic stoplight at the location presently identified in the Comprehensive Plan (where the traffic stoplight has actually now been built), showing that commercial development as well as residential development on the Graves properties should require the placement of a traffic stoplight at that location. That was twelve years ago!
  - 4. 2003 Traffic Study Excerpts
- vi. Beaufort County Public Services Division by Mr. Boehm, Director, Public Services/ Land Management Departments affirmed the findings of the 2003 Traffic Study regarding traffic stoplight.
  - 5. Memorandum of H. C. Boehm, Jr., dated 2/2/05.
- vii. On March 4, 2013, the Beaufort County Planning Commission (vote of 6 to 2) voted to recommend that the Graves Rezoning applications be approved to rezone to Regional

Commercial (65 acres) and to  
Neighborhood Mixed Use (48 acres).

6. Minutes of Beaufort County Planning  
Commission for Meeting held 3/4/13.

viii. Although it appears that Minutes were not prepared for each of the Beaufort County's Development Agreement Negotiating Committee meetings, notes of those in attendance confirm that Beaufort County Council Members and Planning Staff Members who participated agree that the Graves properties were no longer "rural" and would be developed in a combination of (1) commercial, and (2) TND residential.

7. To be supplied.

2. Constitutional Issues – Conflation (or the confusion and misunderstanding) of rezoning (as to character of land and neighborhood) with development permitting and/or development agreement analysis (traffic, storm water management, etc.):

8. ZDSO and other citations to be supplied. See, *Golden v. Planning Board of Remapo*, 285 N.E.2d 291, 301-302 (Ct. App. 1972). ("Zoning ... is a means by which a governmental body can plan for the future — it may not be used as a means to deny the future. Its exercise assumes that development shall not stop at the community's threshold, but only that whatever growth there may be shall proceed along a predetermined course. It is inextricably bound to the dynamics of community life and its function is to guide, not to insulate or facilitate efforts at avoiding the ordinary incidents of growth. What segregates permissible from impermissible restrictions, depends in the final analysis upon the purpose of the restrictions and their impact in terms of both the community and general public interest. The line of delineation between the two is not a constant, but will be found to vary with prevailing

circumstances and conditions.”)

- a. Graves Families applied for rezoning, not development plan approval and did not pursue a PUD.

9. See, *Koontz v. St. Johns River Water Management District*, U.S. Supreme Court, Slip Op. No. 11-1447 (2013). See notes of Beaufort County's Natural Resource Committee meetings (to be supplied) reflecting preference of Council Members to develop Pepper Hall Plantation instead of Graves Families. See specific Beaufort County Standards for zoning map amendment at [https://www.municode.com/library/sc/beaufort\\_county/codes/code\\_of\\_ordinances?nodeId=PTIIBULADEOR\\_CH106ZODEST\\_ARTIIIADPR\\_DIV3DIRE](https://www.municode.com/library/sc/beaufort_county/codes/code_of_ordinances?nodeId=PTIIBULADEOR_CH106ZODEST_ARTIIIADPR_DIV3DIRE) (and its flow chart).

- b. Note that February 25, 2013 A. Criscitiello memo to Beaufort County Planning Commission at Pg. 9 of 11 states that Southern Beaufort County Subcommittee of the Planning Commission on December 13, 2012 declined to act on the proposed Graves rezoning in the absence of a traffic impact analysis.
- c. Planning Staff's insistence on traffic impact study with rezoning application or face negative staff comments, in violation of County and State law, neither of which requires traffic impact study at this premature stage; an intelligent traffic study cannot be prepared until development permit stage when development uses, densities and parameters are known.

10. E-mail from Milt Rhodes, dated 2/3/13 @ 8:58 p.m., to Stu Rodman. See ZDSO Section 5 and Administrative Procedure Section of ZDSO, in some pertinent parts as follows: (“(4) Traffic impact analysis (TIA). A TIA shall be required according to article V and this section. Also, any development that would generate more than 50 trips during the peak hour shall be required to conduct a traffic

impact analysis (TIA). A second phase, second subdivision, or addition that takes a property over the trip limitation when taken as a whole shall also require a TIA even though that development does not qualify on its own. The engineering department shall determine whether a TIA is complete . Thorough and complete TIA's are the responsibility of the applicant. Failure by the applicant to provide a complete TIA may result in review delays for their plat or plan. Under no circumstances will an applicant change a use to another use permitted in the district without conducting a new TIA, if required. All TIA's shall adhere to the following requirements and standards:

a.

The TIA shall be conducted by an engineer registered in the state who is experienced in the conduct of traffic analysis, and approved by the county engineer.

b.

The TIA shall indicate current conditions, the traffic generated by the subject site at full development, traffic generated by developments approved in the area that would affect future traffic flows, and an estimate of future traffic on the system at the time of buildout.

c.

The TIA shall review access to the site. The adequacy of the entrance design shall be evaluated and recommendations made of acceleration and deceleration lanes, left turn lanes, or signalizations shall be part of the TIA.

d.

The TIA shall review the number and types of curb cuts that are permitted. In particular, the TIA shall assess the connection of the property to adjoining properties. Where the use, scale of development, or size of adjoining properties is such that trips would be anticipated between the proposed use and the other properties the TIA shall make recommendation on interconnections. The DRT may have similar recommendations, or past analyses. The TIA shall recommend interconnections to provide a smooth flow of traffic between uses along arterials and collector roads to ensure that as much traffic as possible uses secondary roads rather than major roads for short trips.

e.

The adequacy of the roads to which the development takes access shall be assessed in the TIA.

Recommendations for improvements shall be made.

The relative share of the capacity created shall be broken down as follows: development share, other developments share, any existing over capacity, and capacity available for future growth.

f.

The engineering department must first approve the TIA in regard to completeness and accuracy and the DRT may require the applicant to provide construction of recommended improvements, fees in lieu of construction, or revise the project to lessen or eliminate the determined impact, provided there is an agreement with the state or county to make the improvements.

g.

Residential development, residential care facilities, hospitals, hotels and resort-oriented developments shall submit an emergency evacuation analysis (EEA), as part of the TIA. The EEA shall indicate how the proposed development utilizes the county's prescribed evacuation routes, as shown in the adopted comprehensive plan. The transportation planner or traffic engineer preparing the report shall indicate the effect of the proposed development upon existing evacuation times for that portion of the county. The EEA shall be reviewed and approved by the director of emergency management prior to submittal as part of the TIA.

h.

The methodology outlined in section 106-2450 shall be followed.”)

- d. Development Agreement Negotiation – after multiple discussions by Applicant with County's Development Agreement Negotiating Committee, the parties reached near-final draft of Development Agreement, 5/21/12.

- e. Constitutional Issues – Chair of County Council violated Council's Rules of Procedure for voting in *ad hoc* committees, by voting in final meeting of Development Agreement Negotiating Committee to cause a tie vote and prevent final draft of Development Agreement being approved and going forward to Beaufort County Council. His vote should have been discounted and the Development Agreement forwarded to Council for consideration and a vote of the full Council.

11. Pepper Hall Development Agreement (unsigned last draft) dated 5/21/12.

12. Beaufort County Council Handbook of Rules and Procedures, Chapter I, Section A ("The Chairman shall serve as an ex-officio member of each standing committee of Council and shall be entitled to vote.")

13. The Development Agreement Negotiating Committee is not a standing committee of Council, and therefore is not entitled to vote therein. (To be supplied.)

### 3. Constitutional Issues – Comprehensive Plan (Denial of Due Process, Equal Protection And Fundamental Fairness.)

- a. Comprehensive Plan does not include Pepper Hall Plantation as "Rural" as conceived in the Comprehensive Plan, so

County wrongly claims that Graves rezoning would violate the Comprehensive Plan.

b. Beaufort County Future Land Use Map/  
Official Zoning Map Conflict.

4. Constitutional Issues – Staff abusively opposed recommendation of Planning Commission in Natural Resource Committee's considerations. (Denial of Due Process.)

5. Constitutional Issues – Treatment of Pepper Hall Plantation Rezoning Application compared to Johnson/Pahl Tract at intersection of U.S. Highway 278 and Bluffton Road (S.C. Highway 58). (Denial of Equal Protection, Due Process, Fundamental Fairness).

14. Comprehensive Plan excerpts

15. E-mail from Milt Rhodes to Stu Rodman, dated 4/3/13 @ 12:14 p.m., with attachments.

16. E-mail from Milt Rhodes dated 10/29/13 @ 11:20 a.m., to Jerry Stewart.

17. E-mail to Milt Rhodes dated 3/27/13 @ 9:18 a.m. from A. Criscitiello stating role of Planning Staff regarding Planning Commission and Natural Resource Committee.

18. Planning Staff submission (date unsure) to Natural Resource Committee, opposing decision of Planning Commission.

19. Planning staff's manipulation of development methodologies, in violation of rezoning requirements process, to influence Natural Resource Committee against Planning Commission decision. E-mail from Milt Rhodes to Robert Merchant, dated 4/6/12 @ 11:59 a.m.

20. E-mail from Milt Rhodes to Stu Rodman, dated 4/3/13 @ 11:56 a.m., regarding A. Criscitiello's breach of duties as Planning Director under the ZDSO §106-262(b).

6. Constitutional Issues – Denial by Beaufort County Council and its Chairman of Applicant's rights to make full and fair presentation of their applications to Beaufort County Council, the final County decision-maker, noting that existing County ordinance, ZDSO, requires a full second public hearing before the County Council, after the favorable (6-2) recommendation of the Planning Commission. (Denial of Due Process, Fundamental Fairness.)

7. Reservation of Flexibility – Applicants expressly reserve the right and privilege to amend, alter, increase, decrease, etc. their Points of Argument and Supporting Evidence, upon further review of documents, Beaufort County's pending response to Applicants' filed Freedom of Information Act Request, and further exploration of the recollections and depositions of diverse persons.

21. E-mail from Milt Rhodes to Tabor Vaux, dated 5/1/13 @ 5:26 p.m., with web link.

22. Correspondence of Barry Johnson and Thomas Keaveny, 10/16/15 to date.

23. Correspondence of Barry Johnson, Thomas Keaveny and Joy Nelson, 10/20/15 through 10/23/15.

## INDEX

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**PEPPER HALL PLANTATION  
GRAVES FAMILIES'  
REZONING APPLICATIONS  
2011-2015**

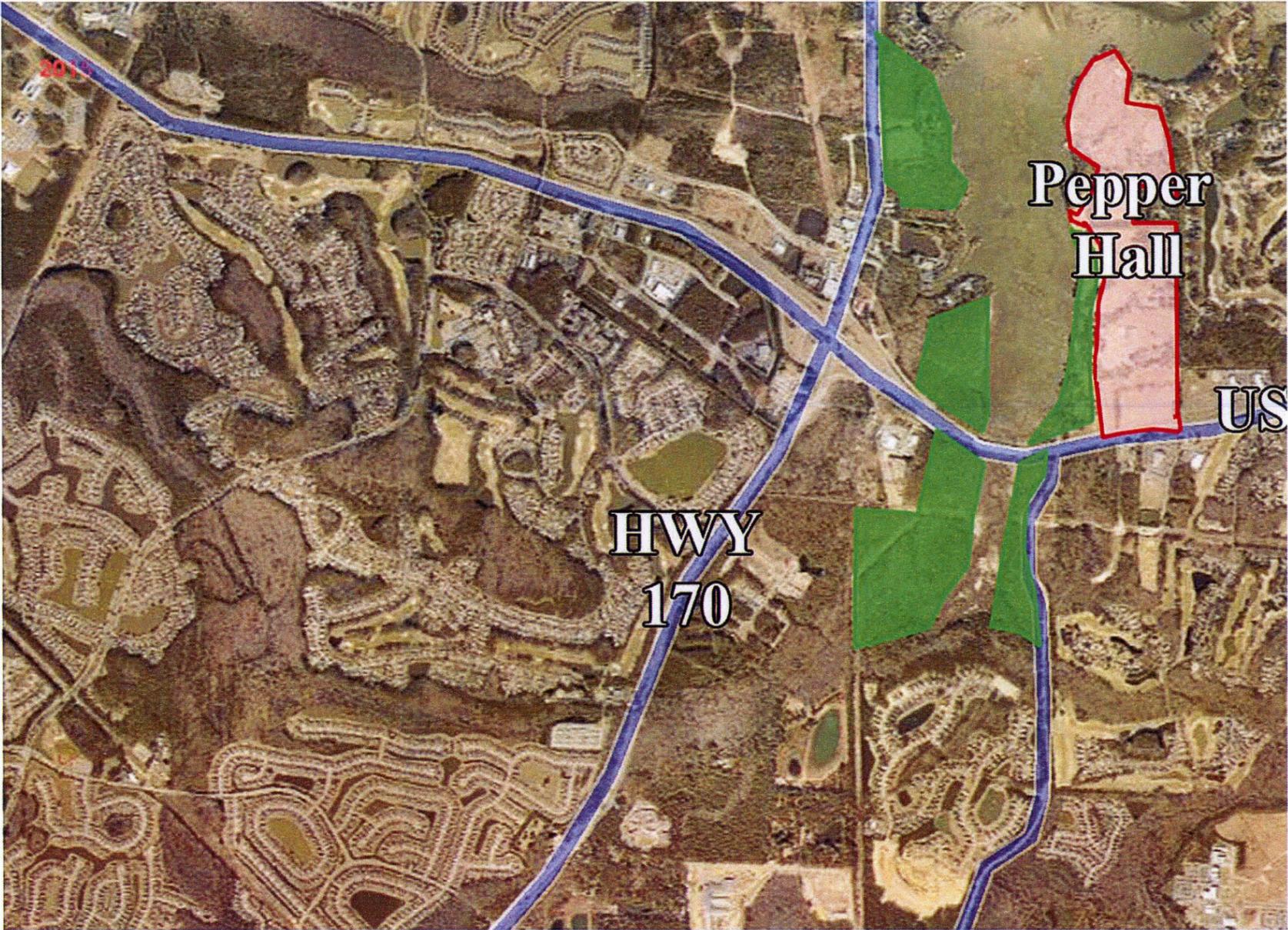
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**POINTS OF ARGUMENT  
AND  
SUPPORTING EVIDENCE**

# **EXHIBIT**

**1**

2015

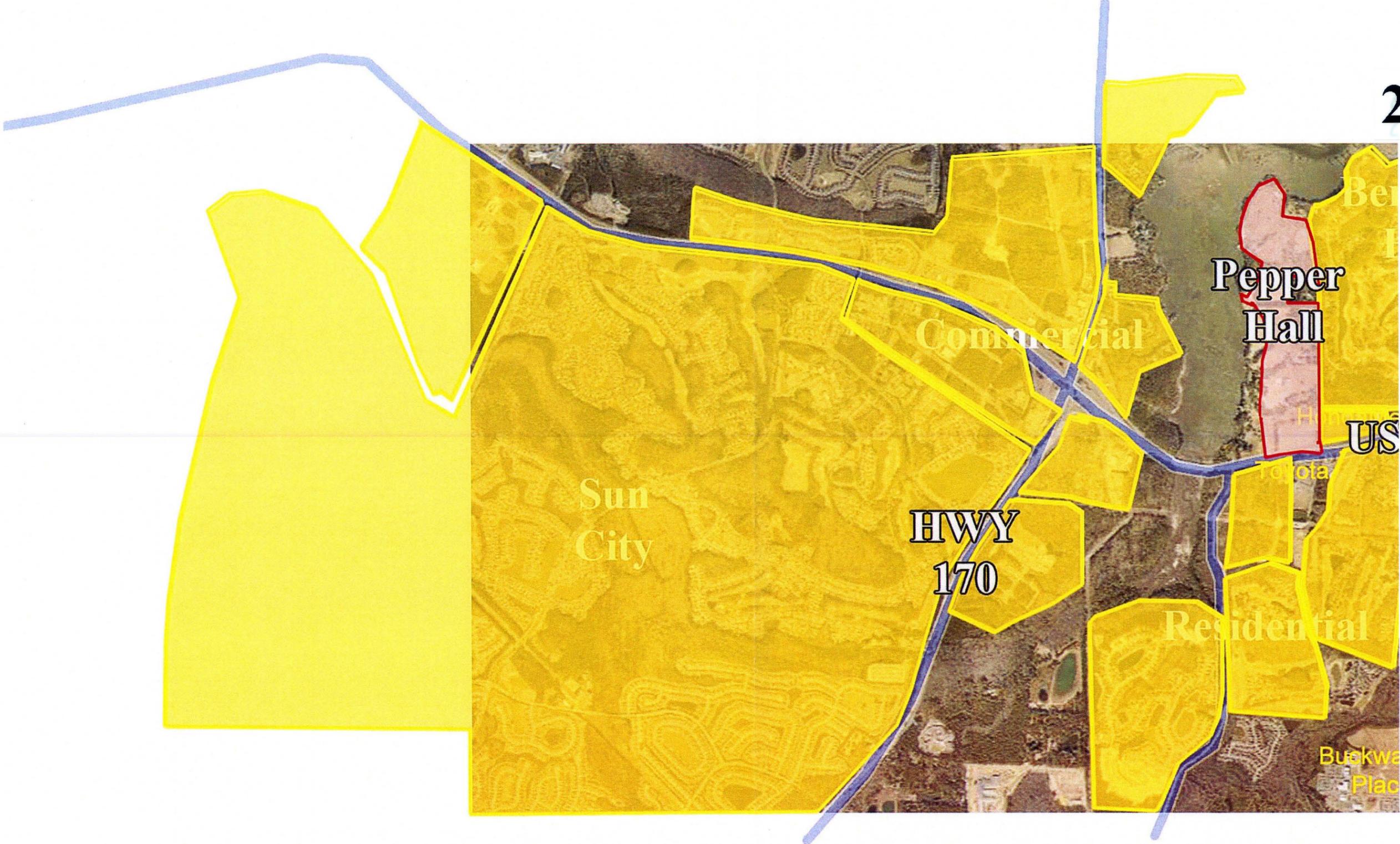


Pepper  
Hall

HWY  
170

US

2015



Sun City

HWY 170

Commercial

Pepper Hall

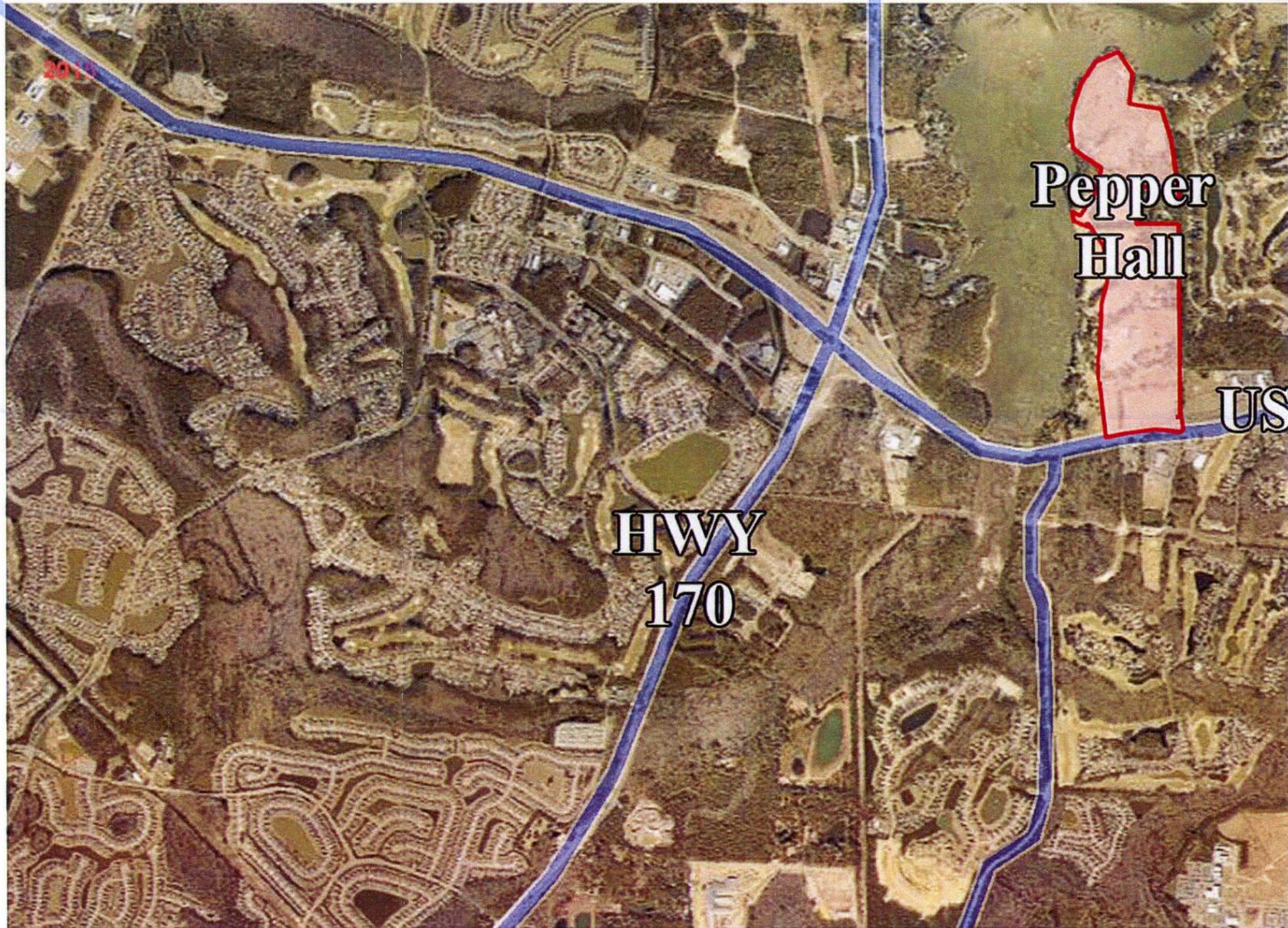
Residential

US

Toyota

Buckwa Plac

2015



Pepper  
Hall

HWY  
170

US

2005



Pepper  
Hall

HWY  
170

US

1999



Pepper  
Hall

HWY  
170

US

1994



Pepper  
Hall

HWY  
170

US

1984



Pepper  
Hall

US

HWY  
170

# **EXHIBIT**

**2**

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# Beaufort County, South Carolina

generated on 10/20/2015 9:56:56 AM EDT

Property ID (PIN)	Alternate ID (AIN)	Parcel Address	Data refreshed as of	Assess Year	Pay Year
R600 021 000 004A 0000	00495100	41 GRAVES RD,	10/17/2015	2014	2014

### Current Parcel Information

Owner	GRAVES ROBERT L	Property Class Code	ResImp SingleFamily
Owner Address	PO BOX 5818 HILTON HEAD ISLAND SC 29938-5818	Acreage	83.5100
Legal Description	SUBJ TO ROLL BACK TAX LIEN*T ACCT 88 CORRECT USE VAL*SPLIT 5/00 0.66 AC 21/194~09/11 AC MGFM 21/7B & 21/4 PB130 P108 TOT AC INCL 6.68 AC WETLAND~SPLIT 02/14 18.00 AC 21/673		

### Historic Information

Tax Year	Land	Building	Market	Taxes	Payment
2014	\$1,382,800	\$434,600	\$1,817,400	\$22,523.64	\$22,523.64
2013	\$1,921,000	\$434,600	\$2,355,600	\$27,104.15	\$27,104.15
2012	\$2,953,468	\$688,700	\$3,642,168	\$21,426.43	\$24,715.39
2011	\$2,953,468	\$688,700	\$3,642,168	\$21,165.35	\$24,415.15
2010	\$2,432,720	\$521,335	\$2,954,055	\$14,452.30	\$16,695.15
2009	\$2,432,720	\$521,335	\$2,954,055	\$14,199.55	\$16,404.48
2008	\$737,100	\$312,500	\$1,049,600	\$14,036.64	\$14,036.64
2007				\$13,377.28	\$13,377.28
2006				\$12,250.01	\$12,250.01
2005				\$10,895.52	\$10,895.52

### Sales Disclosure

Grantor	Book & Page	Date	Deed	Vacant	Sale Price
GRAVES ROBERT L	147 29	1/1/1980	Fu		\$0
		12/31/1776	Or		\$0

### Improvements

Building	Type	Use Code Description	Constructed Year	Stories	Rooms	Square Footage	Improvement Size
R01	DWELL	Dwelling	1965	1.0	04	2,302	
R02	DWELL	Dwelling	1969	1.0	03	1,280	
R03	DWELL	Dwelling	1990	1.0	01	1,877	
R04	DWELL	Dwelling	1900	1.0	01	840	
C01	MTRLSHEL	Material Shelter	2000	0	0	20,570	
R03	CARSHEDO	Car shed / carport - detached	1981	0	0		336
R04	MACHINE	General Purpose Bldg x Other	1976	0	0		2,352
R03	LOAFING	Livestock Loafing Shed	1969	0	0		6,000
R03	LOAFING	Livestock Loafing Shed	1969	0	0		5,000
R03	UTLSHED	Residential Shed - Small Util	1979	0	0		100
R03	DETGAR	Residential Detached Garage	1969	0	0		1,344

#### Features & Exterior Features

Building	Type	Feature Code	Description	No. / Sq.Ft.	Value
R01	DWELL	1CHMMASO	1s Outside masonry chimney	1	\$580
R01	DWELL	COOLING	None	1	\$0
R01	DWELL	EXT. COVER	Stucco	1	\$0
R01	DWELL	FOUNDATION	Full Slab	1	\$0
R01	DWELL	HEATING	Forced hot air	1	\$0
R01	DWELL	MAS	Masonry fireplace	1	\$2,175
R01	DWELL	OFP	Open Frame Porch	231	\$4,310
R02	DWELL	COOLING	None	1	\$0
R02	DWELL	EXT. COVER	Stucco	1	\$0
R02	DWELL	FOUNDATION	Full Slab	1	\$0
R02	DWELL	HEATING	Forced hot air	1	\$0
R02	DWELL	OFP	Open Frame Porch	64	\$1,900
R03	DWELL	COOLING	Central air	1	\$4,110
R03	DWELL	EXT. COVER	Hardboard	1	\$0
R03	DWELL	FOUNDATION	Full Slab	1	\$0
R03	DWELL	HEATING	Heat pump	1	\$5,630
R03	DWELL	OMP	Open Masonry Porch	88	\$1,950
R03	DWELL	OMP	Open Masonry Porch	130	\$2,750
R04	DWELL	COOLING	None	1	\$0
R04	DWELL	EXT. COVER	Wood siding-cedar	1	\$0
R04	DWELL	FOUNDATION	Full Slab	1	\$0
R04	DWELL	HEATING	Forced hot air	1	\$0
R04	DWELL	OFP-S	Open Frame Porch	120	\$3,760



# Beaufort County, South Carolina

generated on 10/20/2015 9:35:58 AM EDT

Property ID (PIN)	Alternate ID (AIN)	Parcel Address	Data refreshed as of	Assess Year	Pay Year
R600 021 000 0002 0000	00494888	131 GRAVES RD,	10/17/2015	2014	2014

## Current Parcel Information

Owner	GRAVES PAUL B Sr	Property Class Code	AgImp Forest
Owner Address	1836 OMNI BLVD MT PLEASANT SC 29466	Acreage	20.7700

Legal Description LOT 1 PB61 P31 SUBJ TO ROLL BACK TAX LIEN T ACCT 1987 SPLIT 3/93 1.11 AC 21/25 SPLIT 4/96 1.10 AC 21/32-33 6/97 1.10 AC ADDED BACK INTO PARCEL SPLIT FROM 21/2 IN- STEAD OF 21/25 MGFM:KEY#6617075 6-24-97 SPLIT 5/98 19.38 AC 21/75

## Historic Information

Tax Year	Land	Building	Market	Taxes	Payment
2014	\$533,100	\$52,000	\$585,100	\$170.47	\$170.47
2013	\$533,100	\$52,000	\$585,100	\$166.29	\$166.25
2012	\$1,245,460	\$42,380	\$1,287,840	\$141.65	\$141.65
2011	\$1,245,460	\$42,380	\$1,287,840	\$140.26	\$140.26
2010	\$1,245,460	\$42,380	\$1,287,840	\$141.15	\$141.15
2009	\$1,245,460	\$42,380	\$1,287,840	\$90.35	\$90.35
2008	\$872,300	\$5,750	\$878,050	\$117.86	\$117.86
2007	\$872,300	\$5,750	\$878,050	\$110.57	\$110.57
2006	\$872,300	\$5,750	\$878,050	\$103.29	\$103.29
2005	\$872,300	\$5,750	\$878,050	\$131.97	\$131.97

## Sales Disclosure

Grantor	Book & Page	Date	Deed	Vacant	Sale Price
GRAVES PAUL B SR (LIFE EST) GRAVES	2999 106	11/14/2009	Fu		\$5
GRAVES JOHN T JR	993 1677	11/24/1997	Fu		\$127,267
GRAVES EUNICE A J T ST	954 1094	6/26/1997	Ex		\$0
GRAVES EUNICE A J T ST	126 220	1/1/1980	Fu		\$0

12/31/1776 Or \$0

Improvements

Building	Type	Use Code Description	Constructed Year	Stories	Rooms	Square Footage	Improvement Size
R01	MACHINE	General Purpose Bldg x Other	1976	0	0		2,400

Features & Exterior Features

Building	Type	Feature Code	Description	No. / Sq.Ft.	Value
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# Beaufort County, South Carolina

generated on 10/20/2015 9:35:16 AM EDT

Property ID (PIN)	Alternate ID (AIN)	Parcel Address	Data refreshed as of	Assess Year	Pay Year
R600 021 000 0075 0000	07559126	,	10/17/2015	2014	2014

### Current Parcel Information

Owner	GRAVES JOHN TAMPLET JR (LIFE ESTATE)	Property Class Code	AgVac Forest
Owner Address	26 MELON HOLE RD OKATIE SC 29909	Acreage	19.3800
Legal Description	LOT 2 PB61 P31 PB104 P116 SUBJ TO ROLL BACK TAX LIEN 2/06 1.01 AC MGFM:KEY#10041565 SPLIT 2/02 1.01 AC 21/75		

### Historic Information

Tax Year	Land	Building	Market	Taxes	Payment
2014	\$514,500		\$514,500	\$43.02	\$43.02
2013	\$514,500		\$514,500	\$41.96	\$41.96
2012	\$1,179,240		\$1,179,240	\$40.45	\$40.45
2011	\$1,179,240		\$1,179,240	\$40.04	\$40.04
2010	\$1,179,240		\$1,179,240	\$39.76	\$39.76
2009	\$1,179,240		\$1,179,240	\$39.16	\$39.16
2008	\$732,600		\$732,600	\$42.31	\$42.31
2007	\$732,600		\$732,600	\$39.98	\$39.98
2006	\$732,600		\$732,600	\$37.03	\$37.03
2005	\$694,400		\$694,400	\$84.51	\$84.51

### Sales Disclosure

Grantor	Book & Page	Date	Deed	Vacant	Sale Price
GRAVES PAUL B SR	993 1673	11/24/1997	Fu		\$118,731
GRAVES EUNICE A J T ST	954 1097	6/26/1997	Ex		\$0
		12/31/1776	Or		\$0

# **EXHIBIT**

**3**

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**TO:** Beaufort County Planning Commission  
**FROM:** Beaufort County Planning Department  
**DATE:** September 25, 2001  
**SUBJECT:** **Proposed Comprehensive Plan and Zoning Map Amendment for Southern Beaufort County**

---

**A. BACKGROUND:**

**Case No.** ZMA-01-23  
**Applicant/Owner:** Robert L. Graves, Sr.  
**Property Location:** Intersection of U.S. Highway 278 and Graves Road.  
**District/Map/Parcel:** 600/21/8 and a portion of 7B  
**Property Size:** 37.34 acres

---

**Current Future Land Use Designation:** Rural Service Area  
**Current Zoning District:** Rural- Transitional Overlay (R-TO)  
**Proposed Zoning District:** Commercial Regional (CR)  
**History of Past Action:** On March 12, 2001, County Council approved the application of Transitional Overlay zoning to this property.

**B. SUMMARY OF REQUEST:**

The applicant is requesting to rezone 37.34 acres from Rural, Transitional Overlay to Commercial Regional. The area to be rezoned is on the North side of U.S. Highway 278 and on both sides of Graves Road. The applicant believes that the current growth pattern of Southern Beaufort County warrants a transition from Rural, Transitional Overlay to Commercial Regional.

**C. ANALYSIS:** Section 106-492 of the ZDSO states that a Zoning Map Amendment may be approved if the weight of the findings describe and prove the following:

*1. The change is consistent with the County's Comprehensive Plan and the purposes of this Ordinance.*

This property is designated "Rural Service Area" on the Future Land Use Map. The applicant wishes to amend the zoning map to show this property as Commercial Regional.

The applicant has argued that the designation of this property as Rural on the Future Land Use Map was a mistake because the property is located within the highest growth corridor in Beaufort County (U.S. Highway 278), and because infrastructure was in place to serve development, with additional infrastructure planned, at the time the Comprehensive Plan was developed.

The Plan acknowledges that Southern Beaufort County has experienced significant changes in growth and development in recent years. The Plan states that new and continued development of large PUDs, along with the growth of commercial and multi-family developments, has "begun to change the rural character of [the area], particularly along the Okatie and Colleton Rivers and the area around the Town of Bluffton." (p. 102)

Extensive study and citizen participation went into deciding how and where to accommodate future growth in the County. The property under consideration for this rezoning was characterized in the Plan as part of the Okatie area. This area encompasses all of the land between Pinckney Colony Road, U.S. Highway 278 to the south, and S.C. Hwy. 170 to the west. On the Future Land Use Map, all of the Okatie area, except for existing PUDs and the land immediately surrounding McGarvey's Corner, was designated as a Rural Service Area. In light of this, it is difficult to determine, without specific information to the contrary (contained in letters, minutes or other records of the Planning Department, Planning Commission or County Council that indicated an intention to designate this property differently than what was actually adopted), that a mistake was made on the Future Land Use Map.

The Transitional Overlay District was recently applied to this property. A transitional designation means that the applicant may seek a zoning change to a priority investment district when all necessary infrastructure and facilities are available to adequately serve the proposed development. The Beaufort County Short-Term Needs Study for U.S. Highway 278 indicates the based on already permitted development the peak -hour traffic volumes along U.S. Highway 278 are expected to double when compared to existing traffic volumes. Mitigation of future traffic volumes can be accomplished by widening U.S. Highway 278 to a six-lane divided cross-section or to have the E/W Connector on line. Prior to these improvements, U.S. Highway could not adequately accommodate additional Commercial Regional.

Section 106-492 of the ZDSO permits a request for a Zoning Map Amendment to be considered and approved even if it is inconsistent with the comprehensive plan if it meets one or more of the following:

- a. The comprehensive plan contains a mistake. More specifically, the assumptions about the property, surrounding uses, population forecasts, the rate of land consumption, or other factors were in error. Therefore, the amendment is justified to correct the mistake.
- b. The assumptions on capital investments, road locations, populations trends, land committed to development, density, use, or other comprehensive plan elements have changed and justify the amendment.
- c. A comprehensive plan amendment has occurred; therefore, the amendment renders the zoning map inconsistent with the comprehensive plan.

The property under consideration for rezoning is divided into two parcels, one on either side of Graves Road. The parcel to the west of Graves Road (about 19.37 acres) was previously zoned Residential Agricultural District (RAD) under the old Development Standards Ordinance (DSO). This district was established to protect, preserve and encourage existing rural, low-density residential land use. Much of the property west of Graves Road is used for agricultural purposes, along with a few residential structures. The land use of this property was consistent with its previous zoning designation.

The one parcel on the east side of Graves Road (approximately 18 acres) was zoned General Commercial (GC) under the old DSO. This parcel is located across U.S. Highway 278 from the Island West development, which was approved for a mixture of golf, residential, and commercial uses. This parcel is also bordered on the north and east by the Meggett PUD (Berkley Hall), which was approved by the County after adoption of the comprehensive plan.

*2. The change is consistent with the character of the neighborhood.*

The proposed change to Commercial Regional, the County's most intense commercial zoning district would change the character of the surrounding area. Approximately 40 acres of Regional Commercial property would yield 1,742,400 square feet of commercial development when fully developed. All of the properties along Graves Road, north of U.S. Highway 278, are zoned Rural with the exception of the Meggett PUD and are currently used as pasture land and retains a rural character. However, because of the site adjacency to the Meggett PUD, a rezoning to Commercial Suburban for the parcel east of Graves Road would be consistent with the properties surrounding it to the north, east and south. A transition to Surban for the parcel on the west side of Graves Road would be appropriate.

The Comprehensive Plan states that the uses preferred in Commercial Regional locations are:

- Those commercial uses which require large buildings (e.g. 45,000 to 80,000 square feet or more of retail, more than 2 stories, or large parking lots surrounding the building);
- Regional malls;
- Multi-use complexes of retail and office;
- Multi-plex cinemas; and,
- Larger hotels and office buildings.

Such intense commercial development on this site is inconsistent with the Comprehensive Plan, which encourages the development of regional nodes instead of regional strip commercial. The Comprehensive Plan also identifies three areas of the county where Regional Commercial districts are appropriate. Specifically, it limits Commercial Regional to the intersection of S.C. 170 and U.S. Highway 278 in the Okatie PUD plus additional properties around the intersection. The commercial regional district Okatie is in mainly undeveloped, so there is sufficient land to accommodate future commercial regional uses. This rezoning would create a new regional center a mile from the Okatie commercial regional district.

*3. The extent to which the property is consistent with the zoning and use of nearby properties.*

All of the properties along Graves Road, north of U.S. Highway 278, are zoned Rural with the exception of the Meggett PUD.

4. *The suitability of the property for the uses to which it has been restricted.*

The property is currently zoned Rural – Transitional Overlay which is consistent with the existing land use of this property and adjacent properties. The application of the Transitional Overlay district recognizes that this site is within a developing area and that it may be suitable for additional uses other than those allowed under the current zoning. A transition to a mixed use-zoning district would better implement the Comprehensive Plan. Generally, Commercial Regional areas are (such as the Okatie CR district) are surrounded by less intense mixed-use districts either Urban or Surban, not additional Commercial Regional districts. This is done to prevent a regional center from becoming strips.

5. *Allowable uses in the proposed district would not adversely affect nearby property.*

The property is currently zoned Rural – Transitional Overlay. A change to Commercial Regional would substantially affect the uses permitted. Commercial Regional areas are described in the ZDSO as areas that contain large commercial uses that serve “the entire county” and include highway service uses that need to be located on major highways. Commercial Regional Districts are not meant to be a strip along arterial or collector roads. The uses permitted within Commercial Regional include: churches, schools, daycare centers, government offices, hotels, supermarkets, conference centers, drive-through restaurants, car lots, and mini-storages.

6. *The length of time a property has remained vacant as zoned, where the zoning is different from nearby developed properties.*

This property is being utilized for residential and agricultural purposes. The uses and zoning of adjacent properties are similar to that of the subject site.

7. *The current zoning is not roughly proportional to the restrictions imposed upon the landowner in light of the relative gain to the public health, safety and welfare provided by the restrictions.*

Except for three residential PUDs and the area immediately surrounding McGarvey’s Corner, the zoning of this property is consistent with the zoning designations of the other properties in the Okatie area.

**D. TRAFFIC CONSULTANT RECOMMENDATION:**

See attached letter.

**E. STAFF RECOMMENDATION:**

Rezoning within a Transitional Overlay districts are conditioned upon the developer paying for the provision of adequate service and infrastructure. Rezoning of this site to Regional Commercial would requires the following access improvements:

- Align the site access opposite the proposed north/south connector roadway to be located on the south side of U.S. Highway 278.

- Close the median cross-over at Graves Road and either close or limit to right in /right out vehicle movements entering the existing Graves Road.
- On U.S. Highway 278, provide a single eastbound left-turn lane entering the site with a lane length estimated at 300-feet of storage with a 200-foot taper.
- On U.S. Highway 278, provide a right-turn lane in the westbound direction entering the site with a storage length of 500-feet and a taper of 200-feet. A free right-turn movement protected by a raised median should be considered due to the heavy volume of right-turn movements during the PM peak-hour.
- The southbound approach (exiting the site) should provide two separate left-turn lanes, a separate through lane and a separate right-turn lane. Storage lengths of the left-turns are estimated at 350-feet each, with right-turn lane storage requirement estimated at 500-feet. Adequate throat distance (distance between U.S. Highway 278 and the first internal site intersection) will be needed to allow the intersection to operate at its best capacity.

Nevertheless, the above recommendation takes into account egress/ingress, not the capacity constraints of U.S. Highway 278. The existing configuration of U.S. Highway 278 will not sufficiently handle additional commercial regional growth. The development of any new Commercial Regional District along U.S. Highway 278 should be concurrent with improved capacity along the highway. The development of a new Commercial Regional District on this site is inconsistent with the intent of the Comprehensive Plan and ZDSO.

Furthermore, staff recommends that the creation of any new Commercial Regional Districts should be considered on a more comprehensive scale rather than on a parcel-by-parcel basis. The question that staff should be faced with is whether an area is appropriate for commercial regional uses and not if a particular parcel is appropriate. The area around this site is not appropriate for commercial regional uses.

**After review of the guidelines set forth in Section 106-492 of the ZDSO, staff recommends denial of the request to rezone to Commercial Regional.**

**F. ATTACHMENTS:**

1. Copy of application for Zoning Map Amendment
2. Future Land Use Map/ Zoning Map of property and surrounding area
3. Wilbur Smith Associates Letter
4. Letter to Adjoining Property Owners
5. List of Property Owners Notified of Rezoning
6. Southern Beaufort County Planning Subcommittee Meeting Summary

# PROPOSED FUTURE LAND USE

July 10, 2008

## LEGEND

- Proposed Changes
- EXISTING LAND USE**
- Low Density Residential
- Medium Density Residential
- Low Intensity Commercial
- Medium Intensity Commercial
- High Density Residential
- Medium Density Residential
- Low Intensity Residential
- Medium Intensity Residential
- Open Space
- Conservation
- WATERWAYS (City)**
- Canal
- In N.E.
- JURISDICTION**
- Bluffton Land Use
- Other Jurisdiction
- High Intensity
- Medium Intensity
- Low Intensity
- Medium Intensity
- Water
- Other
- BOUNDARIES**
- Water
- Other
- UNAPPORTIONED**
- Other
- UNAPPORTIONED**
- Other
- Other





COUNTY COUNCIL OF BEAUFORT COUNTY  
BEAUFORT COUNTY PUBLIC SERVICES DIVISION  
Beaufort Industrial Village  
102 Industrial Village Road, Building 3  
Post Office Drawer 1228, Beaufort, SC 29901-1228  
Telephone: 843-470-2821 Facsimile: 843-470-2823

February 2, 2005

To: WHOM IT MAY CONCERN

From: H. C. Boehm, Jr., Director, Public Services/Land Management Departments

Subj: US 278 Access for RRZ Tract and Graves Road

HCB

SCDOT, County staff and Todd Salvagin with SRS Engineering, discussed and analyzed the proposed access plan presented by RRZ during the summer of 2004. The plan's intent is to provide access to US 278 for properties located on the south side of the highway between the Okatie River and Island West. The following are our recommendations:

- The proposed RRZ access road should be located on the eastern most Graves heirs parcel (of the 5 Graves tracts on the south side of US 278), and adjacent to the western property line along the second Graves heirs parcel.
- Right-turn lanes entering and exiting the access road should be provided; however, as indicated on the proposed plan, the curve radii are excessive and should be scaled back to a maximum 70 ft. radius.
- This intersection layout design for Buckwalter Parkway at US 278 is a good design that is recommended for replication at this location.
- The recommended location is approximately equal distance between Graves Road and the Pepper Hall Plantation access to minimize potential conflicts between entering and exiting vehicles at each of the intersections. Right-turn deceleration lanes should not encroach on adjacent access locations with proper separation.
- The recommended location should provide sufficient offset from the Pepper Hall Plantation/Robert Graves property line on the north side of US 278 to permit construction of a fourth leg to the intersection that will provide signalized access to development on the north side and provide a buffer to Pepper Hall Plantation.
- The recommended location should also provide a sufficient buffer between the new roadway and the proposed Island West Commercial development.
- The recommended access location is approximately 300 to 350 ft. short of the recommended one-half mile intersection spacing from the end of the US 278/SC 170-interchange ramps as per the *TRB Access Management Manual* when taken into context of the location of existing access points at Pepper Hall Plantation and Graves Road with the desire to maximize the distance of this proposed access from these locations.
- Access to potential outparcels of the remaining Graves heirs parcels and the proposed Island West Commercial should be a minimum of 500 ft from the US 278 intersection along the new connector roadway.
- Attached is a marked-up sketch of the recommended access location.

This recommendation (for a single access) is in accordance with the "US 278 Short Term Needs Study" previously approved by Beaufort County Transportation Advisory Group (BCTAG), Beaufort County Council and the effected Municipality Councils.

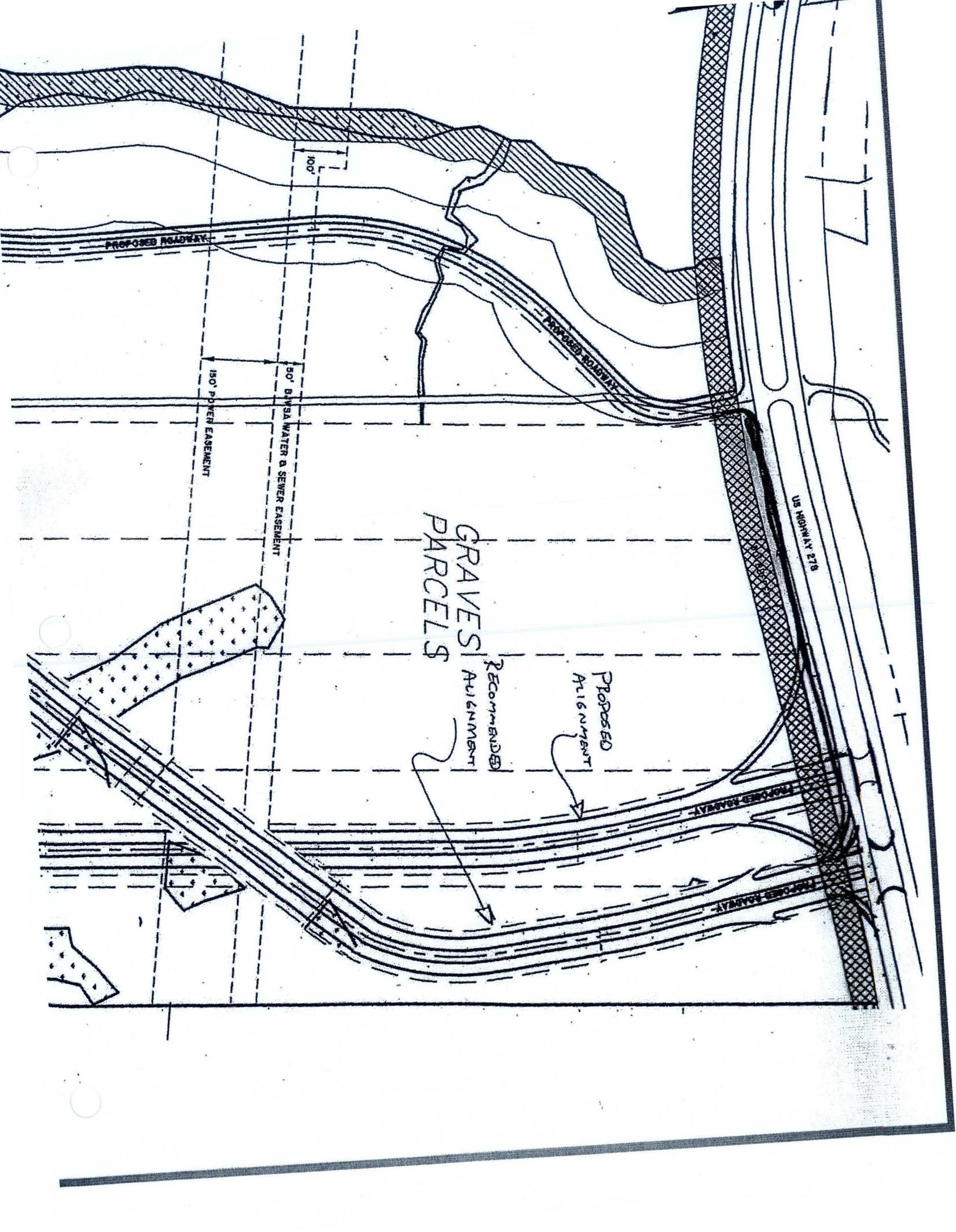
Please feel free to contact the Beaufort County Engineering Division at 843.470.2625 with any questions.

HCBjr/cvs

Attachment: Marked-up sketch with the recommended access location

cc: Beaufort County Council Members  
Gary Kubic, Beaufort County Administrator  
Robert E. Klink, PE, Beaufort County Engineer  
Colin Kinton, PE, Beaufort County Transportation Engineer

FEB 22 2005



PROPOSED ROADWAY

PROPOSED ROADWAY

US HIGHWAY 278

150' POWER EASEMENT

50' BAYSA WATER & SEWER EASEMENT

100'

GRAVES  
PARCELS  
RECOMMENDED  
ALIGNMENT

PROPOSED  
ALIGNMENT

PROPOSED ROADWAY

PROPOSED ROADWAY

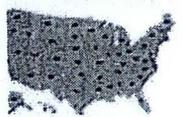
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## County opts to determine light's location

BY ASHLEY FLETCHER, *The Island Packet*  
Other stories by Ashley Fletcher  
Published Thursday, July 8th, 2004

BLUFFTON – After more than a year of indulging a battle among property owners over where a future traffic signal should be located on U.S. 278, Beaufort County officials say they will decide themselves.

County officials held a meeting Wednesday for various landowners who own property west of Buckwalter Parkway to have one last shot at reaching consensus over the future signal's location. **But the meeting ended like every meeting before it, with no compromise.**

The stretch of U.S. 278 in question, between the Buckwalter Parkway and S.C. 170, is largely undeveloped now, but most parcels are approved for intense commercial and residential development. Because county officials have said traffic will flow most efficiently if there is only one signal in the area, that signal's location has become a battle for securing the best access to future and existing developments.

At Wednesday's meeting at the Bluffton library, landowners marked X's on a poster-sized map of the area showing where they wanted the signal. After about 20 minutes and a huddle of about 15 people with markers, the map became a series of X's stretching from Pepper Hall Plantation Road to Graves Road.

"There are too damn many X's to know where the treasure is," said Buz Boehm, director of development and services for the county. "We're going to have to move on and make an engineering decision."

The likely location will be somewhere around 300 feet west of Graves Road, said Colin Kinton, county traffic engineer. But county engineers must pinpoint an exact spot together with the S.C. Department of Transportation.

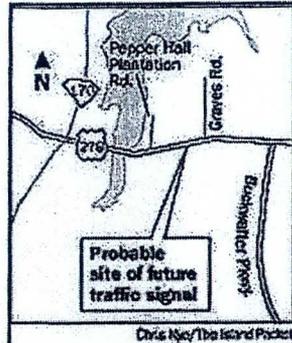
County officials had no time frame for when they would make a decision.

Boehm has said the location decision would be based on engineering standards and safety, but he wanted to give landowners a chance to help decide the location within engineers' recommended range.

The range is largely based on two factors: ensuring ample distance from both the Buckwalter Parkway and S.C. 170 to maintain traffic flow and ensuring sufficient distance from the bridges crossing the Okatie River so cars do not back up on the bridges, straining the structures.

If the signal were located too close to the bridges, they probably would have to be improved and the interchange at S.C. 170 would have to be reconfigured, both costly projects, engineers have said.

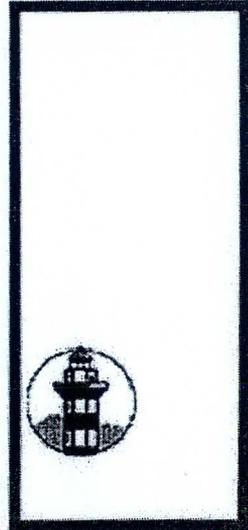
But development company RRZ wants the signal farther west than county officials recommend anyway, even if the bridges and interchange have to be rebuilt. Moving the



Chris Nye/The Island Packet

+ Enlarge Image

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signal farther west, ideally at Pepper Hall Plantation Road, gives them the best entrance access for a planned future development that could have 2,500 homes, RRZ owners say.

RRZ officials said they were willing to compromise and agree to a signal location closer to Graves Road, near the spot engineers recommend. They have the land fronting that location under contract so that if the signal were placed there, they would control the access road leading to the signal.

But on the other side of the battle is Gordon Faulkner, who owns an 18-acre parcel that runs just east of Graves Road. Beaufort County Council in 2002 rezoned the land to allow Faulkner to build a car dealership there, and Faulkner wanted the signal located only at Graves Road to provide the best access.

Some members of the Graves family who live along Graves Road also wanted the signal at their road to give them the best access to their homes.

"The county will have to be like Solomon and cut the baby in half," Boehm said at the end of Wednesday's meeting. "No consensus was reached."

Contact Ashley Fletcher at 706-8144 or [afletcher@islandpacket.com](mailto:afletcher@islandpacket.com).



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# **EXHIBIT**

**4**

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## **BEAUFORT COUNTY MODEL INFORMATION**

- **Land Use Assumptions**
- **Revised Trip Area Zone Map**

Development	Size	Sub-unit Size	Sub-sub-unit Size	Type	Notes
RRZ-Residential A	1600 du 18 holes 400 du 5 ac			Townhome, Timeshare, Apt, SF Golf Time share Units General Commercial	West of River, Access to SC 170 only. West of River, Access to SC 170 only.
RRZ-Residential B	1400 du 36 holes			SF, Townhome, Cottage Golf	Gated w/ primary access to proposed N/S Road Secondary gated access to Bluffton Parkway
Buckwalter Commons & Mixed-Use Town Center	380 ac	100 ac 50 ac 8 ac 84 ac 55 ac 49 ac 34 ac		Mixed Use & Entertainment Dist. General Commercial General Commercial General Commercial General Commercial General Commercial Neighborhood Commercial	Centrally located between Buckwalter Pkwy, Bluffton Pkwy and N/S Road Adjacent to SC 170 and Bluffton Pkwy Across from Eagle Point at US 278 East side of Buckwalter Pkwy between Bluffton Pkwy and US 278 West side of Buckwalter Pkwy between Bluffton Pkwy and US 278 West side of Buckwalter Pkwy just north & south of Bluffton Parkway Distributed around entire RRZ development
Hampton Hall	1000 du		950 du 50 du	SF Townhome	
Grande Oaks	844 du 100 ac		91 du 200 du 329 du	Single Family, Townhome, Apt Commercial Single Family Single Family Single Family	Access would be via Bluffton Pkwy Existing units off Old Miller Rd Existing units Sandy Pointe (on Buckwalter Pkwy) Proposed via DR Horton Access via Old Miller, Sany Pointe at Buckwalter Pkwy and Bluffton Pkwy
The Farm	554 du		411 du 114 du	Single Family Apartment	2 Access drives onto Buckwalter Parkway (north access provides access to Buckwalter Community Park)
Woodbridge	580 du		380 du 200 du	Single Family Apartment	
Shell Hall	264 du			Single Family	Master plans shows connectivity with Pinecrest and Church of Cross Episcipol
Pinecrest	500 du 18 holes		278 du 18 Holes 72 du 150 du	Single Family, Apt Golf Single Family Golf Single Family Apartment	South of Bluffton Pkwy South of Bluffton Pkwy North of Bluffton Pkwy North of Bluffton Pkwy
Pine Ridge	304 du			Single Family	
Rose Dhu	74 du			Single Family	Access only to SC 46
Hilton Head Christian	400 Student			Private School (K-12)	South of Bluffton Pkwy, east of Buckwalter Pkwy, North of School loop Rd
Beaufort Public Schools	550 Student 750 Student 1,500 Student			Elementary Middle High	All located within School loop Rd
Buckwalter Comm Park	6 3 13			Soccer Fields Baseball/Softball Fields Tennis Courts	Plus, pool, playground and walking trails
Low Country Comm Church	700 Seat			Church	North of new High School adjacent to HH Christian Academy

Development	Size	Sub-unit Size	Sub-sub-unit Size	Type	Notes
Church of the Cross Episc	700 Seat 600 Student			Church and School	North and adjacent to Shell Hall
Lord of Life LuthChurch				Church	Adjacent to Woodbridge
Municipal Tract	20 ac	100,000 sf		Office and Tech Park	Across Buckwalter Pkwy from Sandy Pointe
Northern Tract	235 du			Single Family and Apts	Primary access across from Eagle's Point, east of Woodbridge, access to Municipal Tract
Commercial	15 ac			Neighborhood Commercial	Located on SE corner of Buckwalter Parkway and Bluffton Parkway (Phase 3)
Robert Graves Property	100 ac	42 ac 58 ac	233,000 sf 42 du	General Commercial Rural-Single Family	Located on West side of Graves Rd
Other Graves Land	100 ac		75 du	Rural-Single Family	North of Robert Graves property along Graves Rd
Faulkner Property	17 ac			General Commercial	Located on East side of Graves Rd
		40,000 sf 22,600 sf 12,500 sf 5,000 sf 10,000 sf 9,000 sf		Grocery Retail/Flex (strip commercial) Motel Quality Restaurant Bank Office	
Island West-Commercial	29.4 ac			General Commercial	
		70,000 sf 33,400 sf 37500 sf 30,000 sf 5.5 ac		Grocery Retail/Flex (strip Commercial) Motel Office 5 outparcels	Fast-food, high-turnover restaurant or bank
Verdier Plantation	510 du			Single Family, Apartments	Located across from Sun City with 2 access points onto SC 170
		95 du 415 du		Single Family Apartments	
	200,000 sf			Commercial	
		140,000 sf 60,000 sf		Office Retail	
Willow Run PUD				Mixed-use Commercial and Apts	See TIAS by WSA (development limited to indicated impact to US 278 in report) Connectivity should be provided to Buckwalter Commons
Berkeley Hall	555 du 36 holes			Single-Family, Cottage Golf	228 separate golf memberships
Island West-Residential	250 du 18 holes			Single Family Golf	Approximate
Graves Fingers (5)	49 ac				
		196,000 sf 196 du		General Commercial Residential	Assume 50% of ac 8,000 sf/ac Assume 50% of ac 8 multi-family units/ac
Institutional Site (non RRZ)	8 ac				Located west of Northern Tract, south side of US 278, access to US 278

## ALTERNATIVE #2: SIGNALIZATION AT GRAVES PROPERTIES

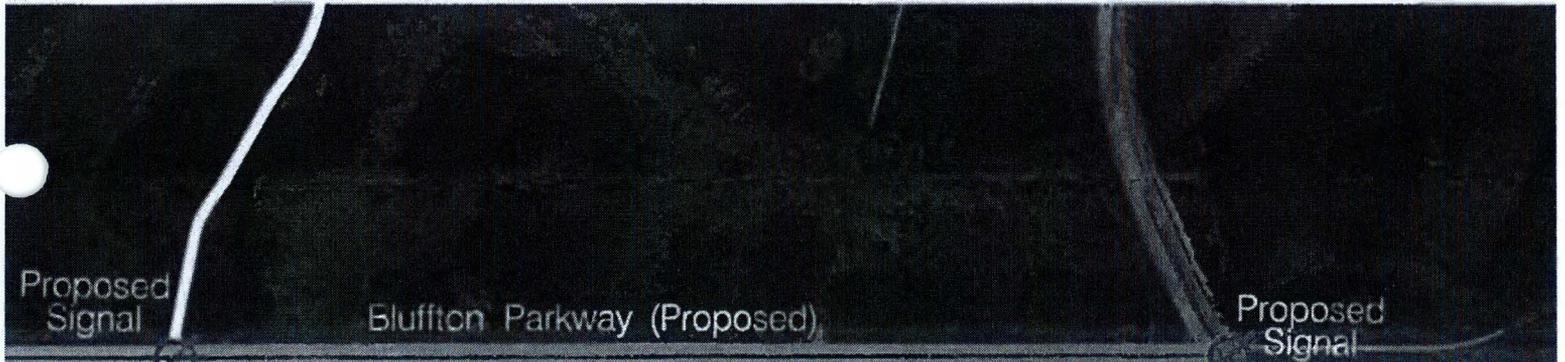
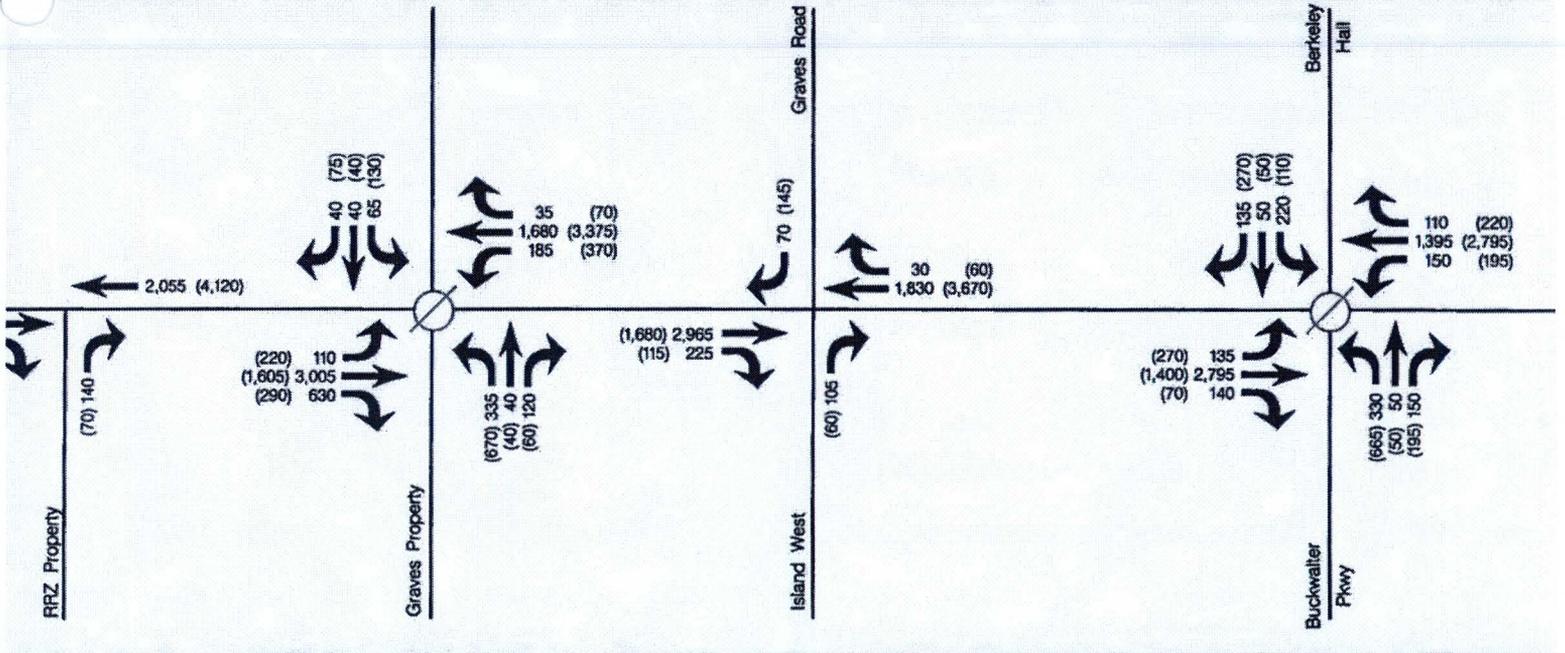
### ALTERNATIVE DESCRIPTION & ANALYSES

This alternative includes the signalization of an access driveway to be located along the property line of two of the slender properties currently owner by members of the Graves family. For purposes of this report analyses, the location of this intersection would be along the property line of the 3<sup>rd</sup> and 4<sup>th</sup> properties going from west to east. All access points between this signalized intersection and the signal to be installed at Buckwalter Parkway, would be limited to right turn in/ right turn out movements only. In addition, the RRZ access to the west would be limited to right turn in/ right turn out movements only. In order to allow left-turn movements from access drives on the north and south side of US 278, collector roadways would be provided. Figure 6 depicts this alternative as well as the future 2020 peak-hour traffic volumes calculated using the County's transportation model.

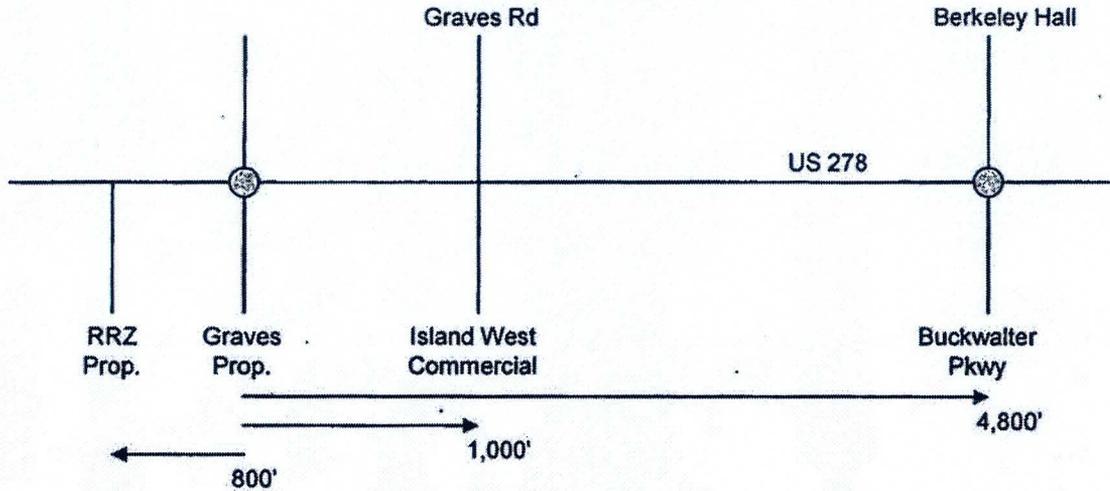
As presented in this figure, the signalized intersections are anticipated to serve the following peak-hour volumes:

<u>Intersections</u>	<u>AM Peak-Hour</u>	<u>PM Peak-Hour</u>
US 278 at Graves Prop.	6,285	6,945
US 278 at Buckwalter Pkwy	5,660	6,290

In order to illustrate the separation of intersections under this scenario, Figure 7 has been created depicting the distances between signalized intersections, and other access drives.



**Figure 7**  
**ALTERNATIVE #2**  
**Intersection Separation**



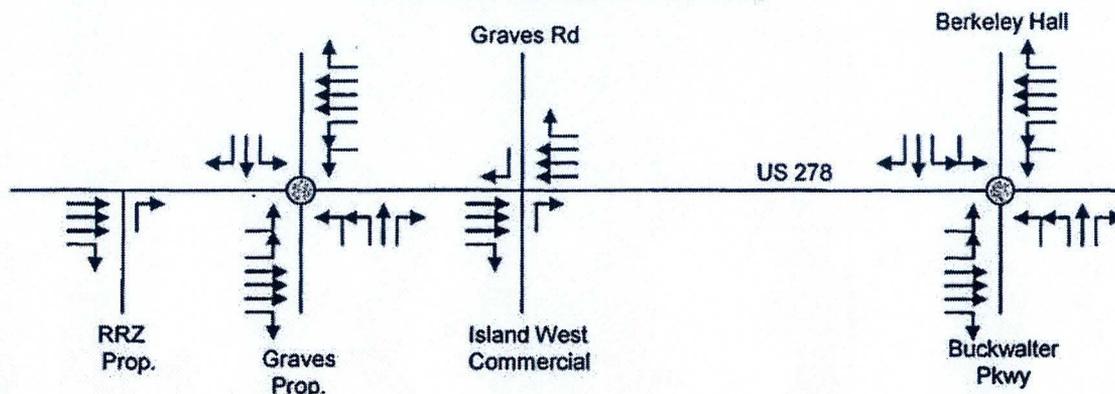
Intersection analysis completed for using the developed design peak-hour volumes result in the following levels of service as presented in Table 3.

**Table 3**  
**ALTERNATIVE #2**  
**Level-of-Service Summary**

<u>Intersections</u>	<u>Peak Hour</u>	<u>2020 Conditions</u>		
		<u>V/C</u>	<u>Delay</u>	<u>LOS</u>
US 278 at Buckwalter Pkwy/ Berkeley Hall	AM	0.78	24.1	C
	PM	1.01	55.3	E
US 278 at Graves Property	AM	0.84	29.9	C
	PM	1.08	61.8	E

As shown, each of the signalized intersections are expected to operate at a LOS C during the AM peak-hour, and a LOS E during the PM peak-hour. The assumed geometry for these analyses are depicted in Figure 8.

**Figure 8**  
**ALTERNATIVE #2**  
*Assumed Intersection Geometry*



Arterial analyses and bandwidth calculations were conducted for the specified segment of US 278 which include the impact that the two traffic signals will have on the through traffic of US 278. According to this analysis, good arterial speeds and service levels are expected in both directions of US 278 during both the AM and PM peak design hours. Bandwidth calculations are summarized in Table 4:

**Table 4**  
**ALTERNATIVE #2**  
*US 278 Green time Bandwidths*

Direction	Peak Hour	Seconds
Eastbound	AM	106
	PM	59
Westbound	AM	79
	PM	87

As indicated, the provision for adequate green time bandwidth for US 278 can be accomplished assuming this alternative. The magnitude of these green time splits would meet the current planning of the SCDOT for the signal condition system along US 278.

**Benefits and Negatives-**

After reviewing the all of the data including traffic volumes, signal locations, signal separation, arterial capacity impact, etc., the following lists of benefits and negatives have been developed:

**Benefits:**

1. Maintains a separation of signalized intersections of approximately 4,800-feet which will be sufficient to maintain a speed limit of 50 - 55 mph on US 278. This is in concurrence with the currently accepted county access management guidelines.
2. Single signal at the Graves properties is capable of serving multiple land uses on both the north and south sides of US 278 by providing an east/ west collector connecting the properties.
3. All left-turn movements for this property and all other adjacent properties can be accomplished at this single signalized intersection.
4. Access for left-turn movements for adjacent properties, Island West Commercial and RRZ projects on the south side of US 278, and the Faulkner development on the north side of US 278 are separated from this signal by 1,000-feet or less.
5. Arterial service levels and intersection service levels are anticipated to be good.
6. Arterial bandwidths are very good, providing approximately 60-seconds or more in each direction during both time periods

**Negatives:**

1. Proximity of signal to SC 170 ramp termini is approximately 2,125 feet. In accordance with the *Access Management Manual* published by the Transportation Research Board, this separation is not adequate; a distance of 2,640-feet is suggested/recommended for the first signalized intersection. This distance could be lengthened to 2,525-feet if the new signal/ access is located within the farthest easterly property. To meet the 2,640 foot guideline, the new signal/access would have to be located just to the east within the Island West Commercial property.

# **EXHIBIT**

**5**

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**COUNTY COUNCIL OF BEAUFORT COUNTY  
BEAUFORT COUNTY PUBLIC SERVICES DIVISION  
Beaufort Industrial Village  
102 Industrial Village Road, Building 3  
Post Office Drawer 1228, Beaufort, SC 29901-1228  
Telephone: 843-470-2821 Facsimile: 843-470-2823**

February 2, 2005

To: WHOM IT MAY CONCERN

From: H. C. Boehm, Jr., Director, Public Services/Land Management Departments

Subj: US 278 Access for RRZ Tract and Graves Road

*HCB*

SCDOT, County staff and Todd Salvagin with SRS Engineering, discussed and analyzed the proposed access plan presented by RRZ during the summer of 2004. The plan's intent is to provide access to US 278 for properties located on the south side of the highway between the Okatie River and Island West. The following are our recommendations:

- The proposed RRZ access road should be located on the eastern most Graves heirs parcel (of the 5 Graves tracts on the south side of US 278), and adjacent to the western property line along the second Graves heirs parcel.
- Right-turn lanes entering and exiting the access road should be provided; however, as indicated on the proposed plan, the curve radii are excessive and should be scaled back to a maximum 70 ft. radius.
- This intersection layout design for Buckwalter Parkway at US 278 is a good design that is recommended for replication at this location.
- The recommended location is approximately equal distance between Graves Road and the Pepper Hall Plantation access to minimize potential conflicts between entering and exiting vehicles at each of the intersections. Right-turn deceleration lanes should not encroach on adjacent access locations with proper separation.
- The recommended location should provide sufficient offset from the Pepper Hall Plantation/Robert Graves property line on the north side of US 278 to permit construction of a fourth leg to the intersection that will provide signalized access to development on the north side and provide a buffer to Pepper Hall Plantation.
- The recommended location should also provide a sufficient buffer between the new roadway and the proposed Island West Commercial development.
- The recommended access location is approximately 300 to 350 ft. short of the recommended one-half mile intersection spacing from the end of the US 278/SC 170-interchange ramps as per the *TRB Access Management Manual* when taken into context of the location of existing access points at Pepper Hall Plantation and Graves Road with the desire to maximize the distance of this proposed access from these locations.
- Access to potential outparcels of the remaining Graves heirs parcels and the proposed Island West Commercial should be a minimum of 500 ft from the US 278 intersection along the new connector roadway.
- Attached is a marked-up sketch of the recommended access location.

This recommendation (for a single access) is in accordance with the "US 278 Short Term Needs Study" previously approved by Beaufort County Transportation Advisory Group (BCTAG), Beaufort County Council and the effected Municipality Councils.

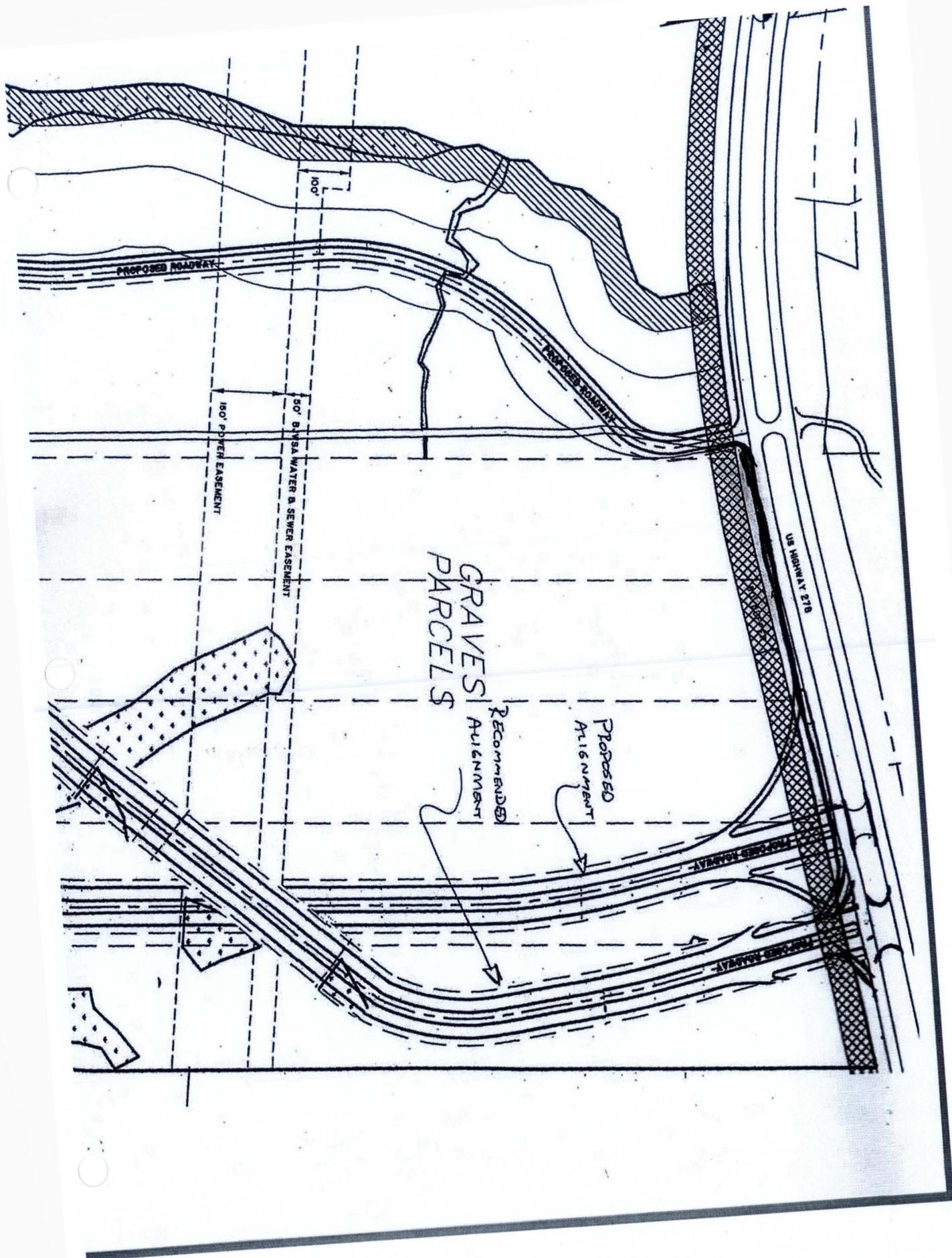
Please feel free to contact the Beaufort County Engineering Division at 843.470.2625 with any questions.

HCBjr/cvs

Attachment: Marked-up sketch with the recommended access location

cc: Beaufort County Council Members  
Gary Kubic, Beaufort County Administrator  
Robert E. Klink, PE, Beaufort County Engineer  
Colin Kinton, PE, Beaufort County Transportation Engineer

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## County opts to determine light's location

BY ASHLEY FLETCHER, *The Island Packet*

Other stories by Ashley Fletcher

Published Thursday, July 8th, 2004

BLUFFTON — After more than a year of indulging a battle among property owners over where a future traffic signal should be located on U.S. 278, Beaufort County officials say they will decide themselves.

County officials held a meeting Wednesday for various landowners who own property west of Buckwalter Parkway to have one last shot at reaching consensus over the future signal's location. But the meeting ended like every meeting before it, with no compromise.

The stretch of U.S. 278 in question, between the Buckwalter Parkway and S.C. 170, is largely undeveloped now, but most parcels are approved for intense commercial and residential development. Because county officials have said traffic will flow most efficiently if there is only one signal in the area, that signal's location has become a battle for securing the best access to future and existing developments.

At Wednesday's meeting at the Bluffton library, landowners marked X's on a poster-sized map of the area showing where they wanted the signal. After about 20 minutes and a huddle of about 15 people with markers, the map became a series of X's stretching from Pepper Hall Plantation Road to Graves Road.

"There are too damn many X's to know where the treasure is," said Buz Boehm, director of development and services for the county. "We're going to have to move on and make an engineering decision."

The likely location will be somewhere around 300 feet west of Graves Road, said Colin Kinton, county traffic engineer. But county engineers must pinpoint an exact spot together with the S.C. Department of Transportation.

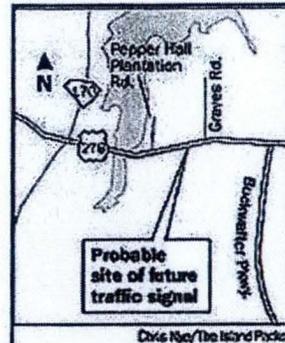
County officials had no time frame for when they would make a decision.

Boehm has said the location decision would be based on engineering standards and safety, but he wanted to give landowners a chance to help decide the location within engineers' recommended range.

The range is largely based on two factors: ensuring ample distance from both the Buckwalter Parkway and S.C. 170 to maintain traffic flow and ensuring sufficient distance from the bridges crossing the Okatie River so cars do not back up on the bridges, straining the structures.

If the signal were located too close to the bridges, they probably would have to be improved and the interchange at S.C. 170 would have to be reconfigured, both costly projects, engineers have said.

But development company RRZ wants the signal farther west than county officials recommend anyway, even if the bridges and interchange have to be rebuilt. Moving the



Chris Nye/The Island Packet

Chris Nye/The Island Packet

+ Enlarge Image

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signal farther west, ideally at Pepper Hall Plantation Road, gives them the best entrance access for a planned future development that could have 2,500 homes, RRZ owners say.

RRZ officials said they were willing to compromise and agree to a signal location closer to Graves Road, near the spot engineers recommend. They have the land fronting that location under contract so that if the signal were placed there, they would control the access road leading to the signal.

But on the other side of the battle is Gordon Faulkner, who owns an 18-acre parcel that runs just east of Graves Road. Beaufort County Council in 2002 rezoned the land to allow Faulkner to build a car dealership there, and Faulkner wanted the signal located only at Graves Road to provide the best access.

Some members of the Graves family who live along Graves Road also wanted the signal at their road to give them the best access to their homes.

"The county will have to be like Solomon and cut the baby in half," Boehm said at the end of Wednesday's meeting. "No consensus was reached."

Contact Ashley Fletcher at 706-8144 or [afletcher@islandpacket.com](mailto:afletcher@islandpacket.com).



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# **EXHIBIT**

**6**

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COUNTY COUNCIL OF BEAUFORT COUNTY  
**BEAUFORT COUNTY PLANNING DIVISION**

Multi-Government Center • 100 Ribaut Road, Room 115  
Post Office Drawer 1228, Beaufort SC 29901-1228  
Phone: (843) 255-2140 • FAX: (843) 255-9432

The regular meeting of the Beaufort County Planning Commission (hereinafter "Commission") was held on Monday, March 4, 2013, in County Council Chambers, the Beaufort County Administration Building at 100 Ribaut Road, Beaufort, South Carolina.

**Members Present:**

Mr. Jim Hicks, Chairman	Mr. Robert Semmler, Vice Chairman	Ms. Jennifer Bihl
Mr. Charles Brown	Ms. Diane Chmelik	Ms. Mary LeGree
Mr. Ronald Petit	Mr. Edward Riley III	Mr. Randolph Stewart
Mr. John Thomas		

**Members Absent:** None

**Staff Present:**

Mr. Anthony J. Criscitiello, Planning Director  
Ms. Barbara Childs, Admin. Asst. to Planning Director

**CALL TO ORDER:** Chairman Jim Hicks called the meeting to order at approximately 6:03 p.m.

**PLEDGE OF ALLEGIANCE:** Mr. Hicks led those assembled in the Chambers with the pledge of allegiance to the U.S.A. flag.

**REVIEW OF MINUTES:** The Commission reviewed their February 4, 2013, meeting minutes.

**Motion:** Mr. Semmler made a motion, and Mr. Thomas seconded the motion, **to accept the February 4, 2013, minutes as written.** The motion was **carried unanimously** (FOR: Chmelik, Hicks, LeGree, Petit, Riley, Semmler, Sutler and Thomas; ABSTAIN: Stewart).

**CHAIRMAN'S REPORT:**

**1. Planning Commission Reappointments and New Appointments:** Mr. Hicks noted the reappointment of Mr. Charles Brown and Mr. Ronald Petit to the Commission. He also noted the parting of Mr. Parker Sutler from the Commission, and thanked him for his banking and small business expertise. Mr. Sutler stated that he enjoyed serving with the Commission, appreciated Mr. Hicks' guidance and patience, and serving the citizens of the County. Mr. Hicks noted that Mr. Randolph Stewart is Mr. Sutler's replacement. Mr. Stewart gave a brief history of his life and work experience. He looks forward to serving on the Commission and thanked County Council for appointing him to the seat.

Mr. Hicks noted this was the last time he would be serving on the Commission and as Chairman. His replacement as a representative of Lady's Island is Ms. Jennifer Biel. She has a master's degree in engineering, has her own engineering company, is a resident of

Lady's Island, is the past president of the Lady's Island Business and Professional Association, and the current president of the South Carolina Engineering Society.

Mr. Hicks explained that Ms. Bihl had a contractual agreement with the Graves, so she would have to recuse herself from discussing and voting on the project being discussed tonight; therefore, she was sitting in the audience.

2. **Annual Election of Officers:** Mr. Hicks noted that the election of chairman and vice-chairman of the Commission would occur at the end of the meeting during the other business portion of the agenda.
3. **Appreciation:** Mr. Hicks expressed his appreciation to:
  - Mr. Gary Kubic, County Administrator.
  - The Planning Staff who was always accessible to answer his questions and give guidance. The Staff do a marvelous and are unsung heroes. He noted Mr. Criscitiello's leadership during the challenging time of growth and the new development code, kindness and professionalism.
  - The Planning Commissioners, both present and past, who were willing to take their voluntary time to see to the betterment of the County. He thanked them for their patience and willingness to listen to his explanations.
  - He noted that the Commission Chairman has a unique relationship with Council chair and vice-chair as they often included him (as Chairman) in discussions on various issues.
  - The Lady's Island residents whom he served. He noted that Lady's Island was the fastest growing area, other than South of the Broad River. It has been a pleasure to serve the residents of Lady's Island. They have been generous, gracious and supportive of him, and he thanks them.

Upon leaving the dais, he passed the gavel to Mr. Robert Semmler, Commission Vice-chairman, who would chair the remainder of the meeting.

**PUBLIC COMMENT** for items other than agenda items: Mr. David Tedder, a local attorney and Lady's Island resident, said that Mr. Jim Hicks was chairman of the Lady's Island Subcommittee and the Community Preservation Committee. Mr. Tedder said that Mr. Hicks has had the best interest of the Lady's Island residents and the entire county in mind when he made his decisions. He has watched Mr. Hicks help guide this County during some turbulent times. Mr. Tedder felt it appropriate to publicly thank Mr. Hicks for his body of work in dealing with the growth issues. Mr. Tedder believed everyone received equal treatment under Mr. Hicks' leadership. Despite not agreeing with every decision made, Mr. Tedder stated he received a fair shake each time he came before the Commission.

**SOUTHERN BEAUFORT COUNTY FUTURE LAND USE MAP AMENDMENT FOR R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 PARCELS TOTALING 113+/- ACRES NORTH OF U.S. 278 AND WEST OF GRAVES ROAD) FROM COMMUNITY COMMERCIAL**

**(APPROXIMATELY 21 ACRES FRONTING US 278) AND RURAL (FOR REMAINDER OF PROPERTY) TO REGIONAL COMMERCIAL (APPROXIMATELY 65 ACRES FRONT US 278) AND NEIGHBORHOOD MIXED-USE (APPROXIMATELY 48 ACRES AT THE REAR OF THE PROPERTIES); OWNERS/APPLICANTS: ROBERT GRAVES, JOHN GRAVES AND PAUL GRAVES**

**--AND--**

**SOUTHERN BEAUFORT COUNTY ZONING MAP AMENDMENT / REZONING REQUEST FOR R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 PARCELS TOTALING 113+/- ACRES NORTH OF U.S. 278 AND WEST OF GRAVES ROAD) FROM RURAL WITH TRANSITIONAL OVERLAY (APPROXIMATELY 33 ACRES FRONTING US 278) AND RURAL (80 ACRES OF THE REMAINDER OF THE PROPERTIES) TO COMMERCIAL REGIONAL (APPROXIMATELY 65 ACRES FRONTING US 278) AND SUBURBAN (APPROXIMATELY 48 ACRES AT THE REAR OF THE PROPERTIES); OWNERS/APPLICANTS: ROBERT GRAVES, JOHN GRAVES AND PAUL GRAVES**

Mr. Criscitiello noted that Mr. Hicks is a gentleman and it always has been a pleasure to work with Mr. Hicks.

Mr. Criscitiello briefed the Commission on the rezoning request. He supports the staff recommendation and introduced Mr. Robert Merchant, the County Long-range Planner.

Mr. Merchant explained the current and proposed future land use and zoning maps. He compared the difference between the former and the current requests. Land along the Okatie River within 300 feet of the critical line will remain rural zoning and is not part of the current request. The applicant is proposing a development agreement to accompany these map amendments that would lock in the zoning for the duration of the agreement, limit the total ground floor to 700,000 square feet of commercial use, limit individual building footprints to 75,000 square feet, require connectivity and a frontage road, and allow transfer of residential and commercial uses as needed. The current total acreage is 113 acres—65 acres will be zoned commercial regional and the rest will be zoned suburban. Staff recommends denial of the requests because of traffic impacts and water quality concerns of the Okatie River. Even at 50% buildout, the traffic level of service will be E at Highway 278 and Hampton Parkway. The issue is the proposed rezoning would consume 41% of the added capacity on the current widening of Highway 278, further compounding the traffic level of service. Additionally, stormwater runoff from the potential development would add further degradation of the Okatie River. The requests are not supported by the Comprehensive Plan. The Applicant's traffic impact analysis uses the current traffic model that assumed a 4% growth of the area. The County asked the applicant to scale down the growth rate to 2-1/2% annually. The Applicant's statement that there was a 22% drop on Highway 278 is likely due to improvements such as the Bluffton Parkway and traffic lighting that had been taken into account by the County's transportation model. That current reduction probably will not remain when growth picks up. The County approved traffic level is D; increase from this rezoning probably would raised it to Level F. It is difficult to mitigate impacts because of the geography of the site. Connectivity is difficult with the only possibility of a connector road with Berkley Hall. The proposed flyover is not funded; it is an expensive opportunity that is not in the pipeline and is simply being considered at this moment. The County already spent \$140-150 million on road development in Southern Beaufort County. After consulting the County stormwater department, the Okatie River is an impaired waterway with high fecal coliform and closed waterbeds. A

study noted a 21-50% reduction to the Okatie headwaters was needed to bring the river to conformance. Runoff from the proposed development will go into the river. Commercial development, although mitigated, will impact the water quality. The County has a commitment policy to preserving the waters through fee simple or development rights purchases. Mr. Merchant noted an error in the map that will be corrected when it goes on to Council. The Okatie Marsh PUD was approved 4 to 5 years ago and has been purchased to preserve the land. The impacts to the river include the current PUDs and developments and road widening. The County is moving to promote mixed-use development and walkable communities with the proposed development code. Staff believes commercial development is not appropriate.

Applicant's Comments: Mr. Jim Scheider, the applicant's representative, introduced Mr. Milt Rhodes, Ms. Jennifer Bihl, and two of the applicants who were in the audience. Mr. Scheider noted the on-going discussions about the buffer area. He takes issue on Mr. Merchant's presentation. All of the numbers on the projections were from the 2004 model. When they did their traffic count on 2012, it was below. He used actual counts from South Carolina Department of Transportation (SCDOT), not the model counts--that are 40,414 instead of 32,900. The request is for a rezoning. He noted that the Zoning and Development Standards Ordinance (ZDSO) states that the Development Review Team (DRT) can require design modifications. He noted approved projects that were factored into their equation: Willow Run is dead in the water, the Johnson property at Highways 46 and 278 is not as busy but the developer is scrambling to move forward, and the "Harris Teeter" site is for sale. He noted that the Comprehensive Plan proposing 28 acres as park, and his applicant's buffer park was in keeping with the plan. He noted Mr. Dan Ahern, the County's former stormwater manager, stated that "development can be engineered to not cause problems in waterways." Mr. Scheider noted that the site would contribute to impact fees. He noted the taxes paid by the applicants were higher than the property that County purchased across the street. All we are asking for is fair treatment. Using speculative traffic information is detrimental to the applicant. We must meet Level D or scale down the project, when it comes before the DRT. As part of a balancing act, decide squaring the rights of the public with the rights of property owners. The applicants have cut the size of their commercial buildings and have reduced the requested cost for the buffer park. They believe they have tried to meet the public interest and to meet the County ordinances.

Public Comment: None were received.

Commission discussion included:

- Traffic count disparities (Mr. Colin Kinton, the County Traffic and Transportation Engineer, noted that the traffic counts at the 2-1/2% growth rate were agreed upon between he and Ms. Bihl. He noted that she used December 2012 rates which were not peak time. One must account for approved development, whether active or not. The analysis presented was Ms. Bihl's analysis, not the County's analysis. Level of service E was still reached with her analysis—the road will fail. Weekday, instead of weekend timeshare, traffic calculations were used in the analysis. Not all approved development sites were included in the analysis. There are frontage road concerns, including construction costs, timeframe, etc.; however, the County is not planning a frontage road to the west of Berkley Hall. Mr. Milt Rhodes, the applicant's representative, noted that there are access points on the east and the west sides of Pepper Hall, and it has been presumed that access would connect across Highway 278.);
- The impact of suburban zoning behind the Commercial Regional portion of the property--how the public would be affected, the safety of children, etc. (Mr. Rhodes noted there was 65 acres of commercial uses and the Code does contain a mixed-use concept. The property to the west of Graves Road would transit to suburban zoning. Mr. Rhodes noted that the Habersham subdivision could be inspirational as a by-right zoning with a walkable mixed-use community.);

- A buffer between Berkley Hall and Pepper Hall (Mr. Rhodes noted that the Berkley Hall general manger spoke at the subcommittee meeting requesting coordination of activities between both subdivisions.); and
- The 28-acre buffer park.

Public Comment: Mr. Reed Armstrong of the Coastal Conservation League is in full agreement with the Planning staff's assessment which basically concludes that this is far too much for this location. He provided the following in comparison to the requested rezoning of 65 acres with 750,000 square feet of commercial use: Cross Creek Plaza at the intersection of Robert Smalls Parkway and Parris Island Gateway that serves as the main regional shopping center for northern Beaufort County that includes Belk, Penney's, Best Buy, TJ Maxx, Pets Mart, numerous other stores and restaurants, and a Super Wal-Mart within 61 acres of 500,000 square feet commercial use; Bluffton Gateway Center at the intersection of Highways 278 and 46 is a 65-acre parcel with 225,000 square feet of commercial space that is compatible with the Future Land Use map and the surrounding area; and the Tanger Outlets I and II combined are 500,000 square feet in about two-thirds of the acreage requested for the Graves property. Numerous studies show that impacts to water quality of the adjacent waterways occur when impervious surfaces exceed 10%. Using current data, if the property were developed in the current rural zoning, there would be 10% impervious surfaces. If the proposed buildout (70 of the 140 acres) occurs, there would be 49.7% of impervious surfaces. DHEC's TMDL (Total Maximum Daily Load) Study stated that because of the existing conditions in the area loads near the river should be reduced by 51%. New development will compound the situation. Additionally, soil maps show that the Pepper Hall soils are poor for infiltration and have the potential for high stormwater runoff. He requests denial of the rezoning request.

Commission discussion included:

- the adaptability of the community to past rezoning where traffic was of considerable concern;
- stormwater management being a best educated guess;
- using bio-filtration systems that can be engineered to protect the river;
- coliform bacteria not necessarily a pollutant, but an indicator that there could be pathogenic problems in the waterways;
- the 10% guide meant degradation of streams without mitigation, however, mitigation and filtration must be used to bring the property back to the level of 10% impervious surface;
- the viability of the stormwater ordinance if it is not sufficient to protect the Okatie;
- the zoning of a property with reasonable use;
- the Commission not being obliged to insure a financial reward for the sale of an owner's property;
- offering respect on the detailed work of the applicants' presentation;
- the property being located in a planned growth area and surrounded by commercial developments;
- acknowledging that the plans may be too intense, but consideration should be given to the rezoning request;
- clarifying the mapping error mentioned in the presentation;
- acknowledging the endless traffic debate, however the Commission must determine the reasonableness of the applicants' request if the stormwater can be engineered to protect the river;
- supporting approval of the rezoning request;
- protecting the water rights now for the future;
- concern for the 300-foot buffer that will remain in rural zoning;
- belief that the applicants have presented a good faith effort to correct the issues;
- concern that County Council will tie the river buffer with the rezoning;
- the balancing act of the applicants trying in all good faith to address the issues and the planning staff trying to protect the Okatie and the public;
- the map amendments having development agreements tied to each; and

- a recommendation to add conditions to the motion to accommodate the County and the applicants.

**Motion:** Mr. Ed Riley made a motion, and Mr. John Thomas seconded the motion, to recommend to County Council to approve the Southern Beaufort County Future Land Use Map Amendment for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Community Commercial (approximately 21 acres fronting US 278) and Rural (for remainder of property) to Regional Commercial (approximately 65 acres front US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties).

Further discussion included adding conditions regarding stormwater, traffic, and density; clarifying the motion process; adding a zero impact condition to the Okatie River; reducing the number of residential units and commercial square footage; agreeing that the land owner had the right to develop his property; believing that the market and not the zoning will drive the traffic impact; and inserting caveats to include development agreements.

**Amended Motion:** Mr. Thomas amended the original motion to add the following conditions:

- that the 700,000 square feet of commercial development be a maximum total and not ground square footage;
- that there be a guaranteed protection of the Okatie River; and
- that the buffer area be set aside from development.

Mr. Randolph Stewart asked to add a buffer that exceeded the current ordinance to protect the privacy of the Berkley Hall residents. Mr. Semmler agreed; however, he noted that the Commission should be concentrating on the Future Land Use Map Amendment instead.

Mr. Riley, accepted the amendments offered by Mr. Thomas, asked that the original motion be so amended.

The motion, as amended, was carried (FOR: Brown, LeGree, Petit, Riley, Semmler, and Thomas; AGAINST: Chmelik and Stewart; RECUSED: Bihl).

**Motion:** Mr. Thomas made a motion, and Mr. Petit seconded the motion, to recommend to County Council to approve the Southern Beaufort County Zoning Map Amendment / Rezoning Request for R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting US 278) and Suburban (approximately 48 acres at the rear of the properties) to add the following conditions:

- that the 700,000 square feet of commercial development be a total, and not, ground square footage;
- that there be a guaranteed protection of the Okatie River; and
- that the buffer area be set aside from development.

No further discussion occurred. The motion was carried (FOR: Brown, LeGree, Petit, Riley, Semmler, and Thomas; AGAINST: Chmelik and Stewart; RECUSED: Bihl).

*Note: Mr. Semmler recessed the meeting at approximately 7:54 p.m. and reconvened the meeting at approximately 7:59 p.m. Ms. Jennifer Bihl took a seat on the dais with the Commissioners.*

**OTHER BUSINESS:**

- 1. Joint Code Review Committee:** Mr. Semmler noted that the Committee would meet every other week, on Wednesdays at 3:00 p.m. He noted that Mr. Stewart and Ms. Bihl attended the first meeting. Mr. Stewart volunteered to attend as a non-voting member. Ms. Bihl noted that she was part of the Technical Advisory Board during the earlier review of the Code.
- 2. Election of Commission Officers:**
  - a. Chairman:** Mr. Thomas nominated Mr. Robert Semmler as chairman, and Ms. LeGree seconded the nomination. Mr. Semmler called for other nominations. No other nominations were received. The nominations were closed. With a show of hands, **Mr. Robert Semmler was elected unanimously as Chairman** of the Planning Commission.
  - b. Vice Chairman:** Mr. Petit nominated Mr. John Thomas as vice-chairman, and Mr. Brown seconded the nomination. Mr. Semmler called for other nominations. No other nominations were received. The nominations were closed. With a show of hands, **Mr. John Thomas was elected unanimously as Vice-Chairman** of the Planning Commission.

Mr. Semmler welcomed Ms. Jennifer Bihl to the Commission.

**ADJOURNMENT: Motion:** Ms. Bihl made a motion, and Mr. Stewart seconded the motion, **to adjourn** the meeting. The motion was **carried unanimously** ((FOR: Bihl, Brown, Chmelik, LeGree, Petit, Riley, Semmler, Stewart and Thomas). The meeting adjourned at approximately 8:04 p.m.

**SUBMITTED BY:**

\_\_\_\_\_  
Barbara Childs, Admin. Assistant to the Planning Director

\_\_\_\_\_  
Robert Semmler, Beaufort County Planning Commission Chairman

**APPROVED: June 1, 2013**

# **EXHIBIT**

**7**

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**TO BE  
SUPPLIED**

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# **EXHIBIT**

**8**

**TO BE  
SUPPLIED**

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# **EXHIBIT**

**9**

**TO BE  
SUPPLIED**

# **EXHIBIT**

# **10**

## Gay Reed

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**From:** Barry Johnson  
**Sent:** Monday, October 19, 2015 9:12 PM  
**To:** Gay Reed  
**Subject:** Fwd: Graves Rezoning  
**Attachments:** Ltr.to.Milt.Rhodes.applications.deficiencies.11.21.2011.pdf; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

**From:** Milt Rhodes <[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)>  
**Date:** October 19, 2015, 8:58:36 PM EDT  
**To:** 'Barry Johnson' <[barry@jd-pa.com](mailto:barry@jd-pa.com)>, <[schnidmanf@earthlink.net](mailto:schnidmanf@earthlink.net)>  
**Subject:** FW: Graves Rezoning

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**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Sunday, February 03, 2013 8:58 PM  
**To:** 'sturodman@aol.com'  
**Cc:** 'Milt Rhodes'  
**Subject:** FW: Graves Rezoning

Stu. This is the email I mentioned on Saturday. I wanted you to see the email written by Tony, with Mr. Kubic, Mr. Gruber, and Mr. Hill all cc'd. It is included below and I have provided some of my thoughts (in stream of consciousness form) on the situation and matter regarding the Pepper Hall applications. I share this with you in confidence and hope we can have a time to discuss it directly. I appreciate your willingness to listen.

In this email provided on November 14, 2012 the Planning Office lays out how the amended application would be accepted, reviewed and moved forward. The Planning Office through Tony, also states what would be done "IF" a traffic study was submitted and what would be recommended if one were not. It is important to note that no state law or County Code was cited in the direction the Planning Office provided, and the approach provided in the email is different than the one provided to the applicants last year. Upon the encouragement of the Planning Staff, the applicants did decide to pursue a full traffic study and used a different traffic engineer than was used in the previous application.

Please know that the Traffic Model we were initially asked to use (in October 2012) in order to study the potential traffic impacts of our rezoning is still not available. Estimates continue to be 30 days out and it seems that they keep shifting. I've had this same experience with the new code, which initially was to be available at the end of summer, then the fall, then end of January. It is my understanding that the new Code is still not available, though, I have been told that some applicants have access to it, as does the Coastal Conservation League which seems unfair and puts others at a considerable disadvantage.

From outward appearances, it doesn't appear that item c and item d in the Planning Office's stipulations were ever actually considered or followed. If staff did follow item d, there was not any action from the Planning Office in the form of a memo, email, voicemail, or other documentation of staff's action or

Planning Commission's engagement. Again, it appears as if staff is acting on their own with little accountability and that concerns me both as a current applicant, and a property owner living and working within the rules and standards of Beaufort County.

Additionally, I don't know why a staff recommendation is reliable given that staff to date has:

1. Created a Future Land Use Map that effectively subdivided a property without correspondence to that property owner indicating the change, while that property owner had an open application for annexation with an adjacent municipality
2. Produced an inconsistent and illegible map work product that clearly didn't correlate existing land uses with staff desires regarding Future Land use then used that as a reason to recommend denial of the application request which has contributed to delays, unwarranted expenses, and damages.
3. Designated a Future Land Use map district on a property that was not representative of existing land uses in the area, or current zoning designation on adjacent parcels.
4. Used a different nomenclature, colors, and boundary locations for that Future Land Use Map, reportedly produced in collaboration with an adjacent municipality. If it was truly collaborative as was reported in the staff recommendation to deny the rezoning as was done in the Graves application, I question why there would be such a major disparity between the jurisdictions with respect to nomenclature, color, and even physical boundary lines.
5. Recommended a zoning district (Commercial Suburban district) that is not permissible per the BCZDSO due to size of parcel and location to other uses in an attempt to restrict commercial development options on the property.
6. Made a presentation at a public meeting (Southern Regional Plan Implementation Committee) and provided specific comments regarding the Graves applications without first notifying the applicants. It is unclear why the application was discussed at the meeting as there is not any authority of that committee for zoning map amendments or comprehensive plan amendments;

It would seem that these actions show a pattern of impartiality by staff against the applications submitted for the Graves' properties, but I will speculate no further on that.

Please remember that in 2011 the application was accepted as completed (without the full traffic study required today). I've included the letter from Staff indicating that the application was deemed complete once the minor deficiencies were resolved (which they were). At no time during the review of the application that went all the way to County Council in 2012 was there ever any mention that the application was incomplete or insufficient, thus either staff let the application proceed without the study because they didn't initially believe it to be necessary, or they weren't paying attention to the application submitted. Given the items 1-6 listed above, I continue to be concerned with the ability of staff to provide clear, consistent direction on applications, and as such, I believe that in order to be an effective office, the customer service must be greatly improved.

I expect once the new code has been released for public review there will be many questions to be asked about how it will be implemented. If the new code doesn't include major improvements in how applications are received, processed, and reviewed I suspect there will be continued issues with the Planning Office. As we've discussed before, I believe that a comprehensive assessment is needed with respect to how applications are handled by the Planning Office.

Thank you for hearing my concerns. I hope we get a chance to discuss them at some point in the near future.

Sincerely,

Milt  
919 522 0172

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**From:** Criscitiello, Anthony [<mailto:tonyc@bcgov.net>]  
**Sent:** Wednesday, November 14, 2012 12:06 PM  
**To:** 'Milt Rhodes'  
**Cc:** Gruber, Joshua; Kubic, Gary.; Hill, Bryan  
**Subject:** Graves Rezoning

Milt,

Please be advised:

1). The County will accept the current application dated November 7, 2012 as submitted with the following stipulations:

- a. The staff feels that the application is incomplete – please seek your guidance in ZDSO sections 106-367 & 106-2450;
- b. The applicant has the option of requesting that the application dated November 7, 2012 be forwarded on to the Planning Commission (for assignment to the Planning Commission subcommittee) if the applicant does not intend to submit any additional information. However, the staff will likely be issuing a recommendation to deny based on the fact that the staff believes that the submittal is an incomplete application.
- c. If between now and when the application is reviewed before the Planning Commission, the applicant can submit the additional information, and if the staff has sufficient time to review it, then, the staff can make a recommendation – pro or con.
- d. If the staff is not provided sufficient time to review the submittal, then, the staff will ask the Planning Commission to postpone any action on the submittal until the staff has sufficient time to provide a recommendation.

2). The applicant should advise me as soon as possible so appropriate scheduling for the Planning Commission can occur.

Thank you,  
Tony



COUNTY COUNCIL OF BEAUFORT COUNTY  
BEAUFORT COUNTY PLANNING DEPARTMENT  
Multi Government Center • 100 Ribaut Road, Room 115  
Post Office Drawer 1228, Beaufort, SC 29901-1228  
Phone: (843) 470-2724 • FAX: (843) 470-2731

November 21, 2011

Mr. Milt Rhodes, AICP  
4921 Bluffton Parkway, Number 1114  
Bluffton, SC 29910

Re: Pepper Hall

Dear Milt,

I have reviewed the applications for a Comprehensive Plan Future Land Use Map Amendment and a Zoning Map amendment for the 142-acre Pepper Hall. Based on the Zoning and Development Standards Ordinance in Article III, Division 3, Subdivision II, Amendments to the Comprehensive Plan and Zoning Ordinance, I find several deficiencies that require your attention before we can judge the application complete. The deficiencies are noted as follows:

1. Letters of concurrent application from Mr. John Graves and Mr. Paul Graves for the parcels identified in their ownership;
2. Missing answers to questions arising out of the standards listed in ZDSO Sec. 106-493 Standards for Zoning Text amendment. You appear to attempt to answer some of the question in the narrative, but do not do so as specifically as you did in Sec. 106-492 and -494.
3. Missing answer to question arising out of Standard listed in ZDSO Sec. 106-492 (1) (f).

General Comment: The application could be organized better to reduce confusion. For example, following Table 1. The attachments could be placed here that relate to Table 1. Also, on page 8 in the second paragraph, parcel R 603-021-000-0194 is not mentioned in this paragraph, was the intentional?

With the issues addressed in this letter, the application will be considered complete.

Sincerely,

*Tony Criscitiello*

Anthony J. Criscitiello  
Planning Director

# **EXHIBIT**

**11**

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**STATE OF SOUTH CAROLINA**  
**COUNTY OF BEAUFORT**

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)  
**PEPPER HALL**  
**DEVELOPMENT AGREEMENT**

This Development Agreement ("Agreement") is made and entered this \_\_\_\_\_ day of May, 2013 by and between Robert L. Graves, John Tamplet Graves, Sr. and Paul B. Graves, Sr. (Owner/Developer), and the governmental authority of Beaufort County, South Carolina ("County").

**WHEREAS**, the legislature of the State of South Carolina has enacted the "South Carolina Local Government Development Agreement Act, (the "Act"), as set forth in Sections 6-31-10 through 6-31-160 of the South Carolina Code of Laws (1976), as amended; and

**WHEREAS**, the Act recognizes that "The lack of certainty in the approval of development can result in a waste of economic and land resources, can discourage sound capital improvement planning and financing, can cause the cost of housing and development to escalate, and can discourage commitment to comprehensive planning." [Section 6-31-10 (B)(1)]; and

**WHEREAS**, the Act also states: "Development agreements will encourage the vesting of property rights by protecting such rights from the effect of subsequently enacted local legislation or from the effects of changing policies and procedures of local government agencies which may conflict with any term or provision of the Development Agreement or in any way hinder, restrict, or prevent the development of the project. Development Agreements will provide a reasonable certainty as to the lawful requirements that must be met in protecting vested property rights, while maintaining the authority and duty of government to enforce laws and regulations which promote the public safety, health, and general welfare of the citizens of our State." [Section 6-31-10 (B)(6)]; and,

**WHEREAS**, the Act further authorizes local governments, including county governments, to enter Development Agreements with Owner/Developers to accomplish these and other goals as set forth in Section 6-31-10 of the Act; and,

**WHEREAS**, Owner/Developer is the Owner/Developer of several tracts of land containing a total of approximately 114.305 acres of highland and marsh areas adjacent to the Okatie River ("Property") located in Bluffton Township, Beaufort County, South Carolina, and as more particular described on Exhibit "A" attached hereto; and,

**WHEREAS**, Owner/Developer proposes to develop a mixed use community with regional and neighborhood commercial uses, medical facilities and residential areas and recreational opportunities on the Property; and

**WHEREAS**, Owner/Developer has prepared a Conceptual Design Plan (Conceptual Plan) (Exhibit "B" attached) for the entire tract (collectively hereinafter sometimes referred to as the "Property"); and,

**WHEREAS**, Owner/Developer has prepared a Conceptual Plan (Exhibit "B" attached) for the Property and seeks to establish a prototype development that works toward the common goals of restoring the health of the Okatie River, balance environmental preservation with property rights and provides private sector solutions for environmentally responsive development.

**WHEREAS**, the County finds that the proposal for this property is consistent with the County's Comprehensive Plan, will further the health, safety, welfare and economic well being of the County, and presents an unprecedented opportunity to secure quality planning and growth in an environmentally sensitive manner; and

**WHEREAS**, the County of Beaufort desires to protect the important natural environment of the area, while encouraging quality growth and economic opportunity for its citizens, and to do so in a manner which avoids adverse financial impact upon the County or its citizens; and,

**WHEREAS**, this Development Agreement is being made and entered between Owner/Developer and County, under the terms of the Act, for the purpose of providing assurances to Owner/Developer that it may proceed with the development of the Property in accordance with a Conceptual Plan under the terms hereof, as hereinafter defined, without encountering future changes of law which would materially affect the

ability to develop or the cost of future development under the plan, and for the purpose of providing important protections to the natural environment and the financial stability of the County of Beaufort.

**NOW THEREFORE**, in consideration of the terms and conditions set forth herein, and other good and valuable consideration, including the potential economic benefits to both County and Owner/Developer by entering this Agreement, and to encourage well- planned development, the receipt and sufficiency of such consideration being hereby acknowledged, County and Owner/Developer hereby agree as follows:

**I. INCORPORATION.**

The above recitals are hereby incorporated into this Agreement.

**II. DEFINITIONS.**

As used herein, the following terms mean:

"Owner/Developer" means Robert L. Graves, John Tamplet Graves, Jr. and Paul B. Graves, Sr., individual residents of Beaufort and Charleston County, South Carolina.

"Property" means that certain tract of land described on Exhibit A.

"Conceptual Plan" means the layout and development scheme contemplated for the Property, attached as Exhibit B, and as may be modified per the terms of this Agreement.

"Zoning Regulations" means the Zoning and Development Standards Ordinance (ZDSO) of Beaufort County, in effect at the time of the execution of this Agreement, as amended by this agreement by the Development Requirements set forth in Section V. As between the Zoning Regulations and the Development Requirements, the Development Requirements shall control. (a copy of the Beaufort County ZDSO is attached as Exhibit C)

"Secondary Owner/Developer" means any and all successors in title to Owner/Developer who or which undertake or cause to be undertaken vertical or horizontal construction on the Property. Should either Owner/Developer or Purchaser undertake or cause to be undertaken vertical construction on the Property, they shall also be deemed a Secondary Owner/Developer.

"Term" means the duration of this agreement as set forth in Section III hereof.

"Development" means the land disturbance of portions of the Property and/or vertical or horizontal construction of improvements thereon as contemplated by the Zoning Regulations.

"Development Rights" mean Development undertaken in accordance with the Zoning Regulations and this Development Agreement.

**III. TERM.**

The term of this Agreement shall commence on the date this Agreement is executed by the County, and terminate five (5) years thereafter; provided however, the term of this Agreement may be extended for six (6) successive five (5) year terms absent a material breach of any terms of this Agreement by Owner/Developer during the Term or any renewal Term, as applicable.

**IV. DEVELOPMENT REQUIREMENTS AND DEVELOPMENT OF THE PROPERTY.**

**A. ZSDO Applicability.** The Property shall be developed in accordance with the Zoning and Development Standards Ordinance (ZSDO) of Beaufort County, this Agreement, and the following Development Requirements:

**B. Permitted Uses.** Permitted uses on the Property include residential dwellings and accessory uses thereto, recreational uses such as parks, water-related amenities and the like, and commercial, office, medical and residential I uses as shown and depicted on the Concept Plan that is attached as Exhibit B. No more than Four Hundred Eighty (480 ) dwellings units, and no more than Seven Hundred Thousand (700,000) square feet or a floor area not to exceed 0.18 of an acre of nonresidential commercial, office and/or retail building floor area, whichever is less shall be constructed on the Property Owned by Robert L. Graves consisting of approximately 83 acres.

Owner/Developer herewith agrees to undertake a good faith and consider effort to utilize a portion of the 700,000 of Regional Commercial square footage in buildings having two or more floors in an effort to reduce the amount of "impervious surface area" upon the Property and to consider design elements and uses found in "Traditional Neighborhood Developments" ("TND") and "Commercial-Suburban" ("Commercial-Suburban") zoning areas.

Total Residential Development allotted to the portion of the property designated as a Commercial Regional zoning district (approximately 65 acres) shall not exceed 240 residential dwelling units except that up to 20% of Total Residential or Commercial Development within the area to be designated as a Commercial Regional zoning district may be converted into an alternative use by using a conversion ratio of 1 unit per 2400 square feet when part of a Unified Development Plan..

The balance of the property depicted on the Conceptual Development Plan shall be designated as a Suburban zoning district and contain residential and non-residential uses in accordance with applicable standards of the Zoning Regulations identified herein. In order to permit a unified approach to site development, and to reduce impervious surfaces throughout the Property, the Traditional Neighborhood Development (TND) standards contained in Article XI of the ZDSO may be applied for the entire Property when proposed as part of a Unified Development Plan or other such standards provided in future amendments to the Beaufort County Zoning and Development Standards Ordinance.

**C. Development.** The locations of permitted use districts are shown on the Conceptual Development Plan, and identified by their corresponding Beaufort County Zoning District designations on the Official Zoning Map of Beaufort County attached hereto as Exhibit B and Exhibit C and made a part hereof.

It is acknowledged that the Conceptual Development Plan does not represent a specific site development plan for the property and the Owner/Developer may materially deviate from the general orientation shown on the Conceptual Development Plan without the prior consent of County upon condition that such changes are in compliance with the applicable provisions of the Beaufort County Development Standards Ordinance..

All future development proposed as part of a specific development plan for the property must be in strict accordance with all applicable Federal, State and Local standards. Traffic access and management shall meet the established Level of Service standards based on the standards and requirements of the applicable permitting and development authorities at time of development permitting.

Stormwater management shall be subject to the applicable standards of State and Local permitting authorities required at time of development and shall at a minimum meet all State and County criteria for drainage including volume and velocity control, nutrient reduction, meeting the criteria for meeting the goals of the Okatie River TMDL as established by SC DHEC and by using soil, stormwater, and vegetative best management practices.

**D. Multiuse Recreational Plan.** Exhibit B to this Development Agreement reflects along the western border of the Robert L. Graves Property a 17.9 acre a "multiuse recreational trail" or Regional Park ("Regional Park") that extends along the marshes of the Okatie River adjacent to the Robert L. Graves parcel. Public access to this trail shall be available during the hours when the Park is open. No motor driven vehicles, motor bikes, or means of conveyance shall be permitted, other than bicycles and baby strollers. Water runoff generated from the development of this property shall be contained within the property and directed away from the Okatie River. Such multiuse recreational trail or Regional Park shall be purchased, constructed and maintained by County or such other entity as Owner/Developer and County may mutually designate.

**G. Public Park.** Exhibit B to this Agreement reflects a public park (Public Park) to be purchased by either County or the Beaufort County Open Land Trust ("Land Trust") consisting of approximately 17.91 acres. The purchase price for such public park shall be established by a current appraisal of such site with the purchase subject to approval by Owner/Developer, County, or Land Trust

should Land Trust be the actual purchaser. Such public open space shall contribute toward required open spaces as part of a unified development plan.

County and Owner/Developer herewith acknowledge and reaffirm that all negotiations, valuations discussions or any other matters related to the purchase of such 17.91 acre Regional Park by either the County or the Beaufort Open Land Trust are separate and distinct from the negotiations incident to the negotiation and adoption of this Development Agreement.

County and Owner/Developer herewith acknowledge and agree that portions of such Regional Park May be used and incorporated in the "storm water containment system" cooperatively designed and constructed by County and Owner/Developer which may include ponds, lagoons, berms, underground dispersal systems and such other elements as may be required to effectuate such "storm water containment system".

**H. Commercial and Residential Property.** Owner/Developer agrees that the Property may contain no more than 65.0 acres of property to be zoned in accordance with the Commercial Regional zoning district per the ZDSO and shown on the Official Zoning Map of Beaufort County. The area designated for this use is so designated on Exhibit B in red and shall be restricted in use to property zoned in the ZDSO as "Commercial Regional" and designated as Regional Commercial on the Future Land Use Map of Beaufort County. Nothing in this agreement shall restrict commercial or other uses that are allowed by on the remaining 49.445 acres of the property that is to be zoned and designated as Suburban on the Official Zoning Map and Neighborhood Mixed Use on the Future Land Use Map of Beaufort County.

**I. RESTRICTIVE COVENANTS**

Owner/Developer agrees to encumber the Property with Conditions, Covenants and Restrictions (CC&R) to carry out the provisions of this Development Agreement, which CC&R shall be subject to the reasonable approval of the County, such approval not to be unreasonably withheld.

**V. CHANGES TO DEVELOPMENT REGULATIONS.**

Unless authorized by the Act or as set forth herein, the Zoning Regulations as applied to the Property shall not be amended or modified during the Term, without the express written consent of the Owner/Developer; provided however, the County may amend the Zoning Regulations as they pertain to procedures for processing land development applications and approvals, approvals of subdivision plats, or the issuance of building permits.

**VI. EFFECT OF FUTURE LAWS.**

It is the intent of the parties that only the Zoning Regulations and any other laws, regulations and ordinances of the County applicable to the development of land in the County be vested for the Term, subject to the provisions of Section V hereof. All other laws, regulations and ordinances of the County, and those as may be enacted in the future, shall be applicable to the Owner/Developer, and his successors and assigns, so long as they do not conflict with the Zoning Regulations or interfere with the ability to utilize and develop the Property in accordance with any then applicable Conceptual Development Plan as shown on Exhibit B and amendments thereto.

It is specifically acknowledged that this Agreement shall not prohibit the application of any current or future building, housing, electrical, plumbing, gas, swimming pool or other standard codes of general application throughout the County, of any tax or fee of general application throughout the County, or of any law or ordinance of general application throughout the County found by the Beaufort County Council to be necessary to protect the health, safety and welfare of the citizens of County. Specifically, the County may apply subsequently enacted laws to the Property in accordance with Section 6-31-80(B) of the Act.

It is specifically acknowledged that nothing in this Agreement shall be deemed to exempt the Property from fees and taxes that may be imposed by governmental entities other than the County.

**VII. INFRASTRUCTURE AND SERVICES.**

County and Owner/Developer recognize that services to the Property will be provided by the County and other governmental or quasi-governmental entities. For clarification, the parties make specific note and

acknowledge the following:

A. **Private Roads.** All private roads within the Property, excluding the roads to the Public Park, shall be constructed by the Owner/Developer or third party purchasers designated by Owner/Developer, and maintained by it and/or a Commercial/ Home Owner' Association. The County shall not be responsible for the construction or maintenance of any private roads within the Property, and the Owner/Developer and/or Commercial/Home Owner Association shall continue the maintenance until such time as the roads are accepted for maintenance by an appropriate governmental body. The roads will be open to the public, provided however the Owner/Developer or an empowered Commercial/Home Owner Association may restrict public access between the hours of 8 pm and 8am daily.

Notwithstanding the provisions hereof, Owner/Developer and County agree to convey to each other cross-easements for pedestrian and vehicular ingress and egress over and across the private roadways for access to the 17.91 acre Regional Park together with view, utility installation and maintenance easements and such other use rights as may be reasonably required by either party.

County and Owner/Developer further agree to establish a cost-sharing agreement for the construction and maintenance of those roadways and utility easements that are located within the Property that serve the 17.91 acre Public Park adjacent to the Property.

B. **Public Roads.** The major public road that serves the Property is Highway 278 and is under the jurisdiction of the State of South Carolina regarding construction, improvements and maintenance. County shall not be responsible for construction, improvements or maintenance of this or any other public roads which now or hereafter serve the Property. It shall be the responsibility of the Owner/Developer to adhere to applicable state or county requirements regarding ingress and egress to Highway 278 or any other public roads that may serve the Property.

Owner/Developer herewith understands and agrees that all subsequent development upon the Property must meet the vehicular traffic ingress and egress "Level of Service" ("LOS") requirements at the time of issuance of development permit(s) for the phased development of the Property as may be promulgated or established by the South Carolina Department of Transportation ("SCDOT") or such other

federal or state governmental authority having jurisdiction over U. S. Highway 278.

C. **Potable Water.** Potable water will be supplied to the Property by Beaufort/Jasper Water and Sewer Authority (BJWSA) . Owner/Developer will construct or cause to be constructed all necessary water service infrastructure within the Property intended to serve private uses, which will be maintained by them or the Authority or a Commercial/Home Owner Association. County shall not be responsible for any construction, treatment, maintenance or costs associated with water service intended for private uses on and to the Property other than those utility services required to serve the Regional Park. The Owner/Developer, and its successors and assigns, agree that all Development, with the exception of irrigation, existing wells for livestock and residential use and facilities existing at the date of this Agreement will continue until abandoned or decommissioned by Owner/Developer, as Owner/Developer, in its sole discretion, may deem appropriate. All new construction shall use water and sewer services provided by Beaufort Jasper Water and Sewer Authority. Owner/Developer shall be responsible for all financial arrangements with BJWSA.

D. **Sewage Treatment and Disposal.** Sewage collection, treatment and disposal will be provided by BJWSA. Owner/Developer or BJWSA will construct or cause to be constructed all necessary sewer service infrastructures within the Property, which will be maintained by BJWSA. County shall not be responsible for any construction, treatment, maintenance or costs associated with sewer service to the Property except for facilities intended for public use. The Owner/Developer, and its successors and assigns, agree that all Development, with the exception of facilities existing at the date of this Agreement, will be served by sewer prior to occupancy and that in the event Owner/Developer elects to demolish or renovate the existing buildings, all sewer disposal shall be through BJWSA. Owner/Developer shall be responsible for financial arrangements with BJWSP.

Owner/Developer further agrees that as water and sewer infrastructure are extended to those areas of the Property upon which there are existing structures owner by Owner/developer currently utilizing septic systems, such existing structures will be retrofitted to connect to the central water and sewer systems.

Notwithstanding the provisions herein set forth, County shall be solely responsible for all costs related to the construction and maintenance of all roadways, paths, docks, piers, interpretive signage, water and sewer services and all other costs directly related to the use and enjoyment of the 17.91 acre Regional Park by the general public.

E. **Drainage System.** All storm water runoff and drainage system improvements within the Property will be designed utilizing best management practices, will be constructed by Owner/Developer, and maintained by Owner/Developer and/or a Commercial/ Home Owner Association or BJWSA. The County of Beaufort will not be responsible for any construction or maintenance costs associated with the drainage system within the Property except where joint or dual use projects shall occur. Any costs incurred by the County in the review and implementation of the drainage/storm water system shall be paid by the applicant unless otherwise established at time of permitting.

**It is the stated goal and objective of Owner/Developer to capture and contain all storm water runoff within the confines of the Property. County and Owner/Developer herewith agree to work cooperatively to achieve the goal of complete storm water containment upon the Property to ensure that storm water does not reach the adjacent Okatie River.**

**County herewith agrees to allocate and expend a portion of the "storm water impact fees" and funds from the "storm water utility Fees" generated from the development of the Property and other locations within the County to partially fund as a "shared cost" with Owner/Developer for the construction, installation and maintenance of storm water systems and features that are designed and incorporate "green infrastructure technologies" and elements on, under or upon the Property.**

**County further agrees to designate a portion of the "storm water impact fees" generated from**

**the development of the Property for ongoing water quality monitoring in the Okatie River Headwaters during and after development activities are completed upon the Property.**

The Owner/Developer shall be required to abide by all provisions of federal and state laws and regulations, including those established by the Department of Health and Environmental Control, the Office of Ocean and Coastal Resource Management, and their successors, for the handling of storm water.

Owner/Developer and any Secondary Owner/Developers shall adhere to any and all future ordinances or regulations of the County (or portions thereof) governing detention, filtration, and treatment of storm water provided those ordinances and regulations apply County-wide, and are consistent with sound engineering practices. It is specifically agreed however, that any such future ordinances of the County that directly or indirectly affect the setback, buffer or open space requirements permitted pursuant to the Zoning Regulations will not be applicable to the Owner/Developer and any Secondary Owner/Developer within the Property without the Owner/Developer's or any Secondary Owner/Developer's express written consent thereto.

**F. Solid Waste Collection.** Solid waste collection will be provided by agreements with private companies. Solid waste collection shall be provided to the Property on the same basis as is provided to other residents and businesses within the County.

**G. Police Protection.** The County shall provide police protection services to the Property on the same basis as is generally provided to other residents and businesses within the County.

**H. Emergency Medical Services.** Such services are now being provided by Beaufort County, and the County will continue to provide emergency Medical services to the Property on the same basis as is provided to other residents and businesses within the County.

**I. Library Services.** Such services are now provided by Beaufort County.

**J. School Services.** Such services are now provided by the Beaufort County School District and such service shall continue.

**K. Recycling Services.** The County of Beaufort shall not be obligated to provide recycling services to the Property, absent its election to provide such services on a County-wide basis.

L. **Fire Services.** Fire protection for the Property will be provided by the Bluffton Township Fire Department.

M. **Subsequent Entities or Financing District.** Nothing in this Agreement shall be construed to prevent the establishment by the County, or other governmental entity, or some combination of entities, solely or in conjunction with each other, of a Tax Increment District, FILOT, Multi-County Business Park, or other special tax district or financing vehicle authorized by applicable provisions of the Code of Laws of South Carolina (1976 as amended), so long as such do not operate to increase the ad valorem taxes or assessments against the Property, unless applied to all properties located within the County.

N. **Tree Preservation.** After any harvesting or clearing of pine crop areas which may be allowed under Silva culture, the Owner/Developer will submit a survey or exhibit depicting all trees eight (8) inches diameter breast height (DBH) or greater within proposed development phase areas being submitted for development approval, and twenty-five (25) feet beyond. Hardwood trees in excess of eight (8) inches DBH will be described by their actual location.

Individual trees over 24 inches DBH or specimen trees (live oak, magnolia, dogwood, sycamore, walnut, hickory, pecan, white oak, or southern red oak) over 12 inches DBH that are to be removed shall be replaced with trees having an individual caliper measurement in excess of 2.5 inches DBH. Replacement trees shall meet or exceed the total DBH caliper inches removed. Surveyed preserved trees in excess of 2.5 caliper inches may be counted as replacement or post development trees. Total post development tree coverage shall equal 3 hardwood trees per lot on average throughout the community or 12 hardwoods per acre in the case of non-residential development. Owner/Developer will use its best efforts to preserve specimen trees.

#### O. **GRAVES ROAD IMPROVEMENTS**

County and Owner/Developer herewith acknowledge that the existing Graves Road adjacent to the Property is a public roadway currently maintained by the County as an unpaved dirt road.

In the event that future improvements are either required or necessitated for the future development of

the Property, such improvements or upgrades will be undertaken on a cost-sharing basis between County, Owner/Developer and all other parties who utilize such roadway to access their respective properties.

**P. ZONING & FUTURE LAND USE MAP AMENDMENTS.**

County herewith agrees to promptly amend the existing Zoning and Future Land Use Maps created by the County to correctly reflect the proper zoning and land use designations for the Graves, Faulkner, Harris Teeter and surrounding properties.

**VIII. FEES AND RELATED AGREEMENTS**

The County of Beaufort and Owner/Developer understand and agree that future development of the Property shall impose certain costs to the County. Eventually, property taxes collected from future development upon the Property are expected to meet or exceed the burdens placed upon the County, but certain initial costs and capital expenditures must be addressed in order to ensure that the present residents of the County are not called upon to pay higher taxes to accommodate the development of the Property. The following items are hereby agreed upon to be provided by Owner/Developer to offset such future costs and expenditures:

**A. Lot Fee for Administrative/Public Services.** In order for the County to meet various expenses and obligations associated directly or indirectly with development of the Property, the parties agree that the various impact fees imposed by Beaufort County on other similar residential or commercial property in place at the time of the execution of this Agreement shall be payable by Owner/Developer as any other Owner/Developer of property would pay.

**B. Attorneys Fees.** Each party to this Agreement agrees to pay their own fees and costs incurred by them.

**IX. COMPLIANCE REVIEWS.**

Owner/Developer, or its designee, shall meet with the County, or its designee, at least once per year in the month of January during the Term of this Agreement to review development completed in the

prior year and the development anticipated to be commenced or completed in the ensuing year. The Owner/Developer, or its designee, shall be required to provide such information as may reasonably be requested, to include but not limited to, commercial square footage, acreage or lots of the Property sold in the prior year, commercial square footage, acreage or lots of the Property under contract, the number of certificates of occupancy anticipated to be issued in the ensuing year. The Owner/Developer, or its designee, shall be required to compile this information for its development and that of Secondary Owner/Developers. Reporting of such information to the County will be made upon such forms as the County and Owner/Developer may agree upon from time to time. This Compliance Review shall be in addition to, and not in lieu of, any other reporting or filing required by this Agreement.

**X. DEFAULTS.**

The failure of the Owner/Developer or County to comply with the terms of this Agreement shall constitute a default, entitling the non-defaulting party to pursue such remedies as deemed appropriate, including specific performance and the termination of this Development Agreement in accordance with the Act; provided, however no termination of this Development Agreement may be declared by the County absent its according the Owner/Developer the notice, hearing and opportunity to cure in accordance with the Act; and provided further that nothing herein shall be deemed or construed to preclude the County or its designee from issuing stop work orders or voiding permits issued for development when such development contravenes the provisions of the Zoning Regulations or this Development Agreement.

Notwithstanding the foregoing, it is acknowledged by all persons, firms or entities claiming or accorded interests in this Development Agreement that the following events shall constitute an event of default, entitling the County to pursue the termination of this Development Agreement, in accordance with the Act:

1. the failure to timely remit payments required hereunder to the County per the terms of this Development Agreement;
2. if at any time during the Term, prior to the Owner/Developer having fulfilled any

of their payment obligations there shall be filed by or against them in any court, pursuant to any state or federal statute, a petition in bankruptcy or insolvency, or for reorganization or appointment of a receiver or trustee of all or part of the assets of the Owner/Developer, or if it makes an assignment for the benefit of creditors.

**XI. MODIFICATION OF AGREEMENT.**

This Development Agreement may be modified or amended only by the written agreement of the County and the Owner/Developer. No statement, action or agreement hereafter made shall be effective to change, amend, waive, modify, discharge, terminate or effect an abandonment of this Agreement in whole or in part unless such statement, action or agreement is in writing and signed by the party against whom such change, amendment, waiver, modification, discharge, termination or abandonment is sought to be enforced. Any amendment to this Agreement shall comply with the provisions of Section 6-31-10, et seq. Any requirement of this Agreement requiring consent or approval of one of the parties shall not require amendment of this Agreement unless the text expressly requires amendment. Whenever such consent or approval is required, the same shall not unreasonably be withheld.

**XII. NOTICES.**

Any notice, demand, request, consent, approval or communication which a signatory party is required to or may give to another signatory party hereunder shall be in writing and shall be delivered or addressed to the other at the address below set forth or to such other addresses such party may from time to time direct by written notice given in the manner herein prescribed, and such notice or communication shall be deemed to have been given or made when communicated by personal delivery or by independent courier service or by facsimile or if by mail on the fifth (5th) business day after the deposit thereof in the United States Mail, postage prepaid, registered or certified, addressed as hereinafter provided. All notices, demands, requests, consents, approvals or communications to the County shall be addressed to:

The County of Beaufort  
P.O. Box 1228  
Beaufort, South Carolina 29901-1228

Attention: Gary Kubic  
County Administrator

With Copy to: Joshua A. Gruber, Esquire  
Staff Attorney  
P.O. Box 1228  
Beaufort, South Carolina 29901-1228

And to the Owner/Developer at: Robert L. Graves  
Post Office Box 5818  
Hilton Head Island, S.C. 29938

John Tamplet Graves, Jr.  
26 Melon Hole Road  
Okatie, S.C. 29909

Paul B. Graves, Sr.  
1836 Omni Boulevard  
Mt. Pleasant, S.C. 29466

With Copy to: James P. Scheider, Jr, Esquire  
Vaux & Marscher, P.A.  
Post Office Box 769  
Bluffton, South Carolina 29910

**XIII. ENFORCEMENT.**

Any party hereto shall have the right to enforce the terms, provisions and conditions of this Agreement by any remedies available at law or in equity, including specific performance and the right of the prevailing party to recover attorney's fees and costs associated with said enforcement.

**XIV. Commitment to Employment Opportunity for Residents.**

Owner/Developer is an equal opportunity employer and demands the same from all its contractors. Owner/Developer also recognizes that it is important that citizens of County have opportunity for gainful employment and future advancement in the immediate County area.

**XV. GENERAL.**

**A. Subsequent Laws:** In the event state or federal laws or regulations are enacted after the execution of this Development Agreement or decisions are issued by a court of competent jurisdiction which prevent or preclude compliance with the Act or one or more provisions of this Agreement ("New Laws"), the provisions of this Agreement shall be modified or suspended as may be necessary to comply

with such New Laws. Immediately after enactment of any such New Law, or court decision, a party designated by the Owner/Developer and the County shall meet and confer in good faith in order to agree upon such modification or suspension based on the effect that such New Law would have on the purposes and intent of this Agreement. During the time that these parties are conferring on such modification or suspension or challenging the New Laws, the County may take reasonable action to comply with such New Laws. Should these parties be unable to agree to a modification or suspension, either may petition a court of competent jurisdiction for an appropriate modification or suspension of this Agreement. In addition, the Owner/Developer and County each shall have the right to challenge the New Laws preventing compliance with the terms of this Agreement. In the event that such challenge is successful, this Agreement shall remain unmodified and in full force and effect.

**B. Estoppel Certificate:** The County and Owner/Developer may, at any time, and from time to time, deliver written notice to the other applicable party requesting such party to certify in writing:

1. that this Agreement is in full force and effect,
2. that this Agreement has not been amended or modified, or if so amended, identifying the amendments.
3. Whether, to the knowledge of such party, the requesting party is in default or claimed default in the performance of its obligations under this Agreement, and, if so, describing the nature and amount, if any, of any such default or claimed default, and
4. Whether, to the knowledge of such party, any event has occurred or failed to occur which, with the passage of time or the giving of notice, would constitute a default and, if so, specifying each such event.

**C. Entire Agreement:** This Agreement sets forth, and incorporates by reference, all of the agreements, conditions, and understandings among the County and the Owner/Developer relative to the Property and its development and there are no promises, agreements, conditions or understandings, oral or written, expressed or implied, among these parties relative to the matters addressed herein other than as set forth or as referred to herein.

D. **No Partnership or Joint Venture:** Nothing in this Agreement shall be deemed to create a partnership or joint venture between the County and Owner/Developer or to render such party liable in any manner for the debts or obligations of another party.

E. **Exhibits:** All exhibits attached hereto and/or referred to in this Agreement are incorporated herein as though set forth in full. The exhibits are initialed and dated by each Party to this Agreement.

F. **Construction:** The parties agree that each party and its counsel have reviewed and revised this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not apply in the interpretation of this Agreement or any amendments or exhibits hereto.

G. **Assignment:** The rights, obligations, duties or responsibilities under this Agreement of the Owner/Developer are assignable to any other person, firm, corporation or entity.

H. **Governing Law:** This Agreement shall be governed by the laws of the State of South Carolina.

I. **Counterparts:** This Agreement may be executed in several counterparts, each of which shall be deemed an original and such counterparts shall constitute but one and the same instrument.

J. **Agreement to Cooperate:** In the event of any legal action instituted by a third party or other governmental entity or official challenging the validity of any provision of this Agreement, the parties hereby agree to cooperate in defending such action; provided, however, each party shall retain the right to pursue its own independent legal defense.

K. **No Third Party Beneficiaries:** The provisions of this Agreement may be enforced only by the County and the Owner/Developer. No other persons shall have any rights hereunder.

**XVI. STATEMENT OF REQUIRED PROVISIONS.**

The Act requires that a development agreement must include certain mandatory provisions, pursuant to Section 6-31-60(A). Although certain of these items are addressed elsewhere in this

Agreement, the following listing of the required provisions is set forth for convenient reference. The numbering below corresponds to the numbering utilized under Section 6-31-60(A) for the required items:

1. **Legal Description of Property and Legal and Equitable Owner/Owner/Developers.** The legal description of the Property is set forth in Exhibit A attached hereto. The present legal Owner/Owner/Developer of the Property : Robert L. Graves, John Tamplet Graves, Jr. and Paul B. Graves, Sr.

2. **Duration of Agreement.** The duration of this Agreement is five (5) years, unless extended per Article III hereof.

3. **Permitted Uses, Densities, Building Heights and Intensities.** A complete listing and description of permitted uses, building intensities and heights, as well as other development – related standards, are contained in the Zoning and Development Standards Ordinance of Beaufort County and specific zoning districts are identified on the Conceptual Development Plan attached as Exhibit B.. Exhibit E sets forth anticipated development ty of the Property at build out. Building heights will be limited to 40 feet, measured from the lowest adjacent ground level to the building (as measured for federal flood elevation certificates) to the highest point of the building (excluding chimneys, cupolas, and other such non-habitable spaces).

4. **Required Public Facilities.** The County will provide, or cause to be provided, police and fire services, as well as development application services to the Property. Beaufort Jasper Water and Sewer Authority will provide water to the Property. Mandatory provisions and procedures of the Zoning Regulations and this Agreement will ensure availability of roads and utilities to serve the residents on a timely basis.

5. **Dedication of Land and Provisions to Protect Environmentally Sensitive Areas.** The Zoning Regulations, described above and incorporated herein, contain numerous provisions for the protection of environmentally sensitive areas. All relevant state and federal laws will be fully complied with together with the provisions set forth in this Agreement.,.

6. **Local Development Permits.** Specific permits must be obtained prior to

commencing development, consistent with the standards set forth in the Zoning Regulations. Building Permits must be obtained under County law for any vertical or horizontal construction, and appropriate permits must be obtained from the State of South Carolina (OCRM) and the Army Corps of Engineers, when applicable, prior to any impact upon critical area or freshwater wetlands. Access to Highway 278 will be in accordance with permitting procedures of the South Carolina Department of Transportation. It is specifically understood that the failure of this Agreement to address a particular permit, condition, term or restriction does not relieve the Owner/Developer, and its successors and assigns, from the necessity of complying with the law governing the permitting requirements, conditions, terms or restrictions.

7. **Comprehensive Plan and Development Agreement.** The development permitted and proposed under the Zoning Regulations is consistent with the Comprehensive Plan and with current land use regulations of Beaufort, South Carolina, as amended.

8. **Terms for Public Health, Safety and Welfare.** The County Council finds that all issues relating to public health, safety and welfare have been adequately considered and appropriately dealt with under the terms of this Agreement, the Zoning Regulations and existing law.

9. **Historical Structures.** Any historical or archaeological issues will be addressed through the permitting process at the time of Development under the Zoning Regulations and no exception from any existing standard is hereby granted.

IN WITNESS WHEREOF, the parties hereby set their hands and seals, effective the date first above written.

WITNESSES

Owner/Developer:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Robert L. Graves

\_\_\_\_\_

\_\_\_\_\_  
John Tamplet Graves, Jr.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Paul B. Graves, Sr.

\_\_\_\_\_

STATE OF SOUTH CAROLINA

)  
)  
)

ACKNOWLEDGMENT

COUNTY OF BEAUFORT

I HEREBY CERTIFY, that on this \_\_\_\_ day of \_\_\_\_\_, 2013. before me, the undersigned Notary Public of the State and County aforesaid, personally appeared \_\_\_\_\_, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within document and acknowledged the due execution of the foregoing document.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above mentioned.

\_\_\_\_\_  
Notary Public for South Carolina  
My Commission Expires: \_\_\_\_\_

SIGNATURES AND ACKNOWLEDGMENTS CONTINUE ON FOLLOWING PAGE

WITNESSES:

\_\_\_\_\_

\_\_\_\_\_

COUNTY OF BEAUFORT

\_\_\_\_\_  
Gary Kubic, County Administrator

Attest: \_\_\_\_\_

Sue Rainey  
County Clerk - County of Beaufort

This Development Agreement was prepared by James P. Scheider, Jr., Esquire,  
Vaux & Marscher, P. A., Post Office Box 769, Bluffton, S.C. 29910 (843) 757-2888  
[jim.scheider@vaux-marscher.com](mailto:jim.scheider@vaux-marscher.com)

DRAFT of 4-6-2013

STATE OF SOUTH CAROLINA

)

ACKNOWLEDGMENT

COUNTY OF BEAUFORT

)

I HEREBY CERTIFY, that on this \_\_\_ day of \_\_\_\_\_, 2013 before me, the undersigned Notary Public of the state and County aforesaid, personally appeared known to me (or satisfactorily proven) to be the persons whose name is subscribed to the within document, who acknowledged the due execution of the foregoing Development Agreement.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above mentioned.

\_\_\_\_\_  
Notary Public for South Carolina  
My Commission Expires:\_\_\_\_\_

**Development Agreement Summary:**

The following items represent efforts by the property Owner/Owner/Developers to ensure certainty and maintain flexibility with respect to the long-term development of this property.

1. Land Use

- a. Commercial
- b. Office
- c. Residential
- d. Mixed Use
- e. Civic

All Land Uses are per standards of Beaufort County Zoning and Development Standards Ordinance

2. Density

Robert L. Graves Property (85 acres of which 65 RC and 20 Suburban)

- a. Commercial Regional District - Commercial Development capped 700,000 square feet (of ground floor area)
- b. Commercial Regional District - Residential Development to be capped at 240 units (in Commercial Regional Zoning District)

- c. Commercial Regional District – Up to 20% of Total Residential or Commercial Development can be converted using a ratio of 1 unit per 2400 square feet.
  - d. Suburban District – Residential/Commercial Development per standards of Beaufort County Zoning and Development Standards Ordinance
3. Development Standards
- a. No individual commercial buildings to be larger than 75,000 sq./ft.(of ground floor area)
  - b. All new development shall meet Beaufort County Development Standards for Landscape, Parking, Stormwater, Open Space, Height
4. Permitted and Prohibited Uses
5. Public Facilities – Potential Linear Park
6. Future Inter-parcel Connectivity
- a. US Highway 278 Graves Road/Berkeley Hall Access
7. River Protection Tract

John Tamplet Graves, Jr. Property (14.276 acres-Suburban)

Paul B. Graves, Sr. (15.169 acres-Suburban)

**Exhibit A**

**Property Description**

To be filled in upon completion of final survey

**Exhibit B**

**Conceptual Development Plan**

**SEE CONCEPT PLAN ATTACHED TO FOLLOW-UP E-MAIL  
SENT CONCURRENTLY WITH THIS DRAFT AGREEMENT**

**Exhibit C**  
**Zoning Regulations**  
**(Current Zoning and Development Standards Ordinance (ZDSO) of Beaufort County of Beaufort**  
**Attached)**

**Exhibit D**

**Development Schedule in five year increments**

**Exhibit E**

**Estimated Population at Build-out**

# **EXHIBIT**

**12**

**TO BE  
SUPPLIED**

# **EXHIBIT**

**13**

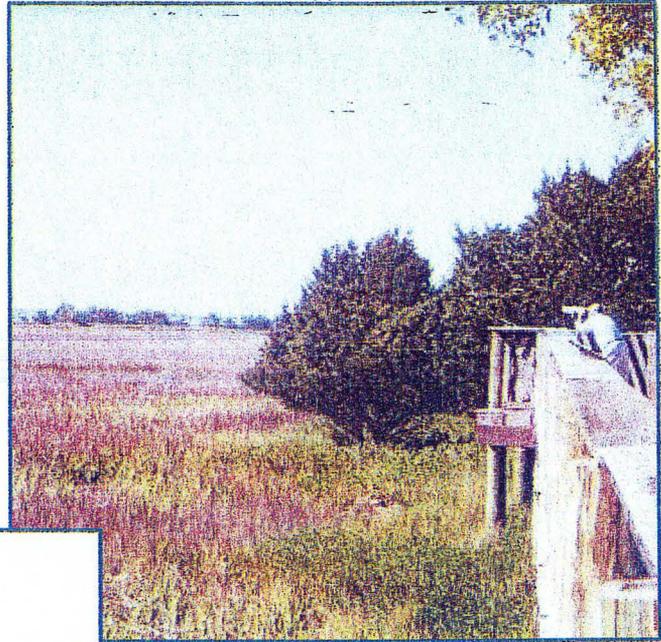
**TO BE  
SUPPLIED**

# **EXHIBIT**

**14**

# 4

## *Beaufort County Comprehensive Plan* Future Land Use



County respectively. Map 4-4 shows existing land use for Hilton Head Island, which is based on the *Land Use Patterns and Trends Background Report* (2005) of the *Southern Beaufort County Regional Plan*.

**Table 4-2: Existing Land Use Categories**

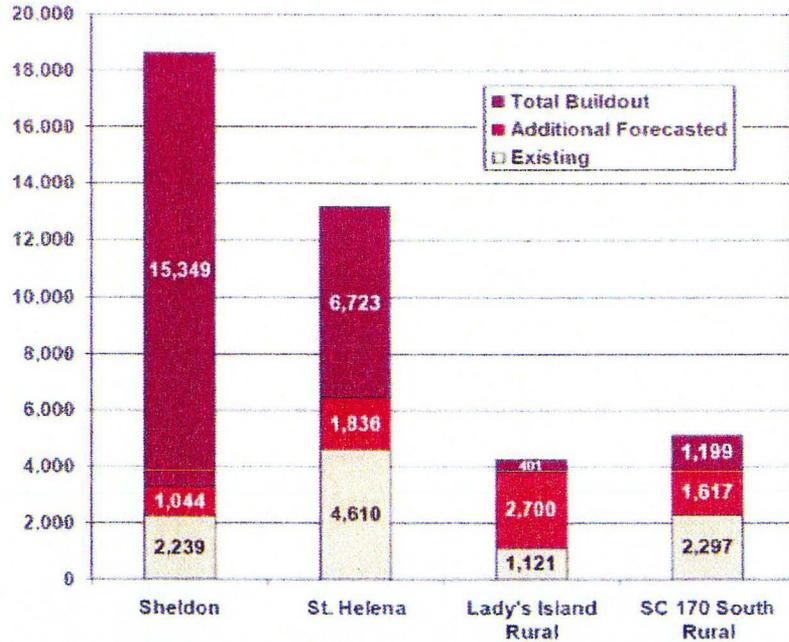
Land Use Category	Description	Acreage	% of Total
Preserved Land	All municipal and county parks and both publicly and privately preserved lands.	37,919	16.1
Rural/Undeveloped	All the currently undeveloped and rural areas regardless if they are committed for future development.	130,128	55.3
Residential/Mixed-use	All single-family and multi-family developments and supporting small-scale commercial and service uses	49,455	21.0
Community Commercial	Includes commercial uses that typically serve nearby residential areas, such as a shopping district anchored by a grocery store.	1,494	0.6
Regional Commercial	Includes those uses due to their size and scale that attract shoppers and visitors from a larger area of the county and outside the county (include "big box" retail uses, chain restaurants, and supporting retail).	2,373	1.0
Light Industrial	Includes business parks, product assembly, distribution centers, major utility facilities, and light and heavy industrial uses.	1,405	0.6
Military	Land owned by the military	12,722	5.4
<b>Total</b>		<b>235,496</b>	<b>100.0</b>

#### RURAL DEVELOPMENT TRENDS

Currently over 50% of Beaufort County's land area is classified as rural/undeveloped. One of the goals of the 1997 Comprehensive Plan was to maintain a distinction between rural and developing areas of the County by discouraging intense development and infrastructure investment in rural areas. The analysis below looks at existing development trends in the rural areas of the County and the potential impact of existing land use policies on the future development of rural areas.

Rural land uses are predominately located in four general areas, including the Sheldon area north of the Whale Branch River, St. Helena Island, northern Lady's Island, and along SC 170 south of the Broad River. The number of dwelling units that could occur under the existing zoning designations is projected and compared to the number of dwelling units that exist as well as forecasted to occur within the next twenty years.

Figure 4-3: Growth Potential of Rural Areas



While Sheldon has the largest geographic area of rural land uses, St. Helena has the most dwelling units in a rural area, reflecting the relatively higher rural density of existing development. It is also striking that while both Sheldon and St. Helena have extensive remaining capacity for dwelling units (total build out on the chart), the twenty year forecasted growth would consume only a small amount of that capacity.



## Rural Land Use Policies

Since the adoption of the 1997 Comprehensive Plan, the preservation of rural areas has been a planning goal. Recent developments in Beaufort County's long range planning process have brought this issue to the forefront. First, growth pressures have continued to intensify in rural areas. Second, the recently completed Northern Beaufort County Regional Plan resulted in a multi-jurisdictional consensus on growth boundaries, outside of which would remain rural. These developments have elevated rural preservation to a regional level, along with the question of balancing the desire to preserve rural areas with the interests of rural residents and property owners.

In 2007, Beaufort County initiated a public process to evaluate the effectiveness of its existing rural policies. The planning process was conducted in a collaborative manner engaging rural residents, county elected officials, large landowners, and other stakeholders.

### BALANCING DIVERSE GOALS AND INTERESTS

During the rural policy analysis, it became clear that the term "rural" applies to a complex web of varying concerns and interests. On one hand, the preservation of rural areas accomplishes many planning goals.

- It discourages sprawl by focusing new growth in and around existing developed areas.
- It plays an important role in natural resource protection.
- It promotes fiscal sustainability by making more efficient use of public facilities such as roads.

On the other hand, owners of large farms struggle with maintaining economic viability for their property after their families have farmed it for many generations. Likewise, many small landowners whose families have also owned land for many generations feel that current regulations create injustices by preventing them from subdividing their land into saleable parcels, and feel that they pay taxes with very little corresponding benefits of land ownership. At the same time, low-income rural land owners do not want to see development pressures

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unleashed that could result in economic displacement, nor do they want to lose their rural culture.

Finally, Beaufort County's rural areas have a well-established population living in rural settlements with a rich and historic community fabric. St. Helena Island in particular, with its Gullah heritage, is particularly concerned about the protection of these cultural resources. How to balance cultural resource protection while creating meaningful economic opportunities for low-income people is a major planning challenge in the rural areas.

#### **DEFINING RURAL**

While it is difficult to define the specific attributes of rural areas that are desired to be preserved, protected, and promoted, the following characteristics are common attributes cited for rural Beaufort County:

- Places where people live, including clusters of unincorporated and unofficial communities with local place names
- Places with cultural roots and heritage where multi-generational families live, many of whom live on "heirs" property
- Small scale services and businesses that serve rural areas
- Small institutions such as churches, schools, community centers, and post offices
- Agricultural and timbering operations
- Forested and wooded areas
- Low density residential
- Pristine low country natural environment
- Fishing villages

#### **RURAL POLICY GOALS**

The rural policy analysis reaffirmed the importance of rural preservation as a core Beaufort County planning value. The following goals relate specifically to rural areas, building on the common planning goals applicable to all areas of the county. These goals provide the basis for recommendations in this chapter and in Chapter 6: Cultural Resources.

- Beaufort County will recognize rural land uses as a critical element of a balanced regional system of urban, suburban, and rural land uses.
- Beaufort County will promote the permanent preservation of open spaces in the rural areas.
- Beaufort County will promote the long-term viability of agricultural uses.
- Beaufort County will preserve and protect sensitive natural features in rural areas.

their rural character with low-density residential development, supporting small-scale commercial development, and agricultural land uses. The maximum gross residential density in rural areas is one dwelling unit per three acres. Rural land uses within the growth areas should meet the development guidelines established for rural land uses outside of the growth areas.

#### LAND USES OUTSIDE OF THE GROWTH AREAS

The policies outlined in this section are a result of a comprehensive review and evaluation of existing rural planning policies. Land uses for the areas of Beaufort County located outside of the growth areas are classified into the following categories:

**Rural:** Rural areas are situated outside of the growth areas. Except where noted, these areas should retain their rural character with low-density residential development, supporting small scale commercial development, and agricultural land uses. Future development in rural areas is anticipated to be similar to the type and mix of land uses currently found in the Sheldon area, St. Helena Island, and along the SC 170 corridor between McGarvey's Corner and the Broad River Bridge. The maximum gross residential density in rural areas is one dwelling unit per three acres. Rural areas should not be targeted with the development of major public infrastructure or the extension of public sewer service except where a documented health, safety, and/or welfare condition warrants such an expansion.

**Rural Development Guidelines:** Future development in the rural areas should occur pursuant to the following guidelines:

- Utilization of the purchase of development or transfer of development rights program (as described in the Recommendations section) is highly encouraged in this area to preserve open space and the rural character;
- Higher densities may only be considered when appropriate wastewater treatment is available and the higher density is offset by preserved land; and
- The clustering of development may be considered as a rural and natural resources preservation technique when the proposed development maintains the overall proposed gross density and is clustered on lots compatible with surrounding areas.
- Small-scale commercial (primarily retail and service uses) that serve the surrounding rural neighborhoods are encouraged where there are existing concentrations of commercial uses such as Lobeco and Garden's Corner.



Albany Grocery Store in the Dale  
Community Preservation Area.

**Rural Community Preservation:** These areas correspond with the areas designated as "community preservation areas" in the 1997 Comprehensive Plan that are located outside of the growth areas. The

# **EXHIBIT**

**15**

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## Barry Johnson

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**From:** Barry Johnson  
**Sent:** Monday, October 19, 2015 9:13 PM  
**To:** Gay Reed  
**Subject:** Fwd: Beaufort County Future Land Use Map/Official Zoning Map Conflict  
**Attachments:** Zoning\_FLUM Comparison.jpg; ATT00001.htm; 030413-item8.graves rezoning.pdf; ATT00002.htm

Sent from my iPhone

Begin forwarded message:

**From:** "Milt Rhodes" <[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)>  
**To:** "Barry Johnson" <[barry@jd-pa.com](mailto:barry@jd-pa.com)>, "[schnidmanf@earthlink.net](mailto:schnidmanf@earthlink.net)" <[schnidmanf@earthlink.net](mailto:schnidmanf@earthlink.net)>  
**Subject:** **FW: Beaufort County Future Land Use Map/Official Zoning Map Conflict**

From: Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
Sent: Wednesday, April 03, 2013 12:14 PM  
To: 'Stu Rodman'  
Cc: 'Milt Rhodes'  
Subject: Beaufort County Future Land Use Map/Official Zoning Map Conflict

Stu,

I think with this graphic, you will be able to clearly see the conflict between the Future Land Use Map and the Official Zoning Map.

Please note the following.

1. The Zoning Map which predates the Future Land use Map identifies Commercial Regional Zoning on the property immediately east of the Pepper Hall site.
2. The Zoning Map also shows the property, rezoned to have the Transitional Overlay designation applied to in 2001, for the front 43 acres of the property, yet, the Future Land Use Map appears to disregard this tract by arbitrarily drawing a straight line across that acreage, and referring to it as Community Commercial on the Future Land Use Map.
3. Staff has made the claim that the Community Commercial designation is not consistent with the a Regional Commercial zoning designation, yet, it has applied that designation to the property to the immediate east. This either should be corrected by downzoning the regional commercial designation on the eastern property, already in the process of being developed mind you, or change the Future Land Use map designation to something that is consistent with the

Regional Commercial designation of the property.

4. Page 10 of the Planning Commission Staff Report (attached) shows a different Future Land Use Map (note that it differs from the one approved as part of the Comprehensive Plan (shown in the comparison slide - also attached) that shows a sliver of property adjacent to the western border of the Community Commercial designated area that is designated as Rural.

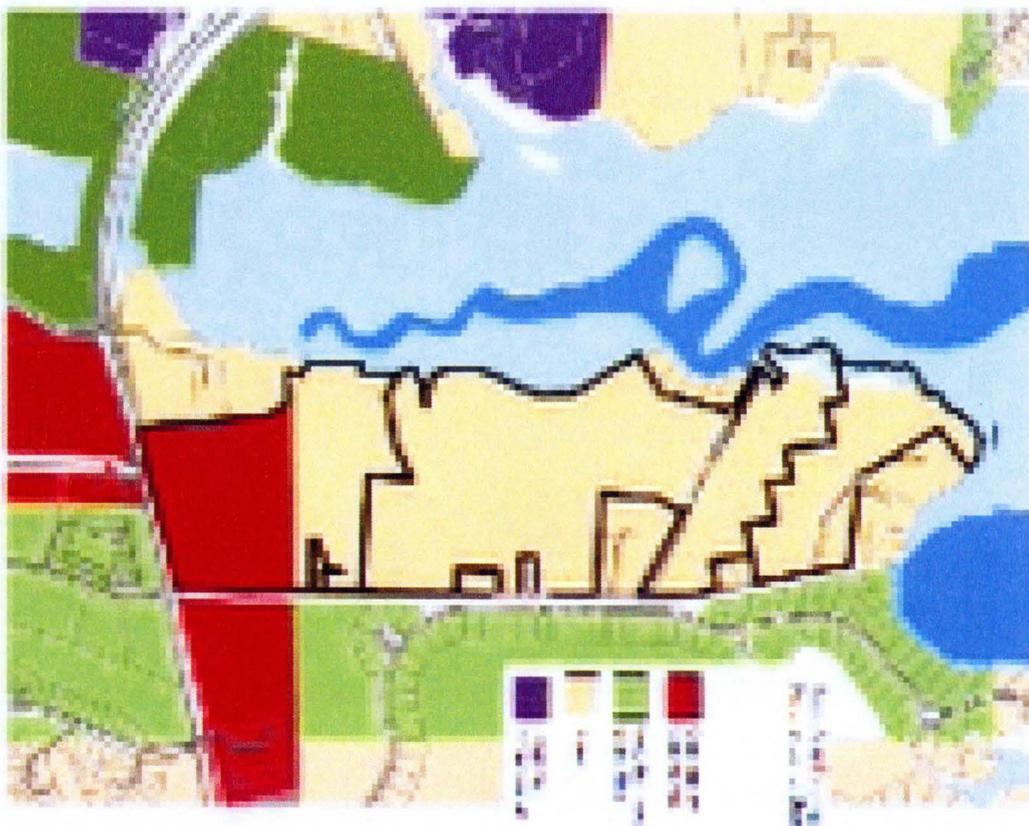
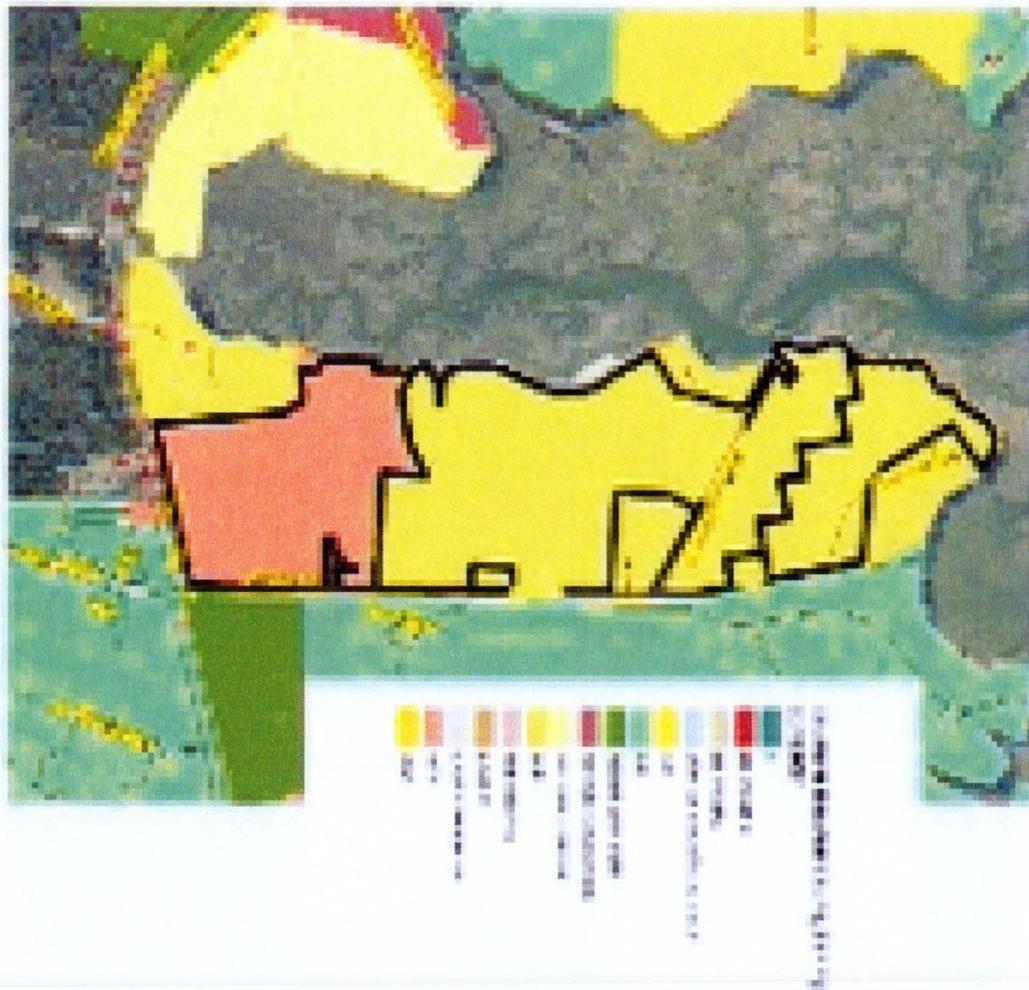
These I believe errors in the comprehensive plan and the Future Land Use Map that give partial cause for the amendment request, and deserve council consideration. Planning Commission picked up on these errors as well.

Furthermore, a review of the Comprehensive Plan's definition of Rural indicates that the Future Land Use designation for the portion of the property subject to the application should be amended and upgraded to Neighborhood Mixed Use.

I would be happy to sit with you and go over this in person.

Thanks again Stu.

Milt



# **EXHIBIT**

**16**

## Gay Reed

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**From:** Barry Johnson  
**Sent:** Monday, October 19, 2015 9:12 PM  
**To:** Gay Reed  
**Subject:** Fwd: Follow up

Sent from my iPhone

Begin forwarded message:

**From:** Milt Rhodes <[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)>  
**Date:** October 19, 2015, 9:09:55 PM EDT  
**To:** 'Barry Johnson' <[barry@jd-pa.com](mailto:barry@jd-pa.com)>, <[schnidmanf@earthlink.net](mailto:schnidmanf@earthlink.net)>  
**Subject:** FW: Follow up

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**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Tuesday, October 29, 2013 11:20 AM  
**To:** 'Stewart, Jerry'  
**Subject:** Follow up

Following up on our conversation and for "food for thought,"

If the chair objects to the review of the zoning/development agreement language, the Comprehensive Plan Amendment recommended by the Planning Commission is fair game for the County Council to take up on their own. This is purely procedural. See Code Language below. Moving on this action also will bring Mr. Vaux back into the picture because this would be a county council item, not an applicant driven item. The planning commission has already made the recommendation, and all Council needs to do is review it and take action on it.

A few reasons to take action:

1. Fix conflict in proportionality between disparate zoning districts – ie. Faulkner tract zoned Commercial Regional, but identified on Future Land Use Map as Community Commercial
2. Fix conflict in proportionality between adjacent parcels – ie. property adjacent to Faulkner Tract currently zoned rural with transitional overlay would not be in a conflict with zoning district if Future Land Use Map were updated per Planning Commission's recommendation
3. Address changes brought forward by increased roadway capacity
4. Coincide with adjacent approved development plans for general commercial in town of Bluffton which includes higher intensity highway oriented commercial uses such as large format grocery stores, quick service restaurants and other retail uses out of scale with Community Commercial.

Lastly, if the actions last night are showing a divide between north and south, it would seem to me that a council action on a policy map such as the Future Land Use Map should be something that northern Beaufort County Council members would give discretion to the south over. If not, then that speaks to a bigger concern that people of Southern Beaufort County should be dutifully concerned over.

In short, the Future Land Use Map (which is a part of the Comprehensive Plan) is a policy map of County Council's growth intent, and as such it can (and should) be addressed separate from applicant driven requests.

Milt

Subdivision II. Amendments to the Comprehensive Plan, Zoning Map or Text

Sec. 106-491. Purpose

[http://library.municode.com/HTML/10400/level5/PTIIBULADEOR\\_CH106ZODEST\\_ARTIIIADPR\\_DIV3DIR\\_E\\_SDIAMCOPLZOMATE.html#PTIIBULADEOR\\_CH106ZODEST\\_ARTIIIADPR\\_DIV3DIRE\\_SDIAMCOPLZOMATE\\_S106-491PU](http://library.municode.com/HTML/10400/level5/PTIIBULADEOR_CH106ZODEST_ARTIIIADPR_DIV3DIR_E_SDIAMCOPLZOMATE.html#PTIIBULADEOR_CH106ZODEST_ARTIIIADPR_DIV3DIRE_SDIAMCOPLZOMATE_S106-491PU)

(a) Generally. This subdivision provides a means for changing the comprehensive plan, zoning map boundaries, or this chapter's text. Such changes are not intended to relieve particular hardships or confer special privileges or rights on any person, but only to make necessary adjustments in light of changed conditions. In determining whether to grant a requested amendment, the county shall consider the factors set forth in this subdivision and the consistency of the proposed amendment with the comprehensive plan.

(b) Initiation. Initiation shall be as follows:

(1) Zoning map amendment. The application for a zoning map amendment may be proposed by a landowner, the county council, the planning commission, or the planning department.

(2) Ordinance text amendment. An application for an ordinance text amendment may be proposed by a landowner, a county citizen, the county council, the planning commission, or the planning department.

(3) Comprehensive plan amendment. An application for a comprehensive plan amendment may be proposed by a landowner, a county citizen, **the county council**, the planning commission, or the planning department.

# **EXHIBIT**

**17**

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**From:** Criscitiello, Anthony [<mailto:tonyc@bcgov.net>]  
**Sent:** Wednesday, March 27, 2013 9:55 AM  
**To:** Milt Rhodes; Merchant, Robert  
**Cc:** Flewelling, Brian; Rainey, Sue  
**Subject:** RE: Follow up re: Pepper Hall

Milt,

It is the Planning Staffs' role to inform the Natural Resources Committee of the decision and recommendation from the Planning Commission. By the time of the natural resource committee meeting, the committee has had the materials and back-up and minutes of the planning commission meeting and is fully informed of the issue. In short, the staff is the staff to the Planning Commission too, and the staff cannot work against the intent of the Planning Commission.

Tony

---

**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Wednesday, March 27, 2013 9:18 AM  
**To:** Criscitiello, Anthony; Merchant, Robert  
**Cc:** Flewelling, Brian; Rainey, Sue  
**Subject:** RE: Follow up re: Pepper Hall

Thanks for the quick follow up Tony. I did not know Mr. Von Harten, but I have heard of his presence. I was not aware of that custom with respect to applications but can appreciate the intent.

If the applicants are not permitted to present to the Committee, I presume that there will be no additional presentation made by you or your staff on the applications as well, and the only information to be presented to the Council Committee will be the specific requests made by the application and the recommendation provided by the Planning Commission. Please advise.

Milt

---

**From:** Criscitiello, Anthony [<mailto:tonyc@bcgov.net>]  
**Sent:** Wednesday, March 27, 2013 8:57 AM  
**To:** Milt Rhodes; Merchant, Robert  
**Cc:** Flewelling, Brian; Rainey, Sue  
**Subject:** RE: Follow up re: Pepper Hall

Milt,

The Natural Resources packet was finalized with Mr. Flewelling last evening and is in the hands of Ms. Rainey. She will be distributing it to county council members on the committee. Typically, no presentation from applicants to the committee happens ; as that has been the custom and tradition of the committee going back to the time of Skeet Von Harten. If Mr. Flewelling wishes to do otherwise we need to be told ASAP.

Tony

---

**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Wednesday, March 27, 2013 8:37 AM  
**To:** Merchant, Robert  
**Cc:** Criscitiello, Anthony; 'Milt Rhodes'  
**Subject:** Follow up re: Pepper Hall

Hi Rob.

Hope all is well with you. I called you last week to discuss the forthcoming Natural Resources Committee meeting regarding the Pepper Hall application but I haven't heard back from you yet. I would like to talk with you briefly about the presentations and go a few staff report items.

Please call me at your earliest opportunity so that we can coordinate on any items needed for the Committee meeting on Monday.

Thanks Rob.

Milt  
919 522 0172  
[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)

# **EXHIBIT**

**18**

# CURRENT FLU

JASPER COUNTY

OKATIE RIVER

FOCUS PARCELS

NMU

BERKELEY HALL

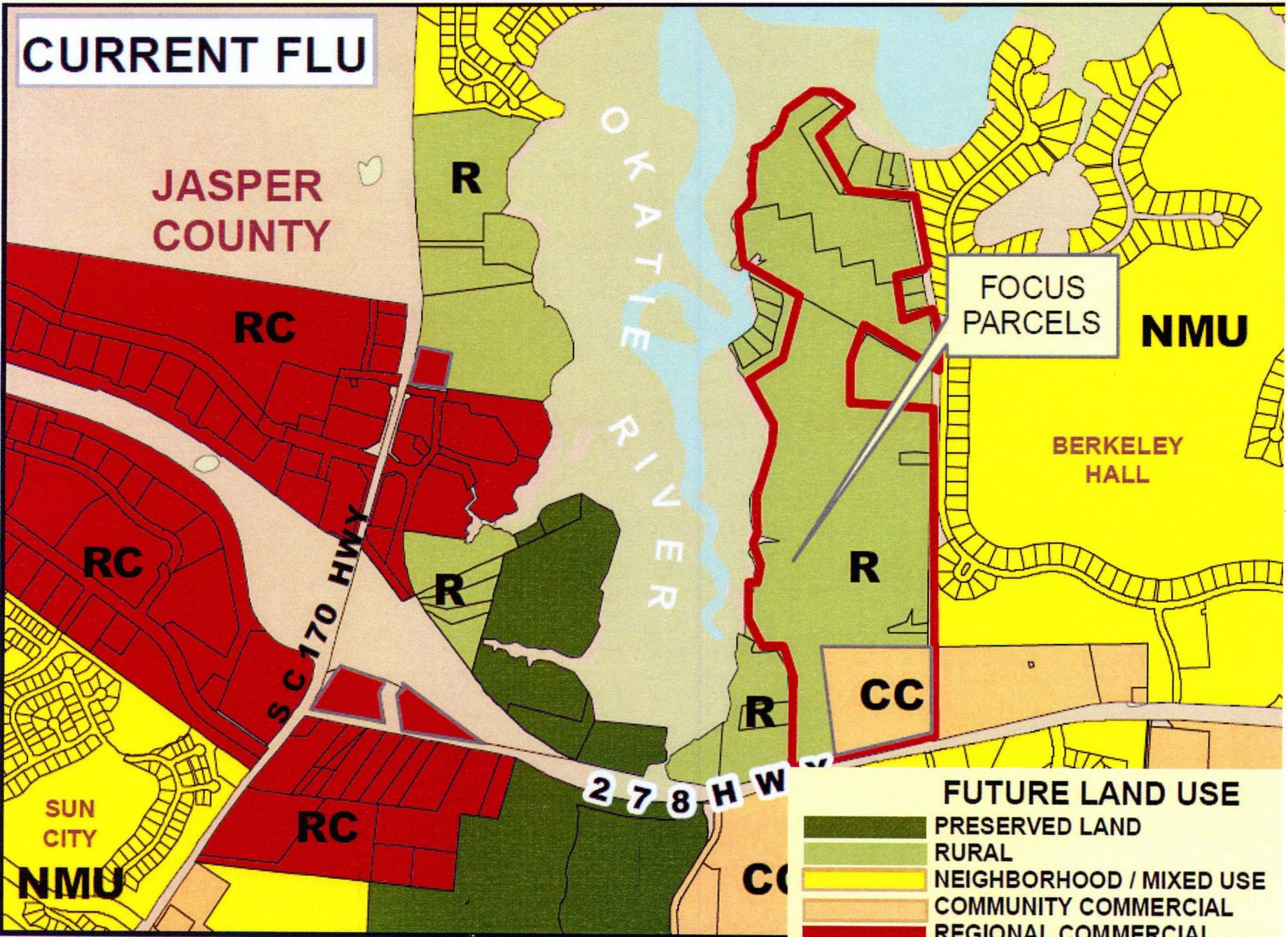
SC 170 HWY

278 HWY

SUN CITY  
NMU

**FUTURE LAND USE**

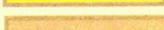
- PRESERVED LAND
- RURAL
- NEIGHBORHOOD / MIXED USE
- COMMUNITY COMMERCIAL
- REGIONAL COMMERCIAL

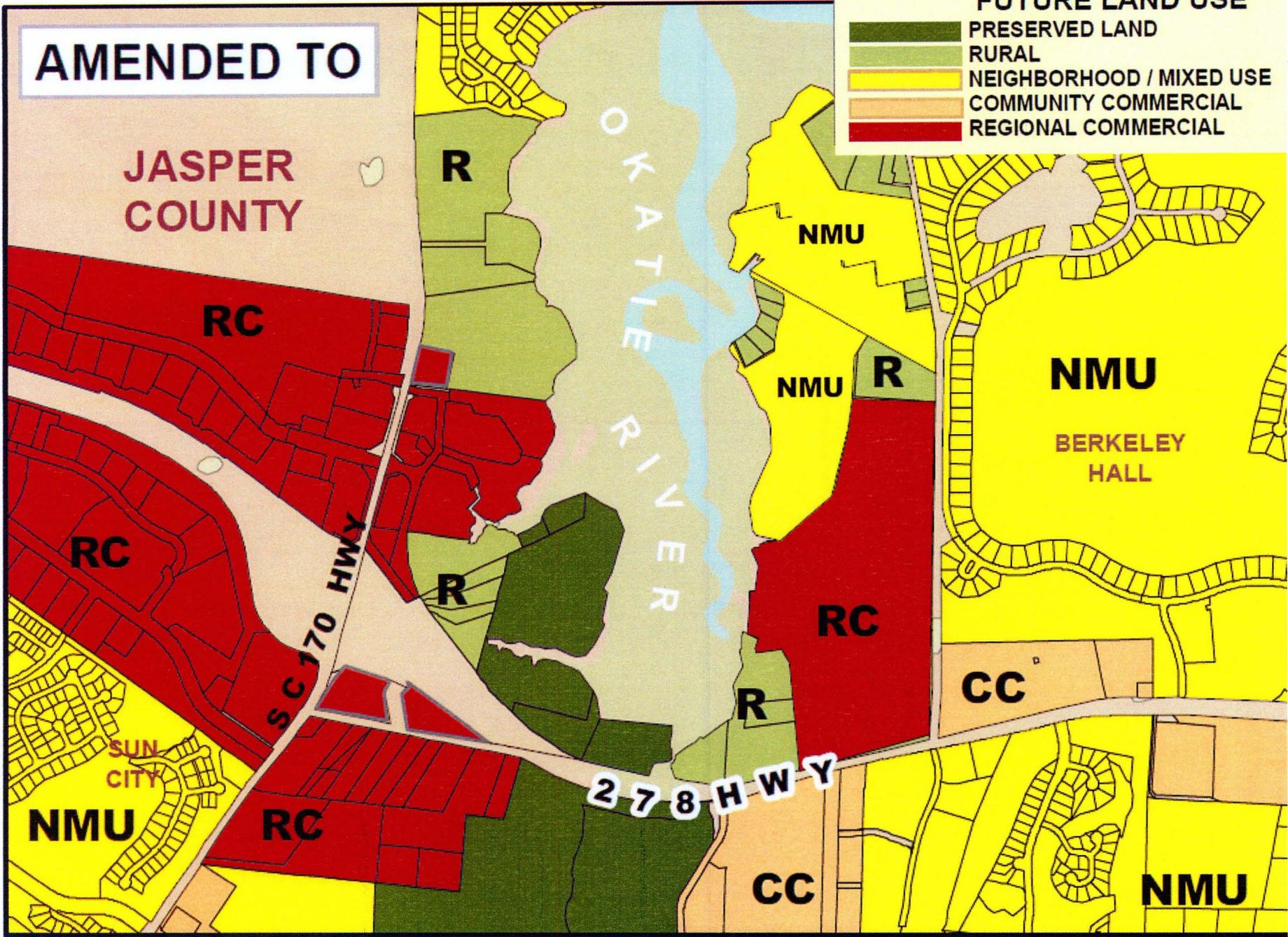


**AMENDED TO**

**JASPER COUNTY**

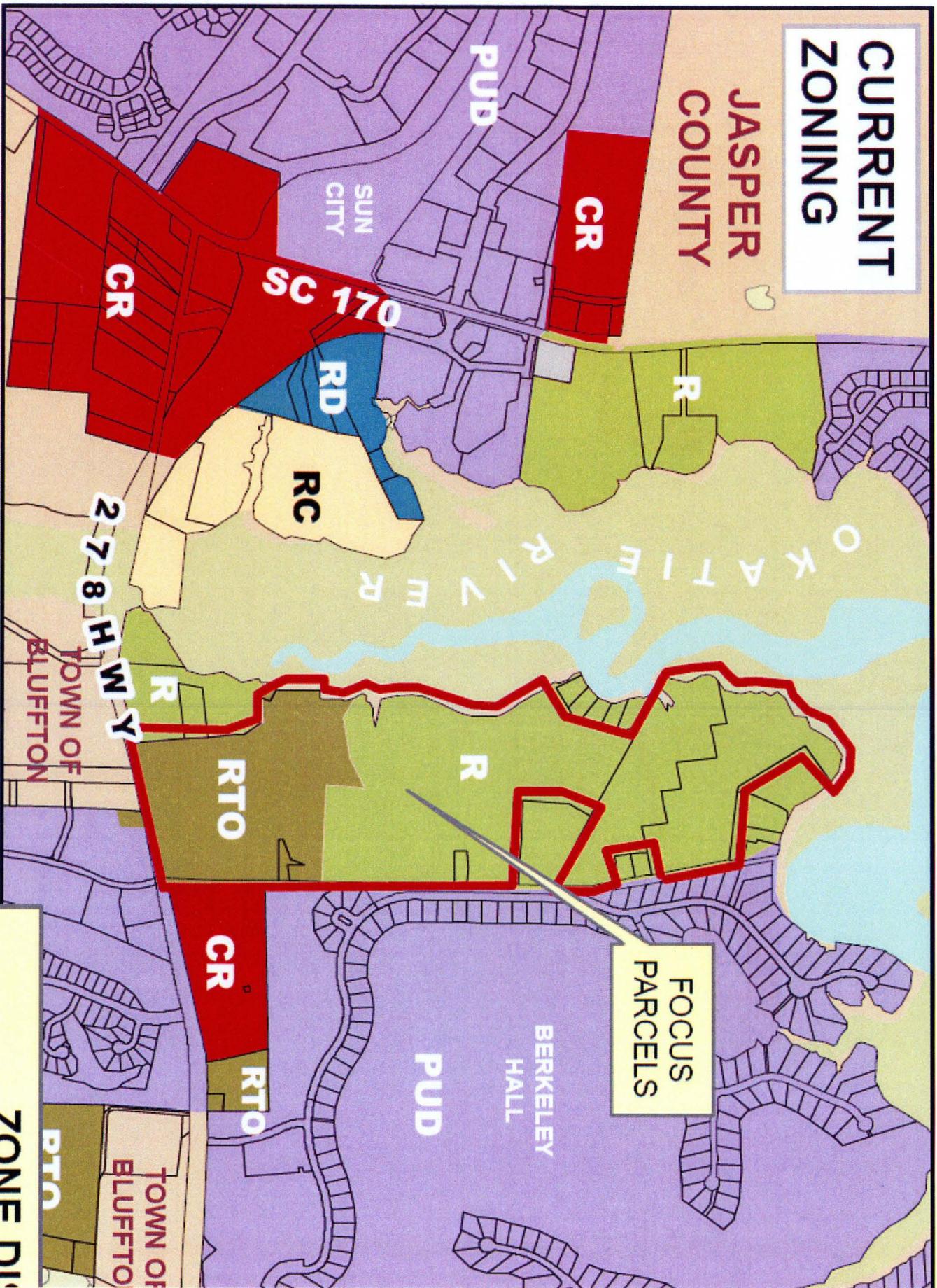
**FUTURE LAND USE**

-  PRESERVED LAND
-  RURAL
-  NEIGHBORHOOD / MIXED USE
-  COMMUNITY COMMERCIAL
-  REGIONAL COMMERCIAL



# CURRENT ZONING

JASPER COUNTY



FOCUS PARCELS

ZONE DI

**AMENDED TO**

**JASPER COUNTY**

O K A T T I E  
R I V E R

**ZONE DISTRICTS**

- RESOURCE CONSERVATION
- RURAL
- RURAL W TRANSITIONAL OVERLAY
- SUBURBAN
- PLANNED UNIT DEVELOPMENT
- COMMERCIAL REGIONAL
- RESEARCH & DEVELOPMENT
- LIGHT INDUSTRIAL
- INCORPORATED

PUD

SUN CITY

SC 170

RD

RC

CR

PUD

BERKELEY HALL

CR

RTO

278 HWY

TOWN OF BLUFFTON

TOWN OF BLUFFTON

RTO

CR

R

S

S

R

# Staff Recommendation

## Denial

- The proposed rezoning would eventually consume the additional capacity that is being added by the widening of US 278 from 4 to 6 lanes.
- Allowing intense commercial and moderate-density residential development would work counter to the County's policies in the Okatie Headwaters.
- Proposed rezoning is not supported by the Comprehensive Plan which was adopted in early 2011 by County Council.

# Comparison of Zoning Districts

Existing		Proposed	
<b>Retail/Office</b>			
Retail <5,000 s.f.		Retail 850,000 s.f.	
Office <5,000 s.f.		Office 1,400,000 s.f.	
<b>Residential</b>			
57 Dwelling units (w/ clustering)		428 d.u. (w/TND)	

# Transportation Issues

- Existing Conditions:
  - 4-lane Divided
  - 32,900 VPD
  - Access to Graves Rd
- Future Conditions:
  - 6-lane Divided
  - Graves Rd limited to Right-In/Right-Out Only
  - Future Full Access at “future” Hampton Parkway (Future Traffic Signal)
- Projected 2025 US 278 Volume without rezoning – 75,000 VPD
- Projected US 278 Capacity – 58,000 VPD at LOS D, and 68,000 VPD at LOS E

# Transportation Issues

- Proposed Trip Generation: 29,960 VPD
- Potential Internal Capture: 15% (4,500 VPD)
- Distribution Limited to US 278 and “future” Hampton Parkway
- Limited Availability for Connectivity
- Projected increase of 11,000 VPD onto US 278 and 2,500 onto Hampton Parkway
- With rezoning, US 278 projected to be significantly over capacity (LOS F)



SC 170

Okatie  
River

Graves  
Property

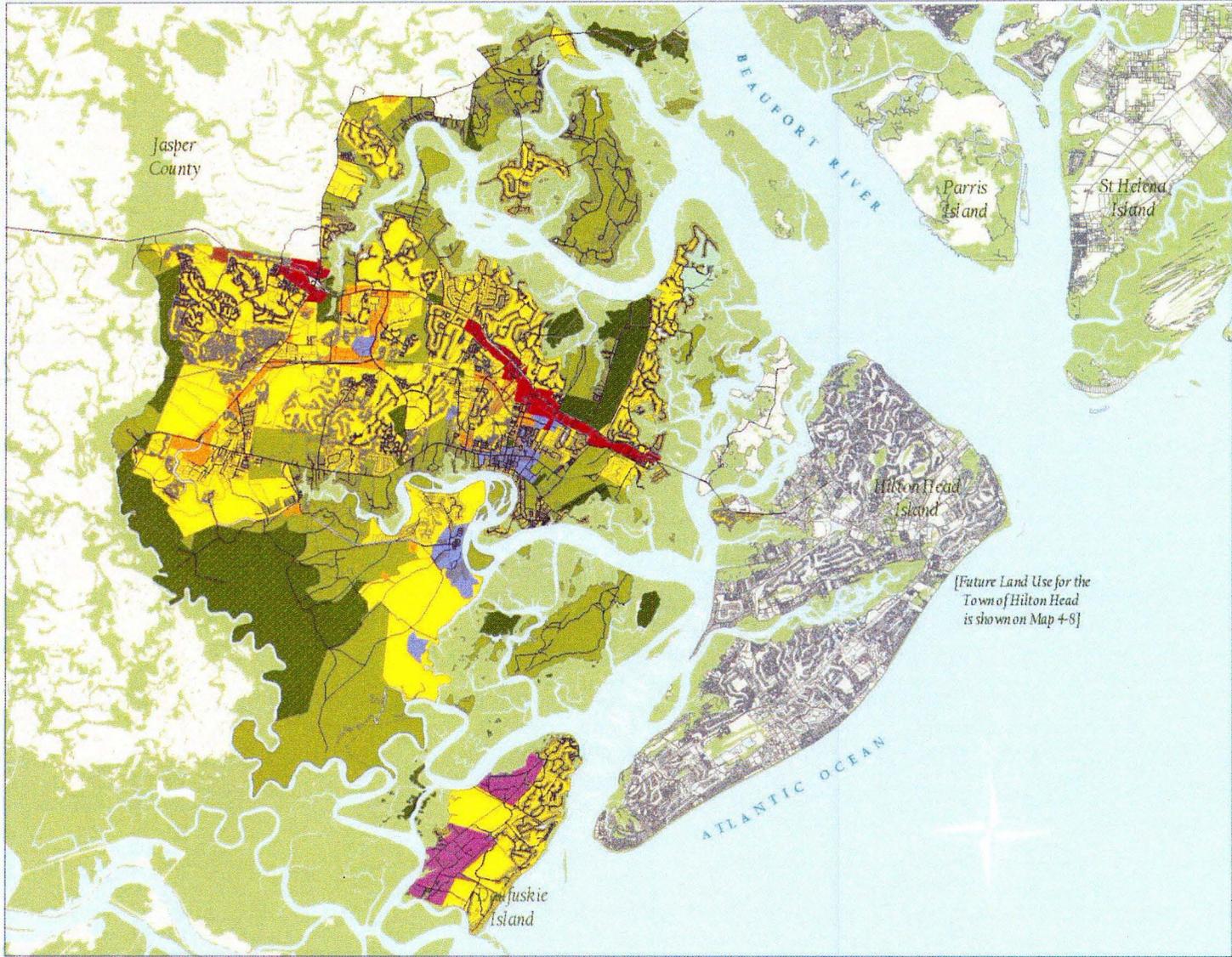
US 278

Chapter  
4  
Land Use

Map 4-7

Future  
Land Use

Bluffton Area &  
Daufuskie Island



- Preserved Land
- Rural
- Air Installation Compatible Use Zone [AICUZ]
- Rural Community Preservation
- Neighborhood / Mixed-Use
- Urban / Mixed-Use
- Community Commercial
- Regional Commercial
- Core Commercial
- Research & Development
- Light Industrial
- Military

2007  
Beaufort County  
Comprehensive  
Plan

# **EXHIBIT**

**19**

## Gay Reed

---

**From:** Barry Johnson  
**Sent:** Monday, October 19, 2015 9:25 PM  
**To:** Gay Reed  
**Subject:** Fwd: Worksheet regarding non-residential development in a rural district

Sent from my iPhone

Begin forwarded message:

**From:** Milt Rhodes <[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)>  
**Date:** October 19, 2015, 9:24:23 PM EDT  
**To:** 'Barry Johnson' <[barry@jd-pa.com](mailto:barry@jd-pa.com)>, <[schnidmanf@earthlink.net](mailto:schnidmanf@earthlink.net)>  
**Subject:** FW: Worksheet regarding non-residential development in a rural district

---

**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Friday, April 06, 2012 11:59 AM  
**To:** 'Merchant, Robert'  
**Cc:** 'Milt Rhodes'  
**Subject:** RE: Worksheet regarding non-residential development in a rural district

Thanks Rob for confirming that the numbers presented at Monday's Natural Resources Committee meeting were created using two different methodologies. As we discussed, the allowable square footage numbers you presented for the Commercial Regional estimate were derived by taking the entire 64 acres proposed for Commercial Regional and multiplying the floor area ratio identified in Table 106-1526.

Per our conversation this morning, it is my understanding that the figures you presented for retail and office that "could" be permitted in a Rural Zoning District were not based on the FAR identified in Table 106-1526 of the Beaufort County ZDSO and were derived from an interpretation and generalized estimate given your opinion of market conditions and specific site restrictions identified in the Use Table in the current Beaufort County Zoning and Development Standards Ordinance (Sec. 106-1098). The methodology used to provide this estimate is different from the methodology used to show Commercial Regional potentialities.

Per your presentation at the Committee Meeting on Monday April 2, 2012 ([http://beaufort.granicus.com/ViewPublisher.php?view\\_id=2](http://beaufort.granicus.com/ViewPublisher.php?view_id=2)), you stated that the figures were prepared in order to "provide the magnitude" of the change and to offer a "framework" for comparison.

However, since two different methodologies were used to generate the figures in your presentation, the figures you presented are not alike, represent different situations, are not comparable, and may be misleading.

I am requesting that you revise your slide to reflect a comparable representation of the "possibility of development."

Also, since I have not received the presentation yet, after requesting it the other day, I am again requesting the presentation used at Monday's meeting as soon as possible for my records, as well as the revised table once completed.

Thanks Rob.

### **CONTACT INFORMATION**

Milt Rhodes, AICP CNU

37 May River Court  
Bluffton, SC 29910

919 522 0172 - phone  
[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)  
[www.twitter.com/ncmiltrhodes](http://www.twitter.com/ncmiltrhodes)

---

**From:** Merchant, Robert [<mailto:robm@bcgov.net>]  
**Sent:** Thursday, April 05, 2012 9:36 AM  
**To:** Milt Rhodes  
**Subject:** RE: Worksheet regarding non-residential development in a rural district

I don't understand, are you coming up with more than 5,000 square feet of commercial that would be permitted in rural?

---

**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Thursday, April 05, 2012 9:33 AM  
**To:** Merchant, Robert  
**Subject:** RE: Worksheet regarding non-residential development in a rural district

I know. What specific standard (please quote the code or provide the citation) that determined the figures you showed? I need to know how you came up with <5,000 feet. I come up with a very different figure.

Also, if possible, please provide the slides from your presentation.

Thanks Rob.

Milt

### **CONTACT INFORMATION**

Milt Rhodes, AICP CNU

37 May River Court  
Bluffton, SC 29910

919 522 0172 - phone  
[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)  
[www.twitter.com/ncmiltrhodes](http://www.twitter.com/ncmiltrhodes)

---

**From:** Merchant, Robert [<mailto:robm@bcgov.net>]  
**Sent:** Thursday, April 05, 2012 9:12 AM  
**To:** Milt Rhodes  
**Subject:** RE: Worksheet regarding non-residential development in a rural district

Milt, The rural zoning district permits a **very** limited amount of retail and office uses. That is why I indicated in the slide presentation that there would be <5,000 sf rather than 0 sf.

Robert Merchant, AICP  
Long Range Planner  
Beaufort County Planning  
PO Drawer 1228  
Beaufort, SC 29902  
P: (843) 255-2148  
F: (843) 255-2151

---

**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Tuesday, April 03, 2012 3:17 PM  
**To:** Merchant, Robert  
**Subject:** RE: Worksheet regarding non-residential development in a rural district

How about the 5000 square feet identified in rural? Call me to discuss if needed.

Thanks,

Milt

### **CONTACT INFORMATION**

Milt Rhodes, AICP CNU

37 May River Court  
Bluffton, SC 29910

919 522 0172 - phone  
[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)  
[www.twitter.com/ncmiltrhodes](http://www.twitter.com/ncmiltrhodes)

---

**From:** Merchant, Robert [<mailto:robm@bcgov.net>]  
**Sent:** Tuesday, April 03, 2012 3:10 PM  
**To:** Milt Rhodes  
**Subject:** RE: Worksheet regarding non-residential development in a rural district

Milt,

I used the maximum gross floor area ratios for the commercial calculations and the maximum gross density for the residential calculations. Both are in Table 106-1526 of the ZDSO. The 850,000 sf of commercial was based on 64 acres of commercial regional with a maximum FAR of .31. The 1.4 million sf of office was based on a FAR of .5. The point I made was that the maximum amount of commercial square footage could range from 850,000 up to 1.4 million.

Robert Merchant, AICP  
Long Range Planner  
Beaufort County Planning  
PO Drawer 1228  
Beaufort, SC 29902  
P: (843) 255-2148  
F: (843) 255-2151

---

**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Tuesday, April 03, 2012 10:48 AM  
**To:** Merchant, Robert  
**Subject:** Worksheet regarding non-residential development in a rural district

Hi Rob.

Would you please provide me with the worksheet and methodology you used and the reference to the specific language in the BCZDSO to determine the residential and non-residential development figures you presented yesterday.

Thanks,

Milt

### **CONTACT INFORMATION**

Milt Rhodes, AICP CNU

37 May River Court  
Bluffton, SC 29910

919 522 0172 - phone  
[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)  
[www.twitter.com/ncmiltrhodes](http://www.twitter.com/ncmiltrhodes)

# **EXHIBIT**

**20**

## Gay Reed

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**From:** Barry Johnson  
**Sent:** Monday, October 19, 2015 9:13 PM  
**To:** Gay Reed  
**Subject:** Fwd: Beaufort County Planning Office Concerns

Sent from my iPhone

Begin forwarded message:

**From:** Milt Rhodes <[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)>  
**Date:** October 19, 2015, 8:56:48 PM EDT  
**To:** 'Barry Johnson' <[barry@jd-pa.com](mailto:barry@jd-pa.com)>, <[schnidmanf@earthlink.net](mailto:schnidmanf@earthlink.net)>  
**Cc:** 'Milt Rhodes' <[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)>  
**Subject:** FW: Beaufort County Planning Office Concerns

Hi Barry and Frank. I am following up on our conversation from last week. I am going to forward you a couple of emails I wrote during the application proceedings to various members of Beaufort County Council regarding how staff and the administration acted during the review. I'll be happy to go over any of these emails and some of the specifics I was writing about.

---

**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Wednesday, April 03, 2013 11:56 AM  
**To:** 'Stu Rodman'  
**Cc:** 'Milt Rhodes'  
**Subject:** Beaufort County Planning Office Concerns

Hi Stu. Good to talk with you this morning. I am pleased with the outcome from Monday. The application review process was a little rocky, but the outcome is headed in the right direction. Also, I think it will be interesting when we look at that meeting in a few years and reflect on the difference between treatment of the Crystal Lake and Pepper Hall properties, I think we will realize that an opportunity for collaboration had been misplaced. I am hopeful that through the next few weeks we can get back on track with finding the solution we have been directed to do.

Also, I wanted you to have this information regarding the Ordinance language directing the role of the Planning Director at your disposal. Item (b) specifically refers to the role of the Director of Planning.

Sec. 106-262. - Planning department.

(a)The planning department shall have the following jurisdiction, authority, and duties under this chapter:

- (1)Review and make recommendations for the disposition of applications for various permits or approvals as indicated in table 106-57
- (2)Undertake the planning commission's current and long range comprehensive planning responsibilities.

(3) Review as necessary, but at least every five years the comprehensive plan and this chapter and recommend amendments to the planning commission and county council.

**(b) The director of planning or designee from the planning department shall serve as staff to the planning commission.**

I share this with you because I continue to be concerned with the behavior of the Planning office with respect to this application and I think Administrator Kubic should be reminded that while Council is not permitted to interfere with staff business, it is at the expectation that staff conducts business in the manner authorized by the Ordinance.

For perspective, I wanted to share with you what Tony told me on the Wednesday (in an email) prior to the Natural Resources Committee meeting:

“It is the Planning Staffs’ role to inform the Natural Resources Committee of the decision and recommendation from the Planning Commission. By the time of the natural resource committee meeting, the committee has had the materials and back-up and minutes of the planning commission meeting and is fully informed of the issue. In short, the staff is the staff to the Planning Commission too, and the staff cannot work against the intent of the Planning Commission.”

Please know that this was in response to my inquiry (which went unacknowledged for a week) regarding presentation coordination for the Natural Resources Committee meeting, in which I was advised that a presentation from an applicant typically does not occur. Given the animosity expressed towards the application in which I am project manager of, was taken aback at the additional attempt by that office to preempt the ability to communicate the intent of the application directly to the Natural Resources Committee.

Given the history of staff involvement on this application, I was not surprised when in the meeting in response to a question from Councilman Stewart regarding development agreement process that the Planning Director stood at the podium and in the 38<sup>th</sup> minute of the meeting said, “Standing here as the Planning Director for the County, I want to tell you from experience that the DRT is limited in its power....if you’re saying no impact on the...on the...um...on the Okatie, what does that mean?...I think that from my standpoint, I don’t want to mislead people into believing that there is not going to be any impact on water quality in the Okatie River....I really don’t believe that it is possible, there will be.”

I think your Planning Director’s statement regarding the possible water quality impacts to the Okatie River, which is not supported by specific findings of fact or evidence supporting the position expressed by Tony or his office, appears to be personal opinion only, yet, it is provided as a specific agent of the County without standing, at least per the application before Council intended for review. The statement, tone and tenor also appears to clearly work against the intent of the Planning Commission’s favorable recommendation and potentially misleads County Council. Upon further review, I think that statement from your Planning Director appears to be in clear conflict with the established rules and procedures regarding application review in the ordinance, and gives me concern as an applicant.

I appreciate staff’s passion, but I believe that passion has no further place in this process. A review of your ordinance supports this claim.

Please note that the power of the DRT is clearly defined in Section 106-261 of the ZDSO of Beaufort County. The DRT has the authority to deny a permit when an application doesn’t meet the standards of the ordinance (including traffic and water quality standards), and only when a vote of 3 or more DRT members occur in the affirmative, can a project be approved and receive a development permit. It is well known that the DRT has tremendous authority for review of complex development projects.

Also, for your specific reference, below are the Powers and Duties of the Planning Commission. You'll note that that administratively, they have performed their duties for County Council. I bolded the key passages. Staff is to provide support for the disposition of applications per section 106-57.

I hope we can have a time to discuss specific questions you may have about my concerns and I look forward to working with you to bring the matter to a complete resolution.

Thanks again Stu.

Milt

Sec. 106-141. - Powers and duties.

The planning commission (referred to in this article as the commission) shall have the following powers and duties under this chapter:

**(1) Review, hear, consider, and make recommendations to approve or disapprove applications for zoning map and ordinance text amendments.**

(2) Initiate, prepare, or cause to be prepared a zoning, subdivision, land development or landscaping ordinance or amendments thereto, and oversee the administration of such regulations.

**(3) Prepare or cause to be prepared the comprehensive plan, or any element or portion thereof, and recommend its adoption.**

**(4) Initiate, review, hear, consider, and make recommendations to approve or disapprove amendments to the comprehensive plan.**

(5) Prepare or cause to be prepared an official map and appropriate revision on it showing the exact location of existing or proposed public street, highway, and utility rights-of-way and public building sites, together with regulations to control the erection of buildings or other structures or changes in land use within the rights-of-way, building sites or open spaces within the county.

(6) Prepare or cause to be prepared a capital improvements program, setting forth projects required to implement plans which have been prepared and adopted, including an annual listing of priority projects for consideration by the county council prior to preparation of its capital budget.

(7) Approve and authorize the name of a street or road located within the county, pursuant to S.C. Code 1976, § 6-29-1200.

(8) Make studies of the county's resources, possibilities, and needs and report its findings and recommendations, with reference thereto, from time to time, to the county council.

(9) Hear and decide appeals by an aggrieved party where it is alleged that there is error in a decision made by the DRT with regard to an application for a subdivision plat or development plan.

# **EXHIBIT**

**21**

## Gay Reed

---

**From:** Barry Johnson  
**Sent:** Monday, October 19, 2015 9:22 PM  
**To:** Gay Reed  
**Subject:** Fwd: Beaufort County Council video information

Sent from my iPhone

Begin forwarded message:

**From:** Milt Rhodes <[mrhodes@newurbanwaterworks.com](mailto:mrhodes@newurbanwaterworks.com)>  
**Date:** October 19, 2015, 9:19:40 PM EDT  
**To:** 'Barry Johnson' <[barry@jd-pa.com](mailto:barry@jd-pa.com)>, <[schnidmanf@earthlink.net](mailto:schnidmanf@earthlink.net)>  
**Subject:** FW: Beaufort County Council video information

---

**From:** Milt Rhodes [<mailto:mrhodes@newurbanwaterworks.com>]  
**Sent:** Wednesday, May 01, 2013 5:26 PM  
**To:** '[tabor.vaux@vaux-marscher.com](mailto:tabor.vaux@vaux-marscher.com)'  
**Cc:** 'Milt Rhodes'  
**Subject:** Beaufort County Council video information

Hi Tabor.

I was asked today if Beaufort County staff ever get behind a zoning case in order to help the applicants. I said yes, and told them about the rezoning case that immediately preceded the Pepper Hall application. I show you this because I want you to know that as an applicant we expect that the rules and procedures are followed. The back story on the Johnson application is they almost were followed completely, however, staff skipped a step and did not circulate the application until well after review of the Planning Commission and the Natural Resources Committee action.

But I would like for you to watch how the 65 acre Johnson/Pahl Tract at the intersection of Highway 278 and Bluffton Road (SC 46) was processed and approved to see how a "preferred project" gets treated in Beaufort County. You can watch the video at ([http://beaufort.granicus.com/MediaPlayer.php?view\\_id=2&clip\\_id=659&meta\\_id=12940](http://beaufort.granicus.com/MediaPlayer.php?view_id=2&clip_id=659&meta_id=12940)).

You'll note that even Gary Kubic gets involved with this effort and it was clear that both Counsel (Josh Gruber) and the County Manager seemed to be intimately involved in specific details of the project with Counsel and Kubic going so far as to roll out a preliminary plan. Kubic plots out the County approach to making this rezoning and project happen, and goes so far as to suggest that assisting the developer with this, "that the county can save the developer time." Note no master plan was provided as part of the zoning application.

It is a stark contrast to what I experienced with the Pepper Hall application (which I will not discuss with you further).

Thanks in advance,

Milt

# **EXHIBIT**

**22**

## Gay Reed

---

**From:** Barry Johnson  
**Sent:** Thursday, October 22, 2015 12:17 PM  
**To:** Keaveny, Thomas  
**Cc:** Gay Reed; Gruber, Joshua  
**Subject:** RE: Graves Rezoning -- Constitutional Issues of Right to Full and Fair Hearing

Tom,

With all due respect, you are stating that the County is firm in its error. The process my County affords my clients is not due process, but undue process.

Regards,  
Barry  
October 22, 2015

Barry L. Johnson, Attorney at Law  
**JOHNSON & DAVIS, PA**  
The Victoria Building, Suite 200  
10 Pinckney Colony Road  
Bluffton, SC 29909  
(843) 815-7121  
(843) 815-7122 (facsimile)

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---

**From:** Keaveny, Thomas [<mailto:tkeaveny@bcgov.net>]  
**Sent:** Thursday, October 22, 2015 11:44 AM  
**To:** Barry Johnson  
**Cc:** Gay Reed; Gruber, Joshua  
**Subject:** RE: Graves Rezoning -- Constitutional Issues of Right to Full and Fair Hearing

Barry,

Thank you for your letter. You and I will simply have to disagree on the issue of whether or not your clients' Constitutional rights have been violated. We believe your clients have been afforded, and exercised, all the rights provided to them under the Constitution.

Tom

**Thomas J. Keaveny II**  
Beaufort County Attorney  
P. O. Drawer 1228  
Beaufort, SC 29901-1228  
Tel: (843) 255-2025

Fax: (843) 255-9414



---

**From:** Barry Johnson [mailto:barry@jd-pa.com]  
**Sent:** Thursday, October 22, 2015 10:50 AM  
**To:** Keaveny, Thomas  
**Cc:** Gay Reed  
**Subject:** Graves Rezoning -- Constitutional Issues of Right to Full and Fair Hearing

Tom,

Good morning! Hope your day is going well –

Attached is a letter of today's date from me to you, in response to your email of yesterday denying my clients' rights to a full and fair presentation of their position to the Beaufort County Council at its meeting on October 26, 2005.

I know you are very busy, getting settled into your new job with the County, with all the learning curve and activity, but I do appreciate the attention you have paid to these very important issues.

Regards,  
Barry  
October 22, 2015

Barry L. Johnson, Attorney at Law  
**JOHNSON & DAVIS, PA**  
The Victoria Building, Suite 200  
10 Pinckney Colony Road  
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# JOHNSON & DAVIS, PA

ATTORNEYS AND COUNSELORS AT LAW

BARRY L. JOHNSON\*  
HUTSON S. DAVIS, JR. \*\*

\* Certified S.C. Mediator and Arbitrator  
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TELEPHONE (843) 815-7121  
TELEFAX (843) 815-7122

BARRY L. JOHNSON  
BARRY@JD-PA.COM

October 22, 2015

Via U.S. Mail and E-Mail

Thomas J. Keaveny, II, Esquire  
Beaufort County  
PO Box 1228  
Beaufort, SC 29901

Re: Application for Rezonings (Pepper Hall Plantation) by Robert L. Graves,  
John Tamplet Graves, Sr. and Paul B. Graves, Sr.  
J&D, PA File No.: O15-6222

Dear Tom:

Thank you for your e-mail reply of October 21, 2015 (4:38 p.m.) concerning my request, under due process considerations, to be allowed twenty minutes to make a presentation to the Beaufort County Council at the meeting on Monday, October 26, 2015. It is very clear that your response to me denied that request and that, in your response, you laid out the reasons for the denial of that request.

As a matter of fact and law, your response to me of yesterday actually proves my point. Considerations of due process require that the decision-maker provide notice and a full and fair opportunity to be heard before a decision is reached. As your response to me of yesterday lays out, somewhat meticulously, and clearly demonstrates, the Beaufort County Council has never received a full and fair presentation of the position of my clients in this matter. Admittedly, the Planning Commission and the Natural Resources Committee have received presentations, but there are no members of the Council on the Planning Commission and only a few members of Council on the Natural Resources Committee.

As you have laid out, it is crystal clear that your response of yesterday, if adhered to by the Beaufort County Council, patently violates my clients' Constitutional rights and privileges.

In this consideration, with all due respect to the institutional traditions of the Council, those traditions are totally immaterial to Constitutional rights and privileges. Institutional

JOHNSON & DAVIS, PA

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Thomas J. Keaveny, II, Esquire

October 22, 2015

Page Two

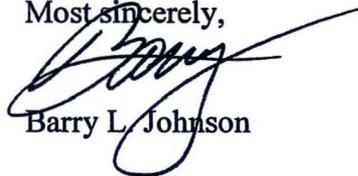
traditions and policies created, executed and/or sustained in violation of the Constitutions are still, nevertheless, a violation of the Constitutions.

I respectfully invite the County's reconsideration of this issue.

Please make the exchange of e-mails and letters that you and I have had on this subject, going back into last week, to be a specific element of the record of the County concerning these matters, so that they will available, as such, in the months to come.

Thanking you, and with best personal regards, I am

Most sincerely,



Barry L. Johnson

BLJ:ger

cc: Robert L. Graves, Sr.

John Tamplet Graves, Sr.

Paul B. Graves, Sr.

F:\WP\GRAVES\Okatie Study Group\Beaufort County\Rezoning\Correspondence\Drafts\20151022\_Ltr T. Keaveny re 10.21 response.docx

## Gay Reed

---

**From:** Keaveny, Thomas <tkeaveny@bcgov.net>  
**Sent:** Wednesday, October 21, 2015 2:21 PM  
**To:** Barry Johnson  
**Cc:** Gay Reed; Gruber, Joshua; Criscitiello, Anthony; Keaveny, Thomas  
**Subject:** RE: Graves Rezonings

Barry,

I discussed with Paul Sommerville, Chairman of County Council, your request that you be allowed 20 minutes to make a presentation to County Council at Monday's meeting. Your client's application was presented fully to the Planning Commission by Jim Scheider, his counsel at the time. Your client's application was fully presented to County Council's Natural Resources Committee, again by his counsel at the time, Jim Scheider. I attended the presentation at the Natural Resources Committee. Your client was afforded a full and unfettered opportunity to present his application in as great a detail as he deemed appropriate. He was also provided an opportunity to address any questions or comments brought forth by members of the public or members of the Committee. Beaufort County believes your client has had full opportunity to have his application reviewed and analyzed.

Your client's application is on the Agenda for Monday's meeting. As I indicated earlier, it will be heard during the Public Hearing portion of the meeting. County Council's procedures are well settled and well established. These procedures do not allow for another full presentation of your client's application. As I indicated in an earlier email, you may rise to speak to the issue during the Public Comment portion of the meeting. Anyone else who wishes to address the application may also rise to address it during the Public Comment portion of the meeting. However, you should not expect to speak on the topic when the item is reached by County Council during the Public Hearings portion of the meeting.

With kind regards,

Tom

**Thomas J. Keaveny II**  
Beaufort County Attorney  
P. O. Drawer 1228  
Beaufort, SC 29901-1228  
Tel: (843) 255-2025  
Fax: (843) 255-9414



---

**From:** Barry Johnson [<mailto:barry@jd-pa.com>]  
**Sent:** Tuesday, October 20, 2015 4:33 PM  
**To:** Keaveny, Thomas  
**Cc:** Gay Reed  
**Subject:** Graves Rezonings

Tom,

Attached is a further letter from me concerning the due process, etc. issues associated with our request for a minimum of 20 minutes, for me, with Council on the 26<sup>th</sup> of October at its meeting.

Thanks,  
Barry  
October 20, 2015

Barry L. Johnson, Attorney at Law  
**JOHNSON & DAVIS, PA**  
The Victoria Building, Suite 200  
10 Pinckney Colony Road  
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## Gay Reed

---

**From:** Keaveny, Thomas <tkeaveny@bcgov.net>  
**Sent:** Tuesday, October 20, 2015 5:11 PM  
**To:** Barry Johnson  
**Cc:** Gay Reed  
**Subject:** RE: Graves Rezoning

Thank you, Barry.

**Thomas J. Keaveny II**  
Beaufort County Attorney  
P. O. Drawer 1228  
Beaufort, SC 29901-1228  
Tel: (843) 255-2025  
Fax: (843) 255-9414



---

**From:** Barry Johnson [<mailto:barry@jd-pa.com>]  
**Sent:** Tuesday, October 20, 2015 4:33 PM  
**To:** Keaveny, Thomas  
**Cc:** Gay Reed  
**Subject:** Graves Rezoning

Tom,

Attached is a further letter from me concerning the due process, etc. issues associated with our request for a minimum of 20 minutes, for me, with Council on the 26<sup>th</sup> of October at its meeting.

Thanks,  
Barry  
October 20, 2015

Barry L. Johnson, Attorney at Law  
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## Gay Reed

---

**From:** Barry Johnson  
**Sent:** Tuesday, October 20, 2015 4:33 PM  
**To:** Tom Keaveny, Beaufort County Attorney  
**Cc:** Gay Reed  
**Subject:** Graves Rezoning  
**Attachments:** 20151020\_Ltr to T. Keaveny re 10.26.15 BCC.pdf

Tom,

Attached is a further letter from me concerning the due process, etc. issues associated with our request for a minimum of 20 minutes, for me, with Council on the 26<sup>th</sup> of October at its meeting.

Thanks,  
Barry  
October 20, 2015

Barry L. Johnson, Attorney at Law  
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# JOHNSON & DAVIS, PA

ATTORNEYS AND COUNSELORS AT LAW

BARRY L. JOHNSON\*  
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\* Certified S.C. Mediator and Arbitrator  
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BARRY L. JOHNSON  
BARRY@JD-PA.COM

October 20, 2015

Via U.S. Mail and E-Mail

Thomas J. Keaveny, II, Esquire  
Beaufort County  
PO Box 1228  
Beaufort, SC 29901

Re: Application for Rezonings (Pepper Hall Plantation) by Robert L. Graves,  
John Tamplet Graves, Sr. and Paul B. Graves, Sr.  
J&D, PA File No.: O15-6222

Dear Tom:

In follow-up to my e-mail of yesterday, regarding time available to the applicants for presentation of their "case", if you will, to the Beaufort County Council, based on due process considerations, please consider this letter as a further explanation.

From review of the ancient timeline of the County's consideration of this matter, I am given to understand that the application in its current form, as amended at the direction of Beaufort County Council and resubmitted on November 7, 2012, has never been fully heard by Beaufort County Council, the ultimate decision-maker.

In that regard, I understand that the Southern Beaufort County Regional Plan Multi-Jurisdiction Review may have occurred, that the Beaufort County Southern Regional Plan Implementation Committee discussed the amended application; that the Beaufort County Planning Commission discussed and approved (6-2 in favor of re-zoning) this amended application, and that the Natural Resources Committee and the Development Agreement negotiating Committee considered this application on several occasions. However, there is no record of which I am aware that the ultimate decision-maker, the Beaufort County Council, has ever heard and evaluated this matter.

This matter comes before the Beaufort County Council on Monday, October 26, 2015, for first reading, per statute.

**JOHNSON & DAVIS, PA**

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Thomas J. Keaveny, II, Esquire

October 20, 2015

Page Two

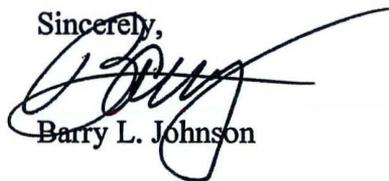
You and the County well know that the County has an explicit obligation of due process to my clients, not only to afford them notice of the Council's meeting at which this first reading will occur but, also, to afford them full and fair opportunity to be heard by the Council, the ultimate decision-maker for the County, short of judicial review.

I respectfully submit, in the most urgent fashion, that allocating three minutes to my presentation and purporting to argue, or even to suggest, that three minutes constitutes compliance with constitutional due process considerations smacks of the absurd and is frivolous. A three-minute allocation is certainly arbitrary and does not afford my clients any semblance of fundamental fairness or equal protection in these processes, much less due process.

Accordingly, I expect to hear from you shortly confirming that I will have at least twenty minutes of time before the Council on October 26, 2015, to make this presentation on behalf of my clients.

Beaufort County Council's deference to the constitutional rights of its tax-paying citizens is respectfully demanded .

Sincerely,



Barry L. Johnson

BLJ:ger

cc: Robert L. Graves, Sr.

John Tamplet Graves, Sr.

Paul B. Graves, Sr.

## Gay Reed

---

**From:** Barry Johnson  
**Sent:** Monday, October 19, 2015 7:44 PM  
**To:** Keaveny, Thomas  
**Cc:** Barry Johnson; Gay Reed; Gruber, Joshua; Criscitiello, Anthony; Rainey, Sue  
**Subject:** Re: Graves Rezoning Applications

Tom,

I understand proverbial Mondays and especially thank you for your evening response.

As counsel for the three applicants, I request the opportunity to make a full presentation to Beaufort County Council. I believe that considerations of due process require that opportunity. Given the time circumstances, I would be willing to limit my presentation to 20 minutes.

Also, please that the backup historical will contain the record, proceedings, and decision of the Planning Commission, as well as the various forms of development agreement discussed with the County's various commissions, committees and departments.

Looking forward to your response and with best wishes --

Barry  
October 19, 2015

Sent from my iPhone

On Oct 19, 2015, at 7:01 PM, "Keaveny, Thomas" <[tkeaveny@bcgov.net](mailto:tkeaveny@bcgov.net)> wrote:

Barry,

Today has been the proverbial Monday. I am just now getting to my emails.

As we discussed last week, the rezoning application will be heard during the Public Hearing portion of County Council's October 26<sup>th</sup> meeting on Hilton Head. (You may want to look at the Agenda for the October 12<sup>th</sup> meeting to determine where this occurs during the meeting.) I have asked the Clerk to Council (Suzanne Rainey) to forward to Council the historical record on this application. Ms. Rainey has assured me she will do so. Council members will receive it as "backup" when the Agenda is posted. You will be able to see it by going to the County's website, finding Council's Agenda and clicking on the blue 'backup' link.

Anyone who wishes to speak in favor of the application needs to do so by signing up to speak during the *first* Public Comment portion of the meeting. Because Council Meetings can be long (and the list of those who wish to make public comments can also be long), Council procedure is to limit each speaker to 3 minutes. However, Council rarely calls time on speakers provided they do not stray

too far from this limitation. I do not believe there is any limit on the number of speakers who can rise to address an issue before Council.

If you have any questions feel free to call me. Tomorrow should be a slower day and I will be in the office all day.

Tom

**Thomas J. Keaveny II**  
Beaufort County Attorney  
P. O. Drawer 1228  
Beaufort, SC 29901-1228  
Tel: (843) 255-2025  
Fax: (843) 255-9414

<image001.png>

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**From:** Barry Johnson [<mailto:barry@jd-pa.com>]  
**Sent:** Monday, October 19, 2015 5:10 PM  
**To:** Keaveny, Thomas  
**Cc:** Gay Reed  
**Subject:** RE: Graves Rezoning Applications

Tom,

I hope all is well with you.

It's not like you to leave me squeezed on communication regarding procedure.

Please advise tonight or very first thing tomorrow. I will be in Beaufort for hearing with Judge Dukes and could see you tomorrow morning, as well.

Thanks,  
Barry  
October 19, 2015

Barry L. Johnson, Attorney at Law  
**JOHNSON & DAVIS, PA**  
The Victoria Building, Suite 200  
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---

**From:** Barry Johnson  
**Sent:** Monday, October 19, 2015 9:53 AM  
**To:** Tom Keaveny, Beaufort County Attorney  
**Cc:** Gay Reed  
**Subject:** RE: Graves Rezoning Applications

Tom,

Sorry for the need for your Myrtle Beach trip this past weekend.

I do need information per below request and hope you can supply it to me shortly today.

Thanks,  
Barry  
October 19, 2015

Barry L. Johnson, Attorney at Law  
**JOHNSON & DAVIS, PA**  
The Victoria Building, Suite 200  
10 Pinckney Colony Road  
Bluffton, SC 29909  
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---

**From:** Barry Johnson  
**Sent:** Friday, October 16, 2015 5:28 PM  
**To:** Tom Keaveny, Beaufort County Attorney  
**Cc:** Gay Reed  
**Subject:** Graves Rezoning Applications

Tom,

As I mentioned to you today by phone, this is to confirm that, for reasons of fundamental fairness, due process and equitable treatment, my clients respectfully request that the Beaufort County Council agenda item, for Council decision, and package contents include a decision by the Council as to whether to accept or reject the recommendation of the Beaufort County Planning Commission on this matter, as well as a complete packet of the submissions to, proceedings before, and decision of the Beaufort County Planning Commission on this matter.

If you need more information or explanation, please let me know.

Please acknowledge receipt of this email, and promptly advise the County's decision on this request, all in writing.

Regards,  
Barry  
October 16, 2015

Barry L. Johnson, Attorney at Law

**JOHNSON & DAVIS, PA**  
The Victoria Building, Suite 200  
10 Pinckney Colony Road  
Bluffton, SC 29909  
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# **EXHIBIT**

**23**

**JOHNSON & DAVIS, PA**  
**ATTORNEYS AND COUNSELORS AT LAW**

BARRY L. JOHNSON\*  
HUTSON S. DAVIS, JR. \*\*

\* Certified S.C. Mediator and Arbitrator  
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TELEFAX (843) 815-7122

BARRY L. JOHNSON  
BARRY@JD-PA.COM

October 23, 2015

Via U. S. Mail and E-Mail (jnelson@bcgov.net)

Joy Nelson  
Media Relations/FOIA Specialist  
Beaufort County  
PO Drawer 1228  
Beaufort, SC 29901-1228

Re: Freedom of Information Act Request:  
Public Records Request Regarding Pepper Hall Plantation  
J&D, PA File No.: O15-6222

Dear Ms. Nelson;

Thank you for your acknowledgement letter of October 22, 2015. I note that your acknowledgment letter refers only to the inspection of hard-copy records.

Attached is a further copy of my earlier request letter to Mr. Keaveny dated October 20, 2015.

As you will note, we are requesting hard-copy records, e-mails, digital records, and all paper and digital records that return from a search of the key words we have identified in our letter.

Accordingly, after your review of this, again, please acknowledge receipt of our Freedom of Information Act Request dated October 20, 2015, in its full and proper scope.

Thanking you, and with best wishes, I am

Most sincerely,



Barry L. Johnson

BLJ:ger

Enclosure

cc: Robert L. Graves, Sr.  
John Tamplet Graves, Sr.  
Paul B. Graves, Sr.

**JOHNSON & DAVIS, PA**  
**ATTORNEYS AND COUNSELORS AT LAW**

BARRY L. JOHNSON\*  
HUTSON S. DAVIS, JR. \*\*

\* Certified S.C. Mediator and Arbitrator  
\*\* Certified S.C. Mediator

THE VICTORIA BUILDING  
SUITE 200  
10 PINCKNEY COLONY ROAD  
BLUFFTON, SC 29909

TELEPHONE (843) 815-7121  
TELEFAX (843) 815-7122

BARRY L. JOHNSON  
BARRY@JD-PA.COM

October 20, 2015

**Via Courier and E-Mail**

Beaufort County Attorney's Office  
Attn: Thomas J. Keaveny, II, Esquire  
Administration Building  
100 Ribaut Road  
Beaufort, SC 29901-1228

Re: Freedom of Information Act Request:  
Public Records Request Regarding Pepper Hall Plantation

Dear Mr. Keaveny;

I am writing to you pursuant to South Carolina Code of Laws, Section 30-4-10, *et seq.*, the Freedom of Information Act (FOIA), to respectfully request to promptly inspect all hard copy records maintained by Beaufort County, its employees, agents, appointed representatives or any non-Beaufort County contractors/consultants relating to the Pepper Hall Plantation property and the Graves rezoning efforts (collectively, "Pepper Hall Plantation").

This request includes all documents falling within the following categories from January 1, 1998 to the present:

- All intra- and inter-governmental communications relating to efforts to seek financial support for purchase, conservation of or development of the Pepper Hall Plantation property;
- All communications with regulatory agencies concerning the Pepper Hall Plantation property, including but not limited to, potential impacts on wetlands or water quality and/or potential mitigation of such impacts;
- All communications to or from third parties or interest groups concerning the Pepper Hall Plantation property;
- All minutes from the Development Agreement Negotiating Committee meetings in 2013.

JOHNSON & DAVIS, PA

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Beaufort County Attorney's Office  
Attn: Thomas J. Keaveny, II, Esquire  
October 20, 2015  
Page Two

In addition to inspection of any hard copy/physical files falling within the above categories, I also respectfully request copies of any electronic records falling within the above-stated scope. The term "record" I mean to include all public records, as defined in S.C. Code § 30-4-20(c). I further respectfully request you provide rolling production of electronic documents at reasonable intervals, as they are gathered.

It should be noted that in the collection of public records in compliance with this request in regards to the Beaufort County Planning staff, that any and all records about the Pepper Hall Plantation involving the documents and correspondence shall include, but not be limited to, those of Weston Newton, Gary Kubic, Tony Criscitiello, Josh Gruber, Tom Keaveny, Robert Merchant, Jim Hicks, Barbara Childs, Terri Norris, Amanda Flake, Colin Kinton, Brian E. Flewelling, Alice G. Howard, D. Paul Sommerville.

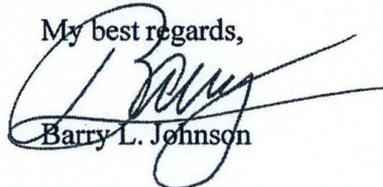
In addition, such public records search should include but not be limited to the key names and key words: Pepper Hall, Graves rezoning, Okatie River TMDL, Development Agreement Negotiating Committee, Coastal Conservation League, Natural Resource Committee, Beaufort County Planning Commission, Reed Armstrong, Garrett Budds, Anne Bluntzer, Ginnie Kozak, Cherokee Farms, Todd Salvegin, Jennifer Bihl, Tom Taylor, Updated Traffic Model, Background Growth Rate, Hampton Parkway/Highway 278 Intersection, Josh Tiller, Jim Tiller, JK Tiller, Okatie River Park, Gary Rowe, John Reed, Island West, Berkeley Hall, Sue Rainey, Shawn Leineger, Marc Orlando, Anthony Barrett, and Lisa Sulka.

If, during document gathering, the County determines that any of these public records are exempt from disclosure, please provide a log of withheld documents and the bases for withholding same, as allowed by S.C. Code § 30-4-40.

If you have any questions, please do not hesitate to contact me at 843-384-0697 or via e-mail at Barry@jd-pa.com.

And, may I please ask that you acknowledge receipt of this request.

My best regards,



Barry L. Johnson

BLJ:ger



## Beaufort County Government

Office of Media Relations and  
Freedom of Information Act Requests

October 22, 2015

Re: Freedom of Information

Dear Mr. Johnson:

Beaufort County is in receipt of the Freedom of Information Act request dated October 20, 2015 in regard to inspecting all hard copy records involving Pepper Hall Plantation property and the Graves rezoning efforts.

According to SC Code SECTION 30-4-30 (c) Each public body, upon written request for records made under this chapter, shall within fifteen days (excepting Saturdays, Sundays, and legal public holidays) of the receipt of any such request notify the person making such request of its determination and the reasons therefore.

As soon as the requested records are ready for inspection, you will be notified.

Sincerely,

Joy Nelson  
Media Relations/FOIA Specialist  
Beaufort County  
PO Drawer 1228  
Beaufort, SC 29901  
[jnelson@bcgov.net](mailto:jnelson@bcgov.net)  
(843)255-2250

## Gay Reed

---

**From:** Keaveny, Thomas <tkeaveny@bcgov.net>  
**Sent:** Tuesday, October 20, 2015 4:19 PM  
**To:** Barry Johnson  
**Cc:** Gay Reed  
**Subject:** RE: Graves Rezoning -- FOIA Request

Barry,

I will forward the request to our FOIA Information Officer. We will be in touch.

Tom

(P.S. I am waiting on a reply to the request you made last night that you be allowed 20 minutes to make a presentation to County Council on Monday, October 26<sup>th</sup>. I'll get back to you as soon as I have a response.)

### Thomas J. Keaveny II

Beaufort County Attorney

P. O. Drawer 1228

Beaufort, SC 29901-1228

tel: (843) 255-2025

Fax: (843) 255-9414



---

**From:** Barry Johnson [<mailto:barry@jd-pa.com>]

**Sent:** Tuesday, October 20, 2015 3:36 PM

**To:** Keaveny, Thomas

**Cc:** Gay Reed

**Subject:** Graves Rezoning -- FOIA Request

Tom,

Attached is a letter to you from me, of today's date, submitting our FOIA Request to Beaufort County. A hard copy is being delivered to your office by courier this afternoon.

Should you have any questions as to the scope or interpretation of this request, please let me know.

Also, being mindful of the FOIA statute, please advise timeline for the County's response.

Thanks, and best regards,  
Barry  
October 20, 2015

Barry L. Johnson, Attorney at Law  
**JOHNSON & DAVIS, PA**  
The Victoria Building, Suite 200  
10 Pinckney Colony Road  
Bluffton, SC 29909  
(843) 815-7121  
(843) 815-7122 (facsimile)

Both Barry L. Johnson and JOHNSON & DAVIS, PA, intend that this message be used exclusively by the addressee(s). This message may contain information that is privileged, confidential and exempt from disclosure under applicable law. Unauthorized disclosure or use of this information is strictly prohibited. If you have received this communication in error, please permanently dispose of the original message and notify Barry L. Johnson immediately at 843-815-7121. Thank you.

## Gay Reed

---

**From:** Barry Johnson  
**Sent:** Tuesday, October 20, 2015 3:36 PM  
**To:** Tom Keaveny, Beaufort County Attorney  
**Cc:** Gay Reed  
**Subject:** Graves Rezoning -- FOIA Request  
**Attachments:** 20151020\_BJ\_FOIA Ltr to T. Keaveny.pdf

Tom,

Attached is a letter to you from me, of today's date, submitting our FOIA Request to Beaufort County. A hard copy is being delivered to your office by courier this afternoon.

Should you have any questions as to the scope or interpretation of this request, please let me know.

Also, being mindful of the FOIA statute, please advise timeline for the County's response.

Thanks, and best regards,  
Barry  
October 20, 2015

Barry L. Johnson, Attorney at Law  
**JOHNSON & DAVIS, PA**  
The Victoria Building, Suite 200  
100 Pinckney Colony Road  
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**JOHNSON & DAVIS, PA**  
**ATTORNEYS AND COUNSELORS AT LAW**

BARRY L. JOHNSON\*  
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BARRY L. JOHNSON  
BARRY@JD-PA.COM

October 20, 2015

*Via Courier and E-Mail*

Beaufort County Attorney's Office  
Attn: Thomas J. Keaveny, II, Esquire  
Administration Building  
100 Ribaut Road  
Beaufort, SC 29901-1228

Re: Freedom of Information Act Request:  
Public Records Request Regarding Pepper Hall Plantation

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JOHNSON & DAVIS, PA

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Beaufort County Attorney's Office  
Attn: Thomas J. Keaveny, II, Esquire  
October 20, 2015  
Page Two

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In addition, such public records search should include but not be limited to the key names and key words: Pepper Hall, Graves rezoning, Okatie River TMDL, Development Agreement Negotiating Committee, Coastal Conservation League, Natural Resource Committee, Beaufort County Planning Commission, Reed Armstrong, Garrett Budds, Anne Bluntzer, Ginnie Kozak, Cherokee Farms, Todd Salvegin, Jennifer Bihl, Tom Taylor, Updated Traffic Model, Background Growth Rate, Hampton Parkway/Highway 278 Intersection, Josh Tiller, Jim Tiller, JK Tiller, Okatie River Park, Gary Rowe, John Reed, Island West, Berkeley Hall, Sue Rainey, Shawn Leineger, Marc Orlando, Anthony Barrett, and Lisa Sulka.

If, during document gathering, the County determines that any of these public records are exempt from disclosure, please provide a log of withheld documents and the bases for withholding same, as allowed by S.C. Code § 30-4-40.

If you have any questions, please do not hesitate to contact me at 843-384-0697 or via e-mail at Barry@jd-pa.com.

And, may I please ask that you acknowledge receipt of this request.

My best regards,



Barry L. Johnson

BLJ:ger

2015 /

TEXT AMENDMENTS TO THE BEAUFORT COUNTY COMMUNITY DEVELOPMENT CODE (CDC), TABLE 3.1.60 CONSOLIDATED USE TABLE – OFFICES & SERVICES, #17. RESIDENTIAL STORAGE FACILITY, ADDITION “C” (PERMITTED USE WITH CONDITIONS) TO T4-HC (HAMLET CENTER).

Whereas, added text is highlighted in yellow and underscored.

Adopted this \_\_\_\_ day of \_\_\_\_\_, 2015.

COUNTY COUNCIL OF BEAUFORT COUNTY

By: \_\_\_\_\_  
D. Paul Sommerville, Chairman

APPROVED AS TO FORM:

\_\_\_\_\_  
Thomas J. Keaveny, II, County Attorney

ATTEST:

\_\_\_\_\_  
Suzanne M. Rainey, Clerk to Council

First Reading: November 9, 2015

Second Reading:

Public Hearing:

Third and Final Reading:

Amend Table 3.1.60 as follows:

17. Residential Storage Facility	--	--	--	--	--	--	--	--	--	--	C	--	C	C	--	C	C	C
18. Vehicle Services: Minor Maintenance and Repair	--	--	--	--	--	C	--	--	--	--	--	C	C	C	--	C	C	--
19. Vehicle Services: Major Maintenance and Repair	--	--	--	--	--	C	--	--	--	--	--	--	C	C	--	C	C	C
<b>Land Use Type</b>	<b>T1 N</b>	<b>T2R</b>	<b>T2 RL</b>	<b>T2 RN</b>	<b>T2 RNO</b>	<b>T2 RC</b>	<b>T3E</b>	<b>T3 HN</b>	<b>T3 N</b>	<b>T3 NO</b>	<b>T4 HC</b>	<b>T4 VC</b>	<b>T4 HCO</b>	<b>T4 NC</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>SI</b>

"P" indicates a Use that is Permitted By Right.

"C" indicates a Use that is Permitted with Conditions.

"S" indicates a Use that is Permitted as a Special Use.

"TCP" indicates a Use that is permitted only as part of a Traditional Community Plan under the requirements in Division 2.3

"--" indicates a Use that is not permitted.

Amend Section 4.1.220 as follows:

**“E. Residential Storage Facilities in T4 Hamlet Center, T4 Hamlet Center Open, and T4 Neighborhood Center:** Residential storage facilities shall be sited so that storage buildings are located in the interior of the block and do not face a street. The site shall incorporate outparcels to screen and separate the storage buildings from the street. The leasing office and/or security quarters may face and address the street. In the T4 Hamlet Center District where and adaptive reuse of an existing building is sought to preserve commercial stability on a street, the building and parcel upon which it resides may be remodeled and converted into a residential storage facility.”

**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE TO TRANSFER FUNDS IN THE AMOUNT NOT TO EXCEED \$623,280.00 FROM THE 3% LOCAL ACCOMMODATIONS TAX FUND TO THE GENERAL FUND FOR THE BROAD RIVER FISHING PIER REHABILITATION PROJECT**

**WHEREAS**, County Council is authorized to utilize the 3% Local Accommodation Tax Fund for certain limited purposes, including cultural, recreational or historic facilities and highways, roads, streets, bridges and boat ramps providing access to tourist destinations; and

**WHEREAS**, Beaufort County Code Ordinance Sec. 66-44(b) states “the authorization to utilize any funds from the ‘County of Beaufort, South Carolina, Local Accommodations Tax Account,’ shall be by ordinance duly adopted by the County Council”; and

**WHEREAS**, the northernmost 1800 feet of the former Broad River Bridge, originally constructed in 1957, was converted to a fishing pier in 2004; and

**WHEREAS**, the Broad River Fishing Pier provides access to the Broad River for the enjoyment of both Beaufort County citizens and tourists; and

**WHEREAS**, O’Quinn Marine Construction has completed Stage 1 for the Broad River Fishing Pier Rehab and has presented a preservation plan; and

**WHEREAS**, the plan includes repair and preservation work on the pier from the shoreline to the end of the pier along with annual inspections and monitoring; and

**WHEREAS**, Beaufort County Council believes that it is in the best interests of its citizens to transfer funds in the amount of \$623,280.00 from the 3% Local Accommodations Tax Fund to the general fund for the Broad River Fishing Pier Project.

**NOW, THEREFORE, BE IT ORDAINED** by Beaufort County Council, duly assembled, hereby transfers funds in the amount not to exceeding \$623,280.00 from the 3% Local Accommodations Tax Fund to the General Fund for the Broad River Fishing Pier Project.

Done this \_\_\_\_ day of \_\_\_\_\_, 2016.

COUNTY COUNCIL OF BEAUFORT COUNTY

By: \_\_\_\_\_  
D. Paul Sommerville, Chairman

APPROVED AS TO FORM:

\_\_\_\_\_  
Thomas J. Keaveny, II, County Attorney  
First Reading:  
Second Reading:  
Public Hearing:  
Third and Final Reading:



COUNTY COUNCIL OF BEAUFORT COUNTY  
PURCHASING DEPARTMENT  
106 Industrial Village Road  
Post Office Drawer 1228  
Beaufort, South Carolina 29901-1228

TO: Councilman Jerry Stewart, Chairman, Finance Committee  
FROM: Dave Thomas, CPPO, Purchasing Director *DT*  
SUBJ: **Contract Renewal Recommendation for Master Services Agreement with Talbert, Bright, and Ellington (TBE)**  
DATE: November 16, 2015

**BACKGROUND:** In August 2010, through the RFQ solicitation process, TBE was awarded a contract by Beaufort County to provide professional architectural, engineering, and planning consulting services for Beaufort County Airport projects as part of a Master Services Agreement. The resulting contract with TBE is a full service, indefinite delivery type contract with a multiple year renewal option for the County. The scope of services required TBE to oversee, design, develop and manage the various airport projects as listed in the scope of work. The current contract expired on October 31, 2015, and the Director of Airports is requesting a multi-year extension to April 30, 2018. As stated in the attached Airports Director's letter dated November 4, 2015, there are multiple projects underway, in various phases of design, permitting, and construction at both airports. The projects, many of them safety and compliance-related, are in keeping with the approved airport master plans and will be undertaken in the next two to three years. TBE is engaged with the County and airport staff in the completion of each of these projects. In total, these projects involve over \$15 million in consulting and construction costs. The next two years have a similar outlook, with approximately \$15 million in projects.

With consideration of the facts above, and given the substantial delay and financial cost that would likely result in a rebidding process, staff recommends a contract extension for TBE, which should allow for the major projects that are underway or planned for the next two years, to be completed.

**VENDOR INFORMATION:**

Talbert, Bright & Ellington, Charlotte, NC

**2.5 YEARS ESTIMATED COSTS:**

\$2,250,000\*

\*The estimated contract value for TBE is up to \$2.25 million, based on CIP forecasting. The total 2.5 years estimated costs for hard construction and TBE costs is \$15 million: \$12,750,000 is related to the construction costs and will be awarded as the projects progress over the next two years.

*AA*  
**FUNDING:** Primarily from FAA grant funding for AIP eligible projects (95% covered by the FAA (90%) and SCAC (5%)).

**FOR ACTION:** Finance Committee meeting occurring November 16, 2015.

**RECOMMENDATION:** The Finance Committee approve and recommend to County Council the indefinite delivery contract extension to Talbert, Bright & Ellington to perform the required consulting services. Staff further recommends that the Finance Committee and County Council authorize County staff to negotiate contracts with TBE depending on the type of Airport project and the availability of the firm to meet the County's schedule and approved budget.

cc: Gary Kubic, County Administrator *GKubic*  
Joshua Gruber, Deputy County Administrator/Special Counsel *JG*  
Alicia Holland, Asst. County Administrator, Finance *AA*  
Colin Kinton, Director, Transportation Engineering *CK*  
Jon Rembold, Airports Director *JR*

Att: Director of Airports Request Letter, August 9, 2010 award memo



## BEAUFORT COUNTY AIRPORTS



As you are aware, Beaufort County is contracted via Master Services Agreement with Talbert, Bright, and Ellington (TBE), who provides airport engineering and consulting in support of our two airports. The agreement is now due for either extension or advertisement of a new Request for Qualifications.

As you are also aware, there are multiple projects underway, in various phases of design, permitting, and construction, at both airports. The projects, many of them safety and compliance-related, are in keeping with the approved airport master plans and will be undertaken in the next two to three years. TBE is engaged with the county and airports staff in the completion of each of these projects. In total, these projects involve over \$15 million in consulting and construction costs. The next two years have a similar outlook, with approximately \$15 million in projects.

In light of these facts, and given the substantial delay and financial cost that would likely result in a rebidding process, I propose a contract extension for TBE, which should allow for the major projects that are underway or planned for the next year, to be completed. The Master Services Agreement would be extended to April 30, 2018, at which time the County would rebid the opportunity as a Request for Qualifications.

Very Respectfully,

Jon Rembold  
Airports Director



## COUNTY COUNCIL OF BEAUFORT COUNTY PURCHASING DEPARTMENT

Building 2, 102 Industrial Village Road  
Post Office Drawer 1228, Beaufort, SC 29901-1228  
Phone: (843) 255-2353 Fax: (843) 470-2738

TO: Councilman Herbert N. Glaze, Chairman, Public Facilities Committee

VIA: Gary Kubic, County Administrator  
Bryan Hill, Deputy County Administrator  
David Starkey, Chief Financial Officer  
Robert McFee, Director of Engineering and Infrastructure  
Paul Andres, Director of Airports

FROM: Dave Thomas, CPPO, Purchasing Director

**SUBJ: RFQ # 3905/100670 Request for Qualifications to provide "Architectural, Engineering, and Planning Consulting for Beaufort County Airport Projects"**

**DATE:** August 9, 2010

**BACKGROUND:** Beaufort County issued a Request for Qualifications (RFQ) to firms capable of providing professional architectural, engineering, and planning consulting services for Beaufort County Airport projects. The resulting contract with the successful firms shall be a full service, indefinite delivery type with a multiple year renewal option for the County. The scope of services will require the consultants to oversee, design, develop and manage the various airport projects as listed in the scope of work. The Evaluation Committee consisted of five (5) members: Pete Buchanan, Chairman Airport Board, Will Dopp, Airport's Board Committee Member, Rob McFee, Director of Engineering and Infrastructure, Bob Klink, Beaufort County Engineer, and Paul Andres, Director of Airports. Beaufort County received nine (9) responses to the RFQ. The Evaluation Committee reviewed and evaluated all responses and selected the following four (4) firms for interviews: LPA, Talbert & Bright, PBS & J, and WK Dickson.

After the interviews and based on the RFQ evaluation criteria, Talbert & Bright and LPA were selected as the top two firms to provide professional consulting services for Beaufort County Airport projects. Both firms will meet or exceed the FAA required DBE goals for each project.

### **FINAL EVALUATION RANKING:**

- 1 **Talbert & Bright, Charlotte, NC-(local subs, J.K. Tiller Asso., Planning, Bluffton., Allcare Tree Surgery, HHI, Chris Gerards, Arborist, Bluffton)**
- 2 **LPA, Columbia, SC, (local subs, J.K. Tiller Asso., Landscape design, Bluffton, Andrews & Burgess, Architectural Survey, Beaufort, BES Incorporated, Mechanical, Elec, Plumbing)**
- 3 **WK Dickson, Columbia, SC**
- 4 **PBS & J, Atlanta, GA**
- 5 **Campbell & Paris, Chantilly, VA**
- 6 **URS, Savannah, GA**
- 7 **Avcon, Charlotte, NC**
- 8 **Dennis Corp, Columbia, SC**
- 9 **Harrell, Saltuck & Hopper, Beaufort, SC**

**FUNDING:** Primarily from FAA grant funding for AIP eligible projects.

**RECOMMENDATION:** The Public Facilities Committee approve and recommend to County Council approval of indefinite delivery contract awards to Talbert & Bright and LPA, the top two firms. The Evaluation Committee further recommends that the Public Facilities Committee and County Council authorize County staff to negotiate contracts with either firm depending on the type of Airport project and the availability of the firm to meet the County's schedule and approved budget.



WHEREAS, HHAH has agreed to contribute funding in the amount of \$1,000,000.00 as well as perform an integral supporting role to the County in its efforts to raise all remaining funds necessary to build the facility through private donations and grant awards; and

WHEREAS, in consideration of its substantial financial support, the County will enter into a Lease Agreement with HHAH for space within the facility through which HHAH will be able to offer both spay and neuter and animal adoption services; and

WHEREAS, through this Lease, HHAH will be able to ensure a sufficient return on its investment and both parties will realize operation efficiencies through the ability to utilize each other's services from within a singular Facility; and

WHEREAS, in order to more fully outline the specific roles and responsibilities that the parties will have within this facility, as well as identify the mutual considerations exchanged between the parties, the parties do hereby agree to following terms and conditions as stated below.

#### UNDERSTANDING

1. CONTRIBUTIONS.

A. Contributions by HHAH.

HHAH agrees to contribute One Million Dollars (\$1,000,000) towards the hard costs of construction of the Facility. HHAH shall make such a contribution after the County has made its initial contribution as provided in Section 1(B) below. In addition to the monetary contribution agreed to herein, HHAH agrees to support the County in its efforts to raise any remaining funds necessary to build the Facility through private donations and grant awards.

B. Contributions by County.

County agrees to initially contribute or dedicate Three Million Five Hundred Thousand Dollars (\$3,500,000) towards the construction of the Facility and shall be responsible for raising and paying for any additional funds or costs necessary to build or complete the Facility.

2. AGREEMENT AND PURPOSE OF SHARED SERVICES.

The Parties agree that they will be utilizing each other's services as it relates to animal control, care, and ultimately adoption. The Parties further agree that the purpose of utilizing each other's services is to enhance the shared goal of reducing euthanasia rates to the greatest extent practical.

3. RESPONSIBILITIES AND SERVICES TO BE PROVIDED BY COUNTY.

A. Construction of Facility.

County agrees to commence construction on the Facility on or before December 31, 2016 and to diligently complete construction of the Facility thereafter. County agrees to keep HHAH advised

as to the progress of construction of the Facility and to the raising of funds and payment of costs necessary to build or complete the Facility.

B. Animal Control Intake

Beaufort County Animal Services ("BCAS"), a Department of the County, shall be responsible for the processing of lost and stray animals that are delivered to the Facility in addition to any animals which may be acquired by virtue of its policing and patrolling responsibilities. Once an animal has been presented for intake, BCAS employees will perform an appropriate intake evaluation of the animal. Once completed, the animal will be transferred to a designated holding area or turned over to the Medical Services staff for treatment based upon the individual animal's medical needs. Once an animal has been cleared by BCAS that it is eligible for adoption, the animal will be delivered to HHA staff who shall be responsible for all aspects of the pet's adoption from that point forward.

In addition to the above, BCAS shall be responsible for performing any other traditional animal control or services function that is not specifically delineated in this agreement unless otherwise agreed to by all parties in writing.

C. Animal Control Enforcement

BCAS staff shall be responsible for enforcing the County's Animal Control Ordinances as may be amended from time to time by County Council in all unincorporated areas of the County as well as in any incorporated areas so long as such municipal corporation has adopted the County's animal control regulations and has executed a MOU to that effect. Additionally, BCAS shall be responsible for representing the County in all Animal Control code enforcement cases. HHA agrees that there may be situations wherein their staff may be asked to assist BCAS staff in the form of giving testimony, either as an eye witness or as an expert witness, under such terms and understandings as may be agreed to by the parties in writing for such limited matters.

4. SERVICES TO BE PROVIDED BY HILTON HEAD HUMANE ASSOCIATION.

County hereby engages and HHA hereby agrees to provide the following services to the County pursuant to the terms contained herein:

A. Adoption Services.

HHA will be responsible for providing all adoption related services at the Facility to include, but not be limited to, utilization of its adoption network connections to ensure that all potentially adoptable animals delivered to it by BCAS are either placed for adoption by HHA or transferred to another similar entity for adoption. HHA shall have the right to place additional adoptable animals within the Facility, subject to available space, which shall help to further increase adoption rates within the County.

HHA shall be entitled to collect any and all fees in connection with providing animal adoption services. HHA shall also take into consideration, but shall not be required to adopt, any suggested fee schedule for adoption that may be proposed by County Council. However, HHA

shall take such actions as may be necessary to provide community assistance to ensure that persons of all socioeconomic classes that are able to medically maintain such animal shall be able to reasonably adopt a pet.

Additionally, returns of all previously adopted animals shall be handled and processed by HHHH.

B. Spay and Neuter Services.

HHHA shall be responsible for operating a spay and neuter clinic within the facility and shall provide such services to the County as requested. HHHH agrees to provide BCAS with certificates, the total number of which may be determined by HHHH during any given time period (i.e. – per month, quarter or year) which can be issued by the County to families of need. Additionally, the spay and neuter clinic shall be open to use by the general public and such services shall be offered at an affordable rate so as to encourage responsible pet ownership and to limit the number of pets that may ultimately need adoption. As a part of the spay and neutering services offered to the County, HHHH shall also make available appropriate animal testing and vaccination services.

In exchange for providing spay and neuter services to the County as requested, the County shall pay unto HHHH a fee at the HHHH high volume client rate in effect at the time of the execution of this Memorandum of Understanding.

Spaying and neutering of feral cats shall be provided at no charge regardless of the source of such animal.

C. Medical Services.

(i) Emergency Medical Services.

HHHA shall provide BCAS with reasonable emergency medical services as may be necessary from time to time with the understanding that such services shall be provided only when HHHH has sufficient staff present to provide such services during normal working hours BCAS shall reimburse HHHH for the reasonable costs of such services or in such amounts as may be mutually agreed upon by the parties.

(ii) Preventative Medicine.

HHHA will provide all preventative medical services to all animals provided to it by BCAS in such manner as may be deemed appropriate by HHHH medical staff. Such services shall be provided without charge when such services are performed at a time when spaying or neutering of such animal is not performed.

5. LEASE AGREEMENT.

The County and HHHH shall enter into a lease agreement for certain space identified within the jointly operated facility. Such agreement shall be attached to this MOU as an exhibit and shall be incorporated herein by reference.

The Parties understand that in exchange for its financial contribution and its provision of services identified above, HHA shall be provided with such space within the facility as is identified in the Lease Agreement for \$1.00 per year. However, HHA shall agree to contribute its proportional share of utilities for the facility in relation to the amount of square footage that it shall occupy within the facility. Additionally, if this Memorandum were to be terminated by the County for cause, HHA shall be entitled to a prorated return of its \$1,000,000 contribution towards the development of the facility on a ten year straight line schedule. The initial term of the lease agreement shall be for a period of 10 years the parties shall have the right to extend the initial lease term for an additional ten 10 year period.

6. HIRING OF BCAS DIRECTOR.

The Parties acknowledge that a substantial reason for the successful relationship that they have enjoyed up until this point has been in large part to the successful relationship of the BCAS and HHA Directors. To ensure this continued success, both Parties agree that they will solicit input and opinions from the other party concerning the hiring or replacement of any director which shall be employed by either BCAS or HHA during the term of this Memorandum.

7. TERM AND TERMINATION.

This Memorandum shall commence on the Lease Agreement commencement date and shall continue for an initial term of ten (10) years thereafter. By mutual written agreement, the Parties shall have the right to extend the initial term of this Memorandum for an additional ten (10) year period of time.

Either party may terminate this Memorandum and the Lease Agreement after tendering unto the defaulting party a notice sufficiently outlining the grounds of any default of this Memorandum or the Lease Agreement by the defaulting party and the defaulting party shall thereafter have a period of 30 days in which to cure the alleged default. If, after receipt of such notice, the defaulting party fails or refuses to cure the alleged default within the aforementioned 30 day cure period, then the non-defaulting party may elect to terminate the Memorandum and Lease Agreement.

8. Notice.

The Parties shall provide written notice to each other as identified below:

As to Beaufort County:

Gary Kubic  
Beaufort County Administrator  
P.O. Box 1223  
Beaufort, South Carolina 29901

With copy to:

Beaufort County Attorney  
P.O. Box 1228  
Beaufort, South Carolina 29901

As to Hilton Head Humane Association:

Chuck Laine  
10 Humane Way  
Hilton Head Island, South Carolina 29926

With copy to:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. LIABILITY AND INDEMNIFICATION.

A. LIABILITY.

Each Party shall be responsible for its own acts, omissions and negligence and shall not be responsible for the acts, omission and negligence of the other Party. Neither party shall be liable to the other party for any claims, demands, expenses, liabilities or losses (including attorney's fees) which may arise out of any acts or failures to act by the other party, its employees or agents, in connection with the performance of services or responsibilities pursuant to this Memorandum.

B. SURVIVABILITY. The provisions of Section 9 and Section 11(E) of this Memorandum shall survive any termination or expiration of this Agreement for a period of 3 years after the date of any such termination or expiration.

10. INSURANCE.

Throughout the term of this Memorandum, County agrees that it shall be responsible for procuring insurance coverage in an amount sufficient to fully cover the full replacement cost of the Facility and shall also procure such contents coverage as may be necessary to cover its property and equipment. In addition, County shall be responsible for procuring general liability insurance in an amount not less than \$1,000,000. Each Party shall also procure workers' compensation insurance coverage if required under South Carolina law. County shall provide certificates of such insurance coverages to HHA prior to commencement of construction of the Facility.

HHA shall be responsible for procuring its own contents coverage insurance.

HHHA shall provide BCAS with a certificate of commercial general liability insurance in an amount of no less than \$1,000,000 and shall name the County as an additional insured on such policy and a certificate of workers' compensation insurance coverage, if applicable. HHA shall provide certificates of such insurance coverages to County prior to occupying the adoption center and spay/neuter services building and providing the services referenced herein.

11. MISCELLANEOUS.

A. ENTIRE CONTRACT.

This contract is the entire contract between the Parties with respect to this subject matter and there are no other representations of understandings or agreements between the Parties with respect to the development and operation of the Facility. This Memorandum supersedes all prior agreements on this subject, negotiations, representations and proposals, written or oral.

B. AMENDMENT.

No amendment or change to this Memorandum shall be valid unless in writing and signed by both Parties to the Memorandum.

C. GOVERNING LAW, JURISDICTION AND VENUE.

South Carolina law shall govern interpretation and enforcement of this Memorandum and any other matters relating to this Memorandum. Any and all legal actions or claims arising under this Memorandum shall be brought in the Beaufort County Court of Common Pleas.

The parties may participate in pre-filing mediation with regards to conflict arising under this Memorandum. However, such action shall not be required.

D. BINDING NATURE AND ASSIGNMENT.

This Memorandum shall bind the parties and their respective successors in interest as may be permitted by law. Neither party to this Memorandum may assign their rights or obligations arising under this Memorandum without the prior written consent of the other party.

E. NEITHER PARTY LIABLE FOR CONSEQUENTIAL, INDIRECT OR SPECIAL DAMAGES.

Neither party shall be liable to the other party, its agents or representatives or any subcontractor for or on account of any stoppages or delay in the performance of any obligation of a party hereunder, or any other consequential, indirect or special damages or lost profits related to this Memorandum.

F. SEVERABILITY.

The invalidity of one or more of the phrases, sentences, clauses or sections contained within this Agreement shall not affect the validity of the remaining portion of the Contract so long as the material purposes of the Memorandum can be performed and effectuated. If any provision of

this Memorandum is held to be unenforceable, then both parties shall be relieved of all obligations arising under such provision, but only to the extent that such provision is unenforceable, and this Memorandum shall be deemed amended by modifying such provision to the extent necessary to make it enforceable while still preserving the intent of this Memorandum.

G. WAIVER.

No waiver of any provision of this Memorandum shall be effective unless in writing and signed by the party waiving its rights. No delay or omission by either party to exercise any right or remedy it has under this Memorandum shall impair or be construed as a waiver of such right or remedy. A waiver by either party of any covenant or breach of this Memorandum shall not constitute or operate as a waiver of any succeeding breach of the covenant or of any other covenant.

H. CONSTRUCTION OF TERMS.

Each of the Parties has agreed to use of the particular language of the provisions of this Memorandum and any questions of doubtful interpretation shall not be resolved by any rule or interpretation against the drafters, but rather, in accordance with the fair meaning thereof, having due regard to the benefits and rights intended to be conferred upon the parties hereto and the limitation and restrictions upon such rights and benefits intended to be provided.

I. STATUS OF PARTIES.

Nothing in this Memorandum is intended to, or shall be construed to, create an employee/employer relationship between the Parties or to allow either party to allow the other party to have control or direction over the manner or method of the other party's performance of the services and responsibilities required hereunder. All County or BCAS employees will be employees of the County and all HHA employees or volunteers will be employees or volunteers of HHA.

J. OUTSIDE ACTIVITIES OF HHA.

Nothing in this Agreement shall prevent HHA from engaging or providing the same or similar services required by HHA under this Agreement at and/or outside of the Facility or to any person, entity or governmental entity other than the County.

K. NO THIRD PARTY BENEFICIARIES.

This Agreement is intended solely for the benefit of the Parties and not for the benefit of any other person or entity.

IN WITNESS WHEREOF, and in acknowledgement that the parties hereto have read and understood each and every provision hereof, the Parties have caused this Memorandum to be executed on the date first written above.

ATTESTED:

\_\_\_\_\_  
\_\_\_\_\_

BEAUFORT COUNTY, SOUTH CAROLINA,  
a body politic and political subdivision  
of the State of South Carolina

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Its: \_\_\_\_\_

Date: \_\_\_\_\_

ATTESTED:

\_\_\_\_\_  
\_\_\_\_\_

HILTON HEAD HUMANE ASSOCIATION,  
INC., a South Carolina non-profit  
corporation

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Its: \_\_\_\_\_

Date: \_\_\_\_\_





**COUNTY COUNCIL OF BEAUFORT COUNTY**  
**BEAUFORT COUNTY ENGINEERING DEPARTMENT**  
104 Industrial Village Road, Building #3, Beaufort, SC 29906  
Post Office Drawer 1228, Beaufort, SC 29901-1228  
Telephone: 843-255-2700 Facsimile: 843-255-9420

TO: Councilman Gerald Dawson, Chairman, Public Facilities Committee

VIA: Gary Kubic, County Administrator *Gary Kubic*  
Josh Gruber, Deputy County Administrator  
Alicia Holland, Assistant County Administrator for Finance *AH*  
Monica Spells, Administrator for Civic Engagement *Spells*  
Dave Thomas, Purchasing Director *DT*

FROM: Rob McFee, PE, Director of Facilities & Construction Engineering *Rob McFee*

SUBJ: Architectural and Engineering Design Services for the Design of the Beaufort County Animal Services & Control Facility - RFQ # 120914E

DATE: May 12, 2015

**BACKGROUND.** Beaufort County Council adopted Ordinance #2014/16 on 6/23/14 for the sales of general obligation bonds for funding of capital improvement projects. One of the capital projects is the County's Animal Services Complex.

Beaufort County advertised a Request for Qualifications (RFQ's) from firms seeking a multi-discipline design team for development of the Animal Services & Control Facility. On 12/09/14, Beaufort County received 7 submittals for RFQ's from the following firms:

BDA Architecture, PC Albuquerque, NM	Boomerang Design Charlotte, NC	FWA Group Hilton Head, SC	Glick Boehm & Associates Charleston, SC
HGBD Architects & Engineers Savannah, GA	R. W. Chambers Beaufort, SC	Stewart Cooper Newell Architects Gastonia, NC	

A selection committee composed of the Division Director of Facilities & Construction Engineering, Facilities Management Director, Assistant County Administrator for Public Safety, Animal Services Director and Airports Director was tasked with evaluating and selecting the highest ranking firms based on qualifications and experience. The following 4 firms were ranked highest and were selected for interviews by the committee:

BDA Architecture, Glick Boehm & Associates, RW Chambers, Stewart Cooper Newell Architects

As a result of the interviews, Glick Boehm & Associates was ranked number one and was selected for subsequent fee negotiations. The Facilities Management Director met with the Glick Boehm Architect team and a final and best value offer totaling \$428,400 was submitted for the development of an approximate 10,000 sqft Animal Services & Control Facility on a six acre site. The proposed fee for the development of the Animal Services & Control Facility was reviewed and found to be fair and reasonable.

*AH* **FUNDING.** New Animal Shelter CIP Account 40090011-54600 with a fund balance of \$3.5million.

**FOR ACTION.** Public Facilities Committee Meeting on May 18, 2015.

**RECOMMENDATION.** The Public Facilities Committee approve and recommend to County Council approval of a design contract award to Glick Boehm & Associates for the design of the Animal Services & Control Facility in the amount of \$428,400 and funded as listed above.

Attachment: 5/7/15 Fee Proposal

cc: Phil Foot, Tallulah Trice, Mark Roseneau



May 7, 2015

1502/1.1.1

Mr. Mark Roseneau, Director  
Facility Management  
Beaufort County Government  
120 Shanklin Road  
Beaufort, SC 29906

**Re: Finalized A/E Proposal  
Beaufort County Animal Shelter  
Beaufort, South Carolina**

Dear Mr. Roseneau:

In accordance with our conversations over the last few weeks, I would like to confirm that Glick/Boehm & Associates will be providing architectural and engineering services for a six acre site and an approximate 10,000 square foot building for a total fee of \$428,400.00. This fee includes all mileage, meals, travel and long distance phone calls for all design meetings and all site visits during the construction administration phase of the project.

A. Survey is included for the six acre site.

B. The only cost not included in this fee are drawings for construction (the contractor will be responsible) and any fees for local agency submittal and approval.

Glick/Boehm & Associates and our entire consultant team are looking forward to working with you and the others at Beaufort County again.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Myles I. Glick', is written over the typed name below.

Myles I. Glick, AIA, LEED AP  
Senior Principal

**Ordinance No. 2015/\_\_\_\_\_**

**AN ORDINANCE AUTHORIZING THE EXECUTION AND DELIVERY OF AN EASEMENT ENCUMBERING PROPERTY OWNED BY BEAUFORT COUNTY, SOUTH CAROLINA.**

**WHEREAS**, Beaufort County owns real property located on S.C. Highway 170 known as Beaufort County parcel on the west side of S.C. Highway 170 near Sun City Hilton Head Entrance Gate and St. Luke’s Church; and

**WHEREAS**, due to the S.C. Highway 170 widening project, it is necessary for Palmetto Electric Cooperative, Inc., to relocate its existing electrical and communications systems that serve residents in the surrounding areas; and

**WHEREAS**, Palmetto Electric Cooperative, Inc. has requested that Beaufort County grant it a Utility Easement for constructing, reconstructing, operating and maintaining electrical and communication system overhead and/or underground across portions of the County’s property; and

**WHEREAS**, County staff has worked diligently with Palmetto Electric Cooperative, Inc. to develop a proposed easement path across the County’s property that ensures a minimal impact to the property itself; and

**WHEREAS**, Beaufort County Council has determined that it is in its best interests to authorize the execution and delivery of the requested Easement attached hereto and incorporated by reference as “Exhibit A”; and

**WHEREAS**, S.C. Code Ann. § 4-9-130 requires that the transfer of any interest in real property owned by the County must be authorized by the adoption of an Ordinance by Beaufort County Council.

**NOW, THEREFORE, BE IT ORDAINED BY BEAUFORT COUNTY COUNCIL AS FOLLOWS:**

(1) The County Administrator is hereby authorized to execute the Easement which is attached hereto as “Exhibit A”; and

(2) The County Administrator is hereby authorized to take all necessary actions as may be necessary to complete the conveyance of the Easement and ensure the construction and installation of the new power line occurs as agreed upon by the County and Palmetto Electric Cooperative, Inc.

DONE, this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

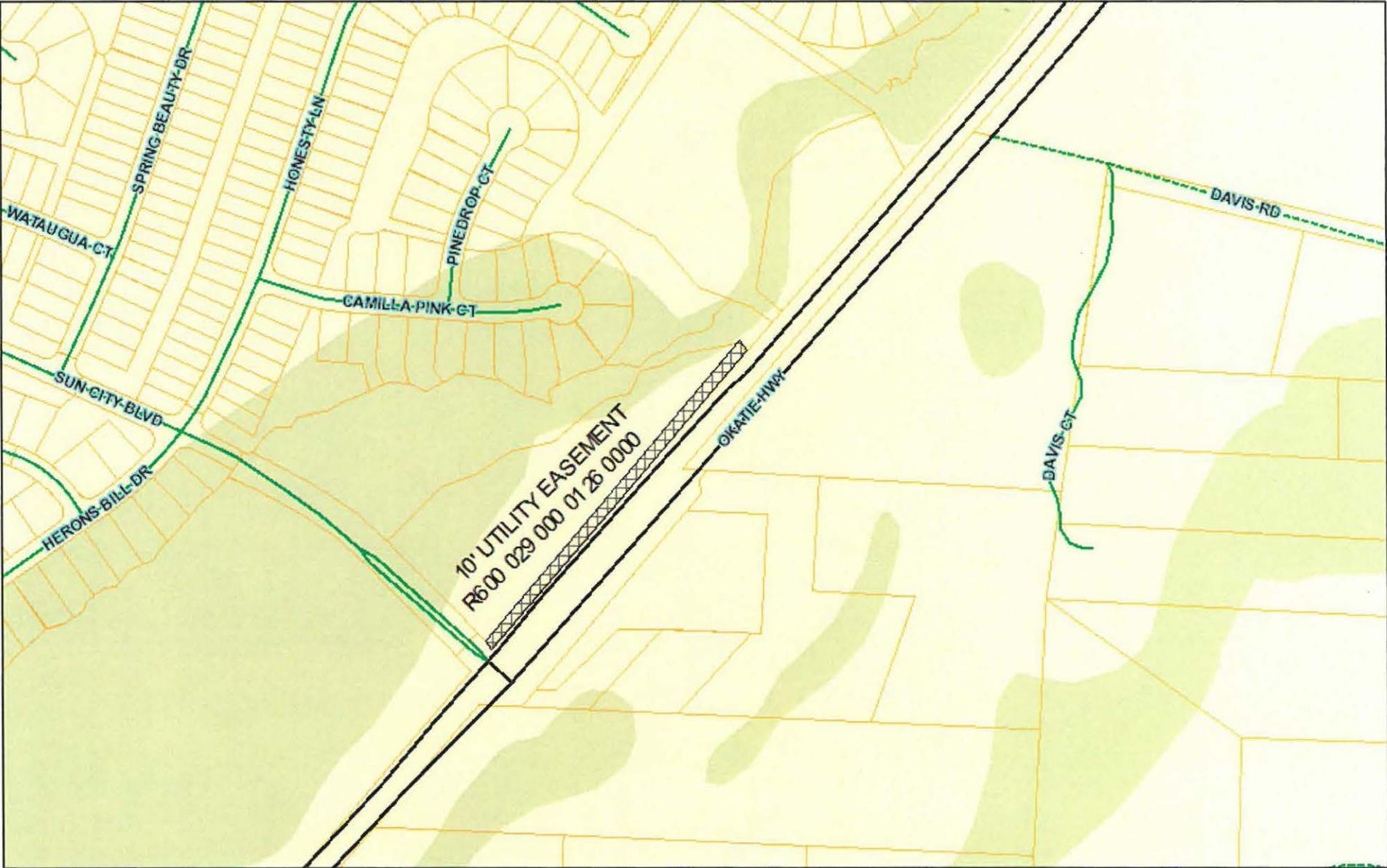
COUNTY COUNCIL OF BEAUFORT COUNTY

BY: \_\_\_\_\_  
D. Paul Sommerville, Chairman

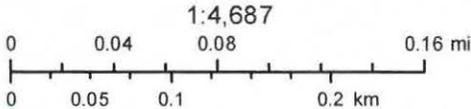
APPROVED AS TO FORM:

\_\_\_\_\_  
Thomas J. Keaveny, II, County Attorney  
First Reading: October 26, 2015  
Second Reading: November 9, 2015  
Public Hearing:  
Third and Final Reading:

# PROPOSED PALMETTO ELECTRIC CO-OP UTILITY ESMT



October 19, 2015



# Beaufort County Hwy 170 Easement

## Palmetto Electric Utility Easement



Copyright 2011 Esri. All rights reserved. Mon Oct 14 2013 02:20:14 PM.

# ADD-ONS

The document(s) herein were provided to Council for information and/or discussion after release of the official agenda and backup items.

Topic: Economic Development  
Date Submitted: November 30, 2015  
Submitted By: Stu Rodman  
Venue: Council Regular Session

# Economic Development

## Decision Trees

### Nov 23<sup>rd</sup> Meeting w/ Mayors:

1. Economic Development Corp
2. Hire Director
3. Alliance - Not now, maybe later
  - Arguing BC is an Alliance w/ 4 EDC's
    - Commerce - Industrial
    - Municipalities - non-Industrial
  - Understanding Commerce may not play

### County?

1. Alliance Which One?
2. Hire Director
3. Economic Development Corp

## Decision

### Commerce:

- Brings: Deal Flow & Funding
- Demands: Alliance & Product
- Suggests: Southern

### County Requirements:

- Jasper (Port) Relationship
- NOB - Industrial / Indifferent
  - Gardens Corner
- SOB - Indifferent

### Debate & Decide (Dec 7<sup>th</sup>):

1. Join an Alliance
2. Go it alone
3. Quit - gave it a good go
4. Reestablish LEA

Topic: Committee Start Times  
Date Submitted: November 30, 2015  
Submitted By: Stu Rodman  
Venue: Council Regular Session

## Stu's Thoughts on Council Start Times

### Resolved schedule:

TBD - Executive Session (depending on estimated time)

5:30 - Caucus

6:00 - Convene

6:30 - Public Hearings

TBD - Administrator's Report (suggest 7:00)

8:00 - Adjourn unless extended

### Impact:

- In the day we typically met from 4:00 to about 8:30
- Today we typically meet from 4:00 to about 6:30
- If adopted we would typically meet from 5:00 to about 7:30

### Over the years we have:

1. Added the Consent Agenda and move more work to Committees
2. Reduced the Committees from 10 to 5
3. Activated the Executive Committee
4. Added the Administrative Consent Agenda
5. Added County Channel coverage including Committee Meetings
6. Scheduled standing meetings on Mondays afternoons

### Recommended Standing Committee Schedule:

1st Monday: Executive (3:00) & Finance (4:30 - 5:00)

2<sup>nd</sup> Monday: Government (3:00 - 3:30) & Council (5:00)

3<sup>rd</sup> Monday: Public Facilities (3:00) & Natural Resources (4:30 - 5:00)

4<sup>th</sup> Monday: Community Services (3:00 - 3:30) & Council (5:00)

### Notes:

1. Finance & Natural Resources noticed to start upon completion of the earlier meeting but no earlier than 4:30.
2. Chair may adjusted start times based on estimated meeting length

Topic: Pepper Hall Plantation Development Agreement  
Date Submitted: November 30, 2015  
Submitted By: Stu Rodman  
Venue: Council Regular Session

**Graves Property Development Agreement**

11/30/15

	<u>Planning Commission</u> (6 - 2 vote)	<u>Development Agreement</u> (2-1 vote)	<u>At Issue</u>
<b>Zoning (acres):</b>			
Commercial Regional	65	45	45
Suburban	48	68	

**Max Commercial (000's - sq ft)**  
(Subject to traffic LOS)

Commercial	1st Floor		450	450
Regional	2nd & 3rd		136	
Suburban	1st Floor		68	
	2nd & 3rd		46	
		700	700	
100% Suburban	1st Floor per ZDSO	886		

**Commercial 1st Floor / Acre (000's - sq ft):**

	<u>ZDSO</u>		
Commercial Regional	13.5	10.0	10
Suburban	7.8	1.0	
Combined	11.1	4.6	

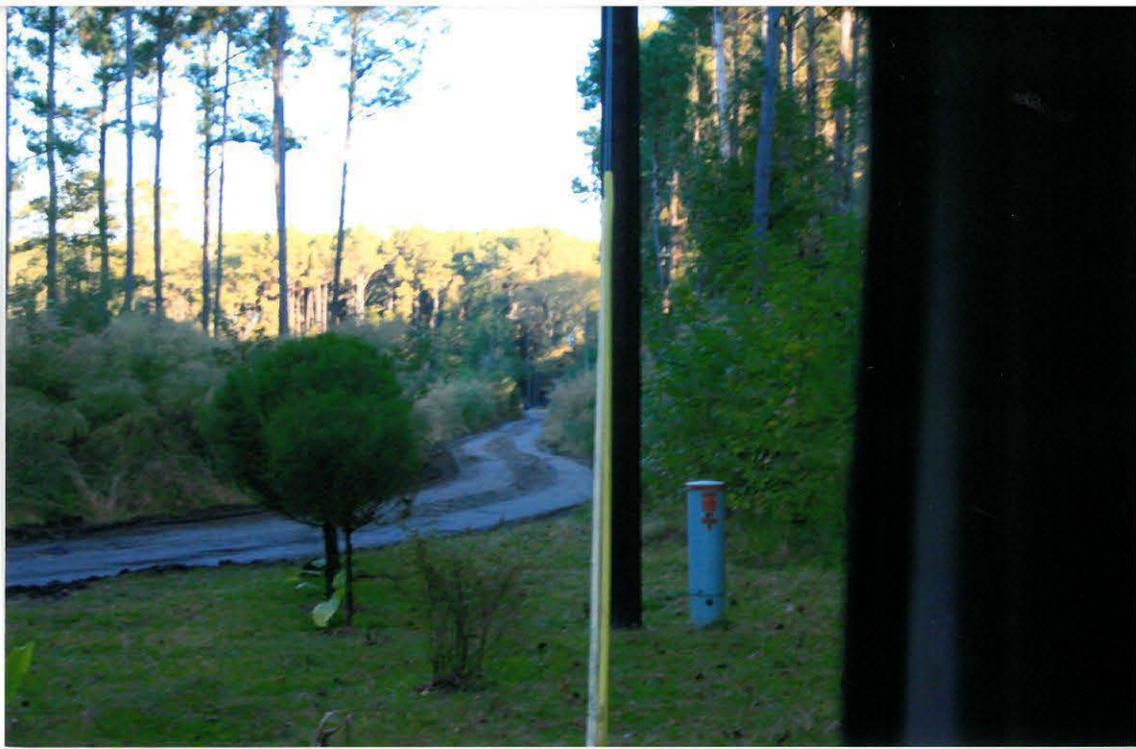
<b><u>Max Dwelling Units:</u></b>				
100% Suburban	w/ TND Conversion	480	480	480
		1,025		

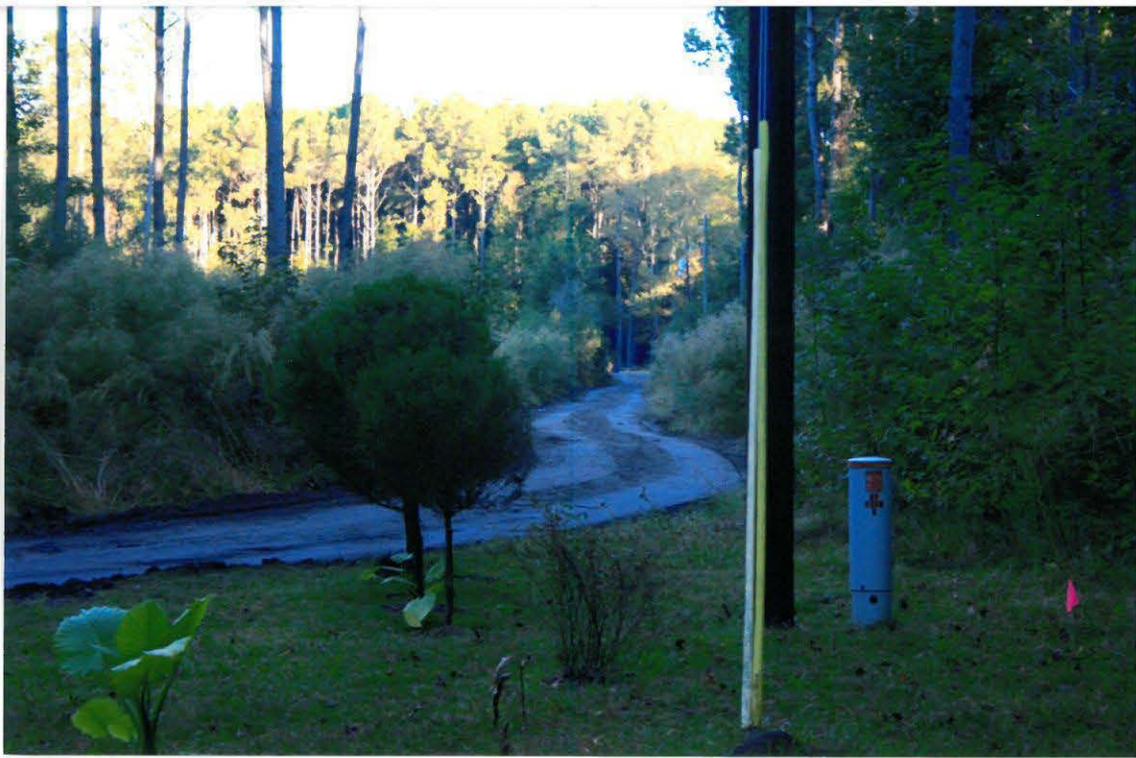
(Max Commercial & Max Dwelling Units are Mutually Exclusive)

Topic: Driveway / 61 Paige Point Road  
Date Submitted: November 30, 2015  
Submitted By: Tommy O'Brien  
Venue: Council Regular Session



Tommy O'Brien  
November 30, 2015  
Council Regular Session

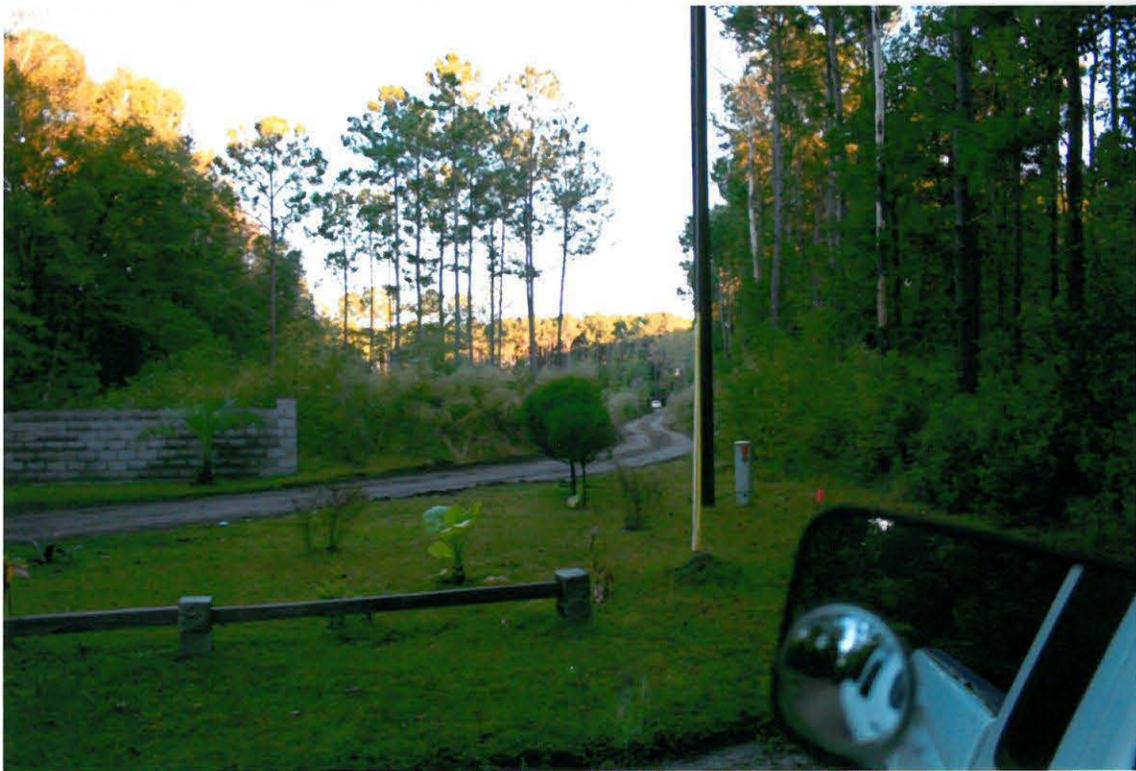


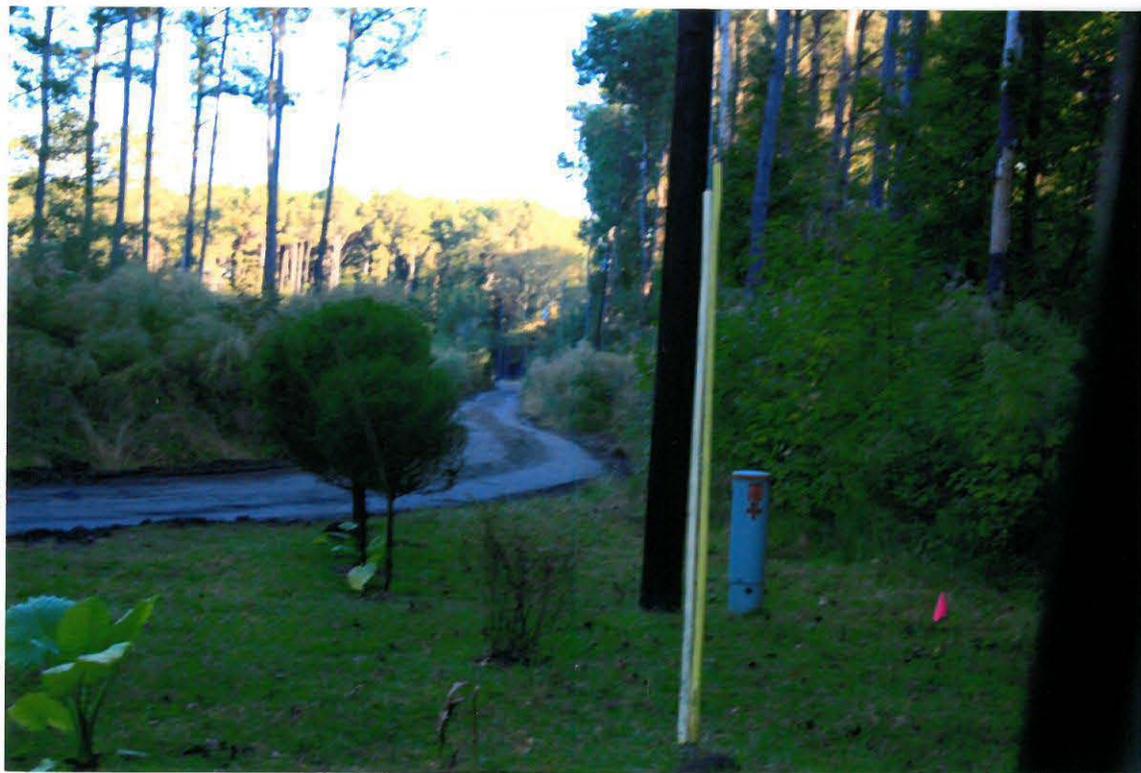














Topic: Applications for Rezoning / Pepper Hall Plantation  
Date Submitted: November 30, 2015  
Submitted By: Barry Johnson  
Venue: Council Regular Session

# JOHNSON & DAVIS, PA

ATTORNEYS AND COUNSELORS AT LAW

BARRY L. JOHNSON\*  
HUTSON S. DAVIS, JR. \*\*

\* Certified S.C. Mediator and Arbitrator  
\*\* Certified S.C. Mediator

THE VICTORIA BUILDING  
SUITE 200  
10 PINCKNEY COLONY ROAD  
BLUFFTON, SC 29909

TELEPHONE (843) 815-7121  
TELEFAX (843) 815-7122

BARRY L. JOHNSON  
BARRY@JD-PA.COM

November 24, 2015

**Via E-Mail Only**

Hon. D. Paul Sommerville, Chairman  
Hon. Gerald Dawson  
Hon. William L. McBride  
Hon. Alice G. Howard  
Hon. Brian Flewelling  
Hon. Jerry Stewart  
Hon. Cynthia M. Bensch  
Hon. Rick Caporale  
Hon. Roberts "Tabor" Vaux  
Hon. Steven G. Fobes  
Hon. Stewart H. Rodman

Re: Application for Rezoning (Pepper Hall Plantation) by Robert L. Graves,  
John Tamplet Graves, Sr. and Paul B. Graves, Sr.  
J&D, PA File No.: O15-6222

Dear Mr. Chairman and Members of Council:

The within materials were provided to Mr. Keaveny, the County Attorney. Those materials consist of copies of the Giger and Talbot court cases, and a copy of your CDC Section 1.6.70. I am requesting that those materials, and this letter be included in your Agenda Packets for the meeting on November 30, 2015 of the Beaufort County Council, as part of the continuing dialogue during the postponement period, concerning Pepper Hall Plantation and rezoning.

During this postponement period, several meetings have occurred which I think have addressed several concerns about the Graves Rezoning Application. These meetings have been cordial and communicative and I, and the Graves Families, are very much appreciative of that.

I believe that we have fully addressed any concerns that any of you may have of how to make a development agreement legally binding during its term and of the zoning classifications to which the Graves lands would default after the end of the term of a development agreement. If any of you have any residual questions about such issues, I respectfully suggest you discuss

Barry Johnson  
November 30, 2015  
Council Regular Session

JOHNSON & DAVIS, PA

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Chairman and Members of Council

November 24, 2015

Page Two

them with Tom Keaveny, your County Attorney, although I will certainly be available if questions are asked of me.

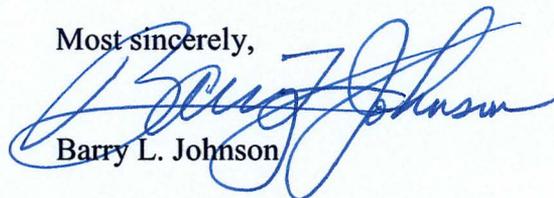
Further, I see that there are several issues concerning the last draft (dated October 30, 2013) of the proposed Development Agreement for the Graves lands that could benefit from further discussions. The Graves Families and their representatives are prepared to engage in good faith in such discussions. With such discussions, and the resulting better understandings on all sides, I am hopeful that the remaining issues concerning the Development Agreement can be resolved with fairness to my clients.

Accordingly, on behalf of the Graves Families, I respectfully request that Mr. Flewelling's pending motion, for Council to deny the Graves Families' Rezoning Application for Pepper Hall, be postponed; that, on motion and vote, the Council create an *ad hoc* Development Agreement Negotiating Committee, all of whom would be Council Members and a majority of whom would be Council Members whose districts are fully from South of the Broad River (in whose, or near whose, districts the Graves lands are located), to work with and through the County Attorney, and with and through the Graves Families and their representatives. I think it would make sense this for *ad hoc* Committee to report back to Council no later than the first meeting of Council in February 2016 but, hopefully, much earlier than that.

Others, and I, plan to speak during the Public Comment Section at the meeting on November 30, 2015. Your being in possession of the enclosed materials and this letter may facilitate our communication to you of the context in which my brief remarks will be made on November 30, 2015.

Thanking you, again, for your service of the citizens and property owners of Beaufort County, and with best wishes, I am

Most sincerely,



Barry L. Johnson

BLJ:ger

Enclosures

cc: Thomas J. Keaveny, Beaufort County Attorney (w/o enc.)

Allison Coppage, Assistant Beaufort County Attorney (w/o enc.)

Robert L. Graves, Sr.

John Tamplet Graves, Sr.

Paul B. Graves, Sr.

### 1.6.70

#### Other Development Subject to a Development Agreement

Any application that has received approval in accordance with a development agreement approved before December 8, 2014 may be carried out in accordance with the terms and conditions of the development agreement, provided the development agreement does not expire and otherwise remains valid. If the development agreement expires, is revoked (e.g., for failure to comply with time limits or the terms and conditions of approval), or otherwise becomes invalid, any subsequent development of the site shall be subject to the procedures and standards of this Development Code.

**Nebraska Supreme Court**

Filed: June 30th, 1989

Status: Precedential

Citations: 442 N.W.2d 182, 232 Neb. 676

Docket Number: 87-521

Judges: Hastings

Fingerprint: 1ff69c06e2838dd2eba86a53c71e8273b1bd58c5

**442 N.W.2d 182 (1989)  
232 Neb. 676**

**Donald GIGER et al., Appellants,  
v.  
CITY OF OMAHA, a Municipal Corporation, et al., Appellees.  
D. James WITHERSPOON et al., Appellants,  
v.  
CITY OF OMAHA, a Municipal Corporation, et al., Appellees.**

No. 87-521.

**Supreme Court of Nebraska.**

June 30, 1989.

\*187 John C. Mitchell, of Mitchell & Demerath, and J. Patrick Green, Omaha, for appellants Giger et al.

Richard E. Croker, of Croker, Huck & McReynolds, P.C., and Larry W. Myers, Omaha, for appellants Witherspoon et al.

Charles K. Bungler, Asst. Omaha City Atty., and Frank F. Pospishil and Harvey B. Cooper, of Abrahams, Kaslow & Cassman, Omaha, for appellees.

HASTINGS, C.J., and BOSLAUGH, WHITE, CAPORALE, SHANAHAN, GRANT, and FAHRNBRUCH, JJ.

WHITE, Justice.

This appeal involves two lawsuits relating to a development known as One Pacific Place. The

development is being constructed on an 84-acre tract of land formerly owned by Carl Renstrom located in southwest Omaha. The land, hereafter the Renstrom property, is approximately triangular in shape, bordered on the north by Pacific Street, on the east by the Happy Hollow and Sunset Hills residential developments, on the southwest by the Big Papillion Creek, and on the west by 105th Street.

In March 1983, appellee Midlands Development Company (Midlands) entered into a real estate purchase agreement with the Renstrom estate for the purchase of the property. Midlands then applied to the city to have the Renstrom property rezoned to permit the construction of a mixed-use development consisting of retail, office, and residential buildings. As part of the application process, Midlands submitted several development plans. A final plan was developed \*188 which indicated the following uses for 48 acres of the tract: 112,000 square feet of retail space, 390,000 square feet of office space, 558,000 square feet of parking space, 300 residential units, a private lake, and a planned unit development (PUD). The plan also called for the construction of a public park on the remaining 36 acres to be deeded by Midlands to the city. In a "new procedure," Midlands and the city entered into four agreements incorporating the plan. The four agreements, collectively known as the development agreement, were submitted to the city for approval. In February 1985, the city passed an ordinance approving the development agreement, incorporating it as part of the ordinance, and passed five separate ordinances rezoning the Renstrom property. Building permits were then issued, including a permit allowing Midlands to fill in the flood plain of the Big Papillion Creek located on the land and to make modifications to the creek channel.

Construction on the site began approximately in September of 1985. Thereafter, two lawsuits were filed in the district court for Douglas County: *Giger et al. v. City of Omaha et al.*, filed by neighboring property owners, and *Witherspoon et al. v. City of Omaha et al.*, filed by downstream riparian property owners living along the Big Papillion Creek. The two petitions requested an order declaring the city's rezoning ordinance and accompanying building permits void, and an injunction to enjoin Midlands from developing the property in any manner inconsistent with prior zoning ordinances. The suits were ordered consolidated for trial. After a lengthy trial, the trial court denied the plaintiffs' requested relief.

Though the plaintiffs-appellants assign a total of 15 errors, these errors are consolidated into three issues for consideration on appeal. The first two issues relate to appellants' contention that the trial court erred in not finding that the Omaha City Council acted in an arbitrary, capricious, and unreasonable manner in adopting the rezoning ordinance. Specifically, the appellants allege that the city entered into a development agreement with Midlands, adopted a rezoning ordinance which incorporated that agreement, and rezoned the Renstrom property pursuant to that agreement and that the city adopted the rezoning ordinance without giving adequate consideration to the risk of flood created by the project. The last issue involves appellants' claim that the trial court erred in not granting a permanent injunction enjoining Midlands from filling the flood plain on the Renstrom property and altering the channel of the Big Papillion Creek.

An action to declare a city zoning ordinance void, and to enjoin enforcement under color of that ordinance, is one in equity. *Sasich v. City of Omaha*, 216 Neb. 864, 347 N.W.2d 93 (1984); *Buchholz v. City of Omaha*, 174 Neb. 862, 120 N.W.2d 270 (1963). A case in equity is reviewed de novo on the record, subject to the rule that where credible evidence is in conflict on material issues of fact, we consider and may give weight to the fact the trial court observed the witnesses and accepted one

version of the facts over another. *Thomas v. Marvin E. Jewell & Co.*, 232 Neb. 261, 440 N.W.2d 437 (1989); *Sasich v. City of Omaha, supra*.

Zoning is a legislative function, *Schaffer v. City of Omaha*, 197 Neb. 328, 248 N.W.2d 764 (1977); *In re Application of Frank*, 183 Neb. 722, 164 N.W.2d 215 (1969); and 1 R. Anderson, *American Law of Zoning* § 3.14 (3d ed. 1986), and zoning regulations are enacted pursuant to the police power of the state, *Euclid v. Ambler Realty Co.*, 272 U.S. 365, 47 S.Ct. 114, 71 L.Ed. 303 (1926); *Schaffer v. City of Omaha, supra*; *Davis v. City of Omaha*, 153 Neb. 460, 45 N.W.2d 172 (1950); and 1 R. Anderson, *supra*, § 2.01. The Nebraska Legislature has granted the City of Omaha the power to zone property lying within its jurisdiction. Neb.Rev.Stat. §§ 14-401, 14-402, and 14-403 (Reissue 1987); *Davis v. City of Omaha, supra*. Section 7.09 of the City of Omaha Home Rule Charter provides that the Omaha City Council, by ordinance, may enact, amend, and modify zoning regulations in accordance with the laws of the State of Nebraska. In addition, this \*189 jurisdiction has long recognized that zoning ordinances enacted by a city, as a lawful exercise of police power, must be consistent with public health, safety, morals, and the general welfare. Neb.Rev.Stat. §§ 14-102(25) and 14-401 (Reissue 1987); *Schaffer v. City of Omaha, supra*; *Wolf v. City of Omaha*, 177 Neb. 545, 129 N.W.2d 501 (1964); *Buchholz v. City of Omaha, supra*; *City of Omaha v. Cutchall*, 173 Neb. 452, 114 N.W.2d 6 (1962); *Davis v. City of Omaha, supra*; *City of Omaha v. Glissmann*, 151 Neb. 895, 39 N.W.2d 828 (1949), *appeal dismissed* 339 U.S. 960, 70 S.Ct. 1002, 94 L.Ed. 1370 (1950), *reh'g denied* 340 U.S. 847, 71 S.Ct. 15, 95 L.Ed. 621; *Cassel Realty Co. v. City of Omaha*, 144 Neb. 753, 14 N.W.2d 600 (1944).

The first argument raised by the appellants is that the city, by adopting a rezoning ordinance pursuant to an agreement between itself and Midlands, acted in an arbitrary, capricious, and unreasonable manner. In support of this argument, the appellants challenge the validity of the rezoning ordinance on two grounds. They assert, first, that rezoning by agreement is invalid per se and, second, that the rezoning ordinance violates the substantive standards set out in §§ 14-402 and 14-403.

Specifically, the appellants contend that because rezoning by agreement is illegal contract rezoning, it is invalid per se, is an ultra vires act, and fosters an "appearance of evil." They allege illegal contract rezoning occurred because the city bargained away and sold its police power. The appellants do not cite any Nebraska authority for this proposition and claim that this court has never faced a true contract zoning situation. However, we note that *Buchholz v. City of Omaha, supra*, a case where the city conditioned its granting of a rezoning ordinance on the developer's entering into a protective covenant, has been characterized as an example of contract rezoning. 2 R. Anderson, *American Law of Zoning* § 9.21 (3d ed. 1986); 1 N. Williams & J. Taylor, *American Planning Law, Land Use and the Police Power* § 29.03 (rev. 1988). Yet, *Buchholz* has also been labeled as an example of a conditional rezoning. Annot., 70 A.L.R.3d 125, 162 (1976); 2 A. Rathkopf & D. Rathkopf, *Rathkopf's the Law of Zoning and Planning* § 27.05 (rev. 1989); Note, *The Validity of Conditional Zoning: a Florida Perspective*, 31 U.Fla.L.Rev. 968, 971 n. 21 (1979); Comment, *Land Use Goffinet v. County of Christian: New Flexibility in Illinois Zoning Law*, 8 Loy.U.Chi.L.J. 642, 643 n. 15 (1977). This distinction is academic because our scope of review, as explained below, is limited to determining whether the conditions imposed by the city for rezoning are reasonably related to the interest of public health, safety, morals, and the general welfare.

This court realizes that in the development of a project such as One Pacific Place there are

negotiations between the developer and the city. We are also aware that a city rezones property based on representations made and plans submitted by the developer. However, once a parcel of land has been rezoned, there is no guarantee the developer will follow through on the plans submitted to the city. Legally, the developer is entitled to use his or her land in any manner permitted by the zoning classification. Of course, the city would not be without a remedy if the land was used in a manner not contemplated in the original plans submitted by the developer. The city could rezone the property to another designation and then institute the appropriate proceedings to prevent the unwanted development. See Neb.Rev.Stat. § 14-415 (Reissue 1987).

However, as *Cummings Enterprises v. Shukert*, 231 Neb. 370, 436 N.W.2d 199 (1989), indicates, this is not always an effective remedy. In *Cummings Enterprises*, the developer's land was rezoned from second suburban district to first commercial. He applied for a building permit for a carwash, a permissible use under that classification, and his request was denied. Subsequently, the city rezoned the developer's property to a classification which excluded carwashes. The developer successfully sued for a writ of mandamus ordering the issuance of the building permit. The city issued the permit, and the developer \*190 built the carwash. We held that the city had waived its right to appeal the order, since it voluntarily complied with the order instead of obtaining a supersedeas.

In addition, this court gives great deference to the city's determination of which laws should be enacted for the welfare of the people. *Wolf v. City of Omaha, supra; City of Omaha v. Glissmann, supra*. When the city rezones a parcel of property, we presume the validity of that action absent clear and satisfactory evidence to the contrary. *Buchholz v. City of Omaha*, 174 Neb. 862, 120 N.W.2d 270 (1963); *Davis v. City of Omaha*, 153 Neb. 460, 45 N.W.2d 172 (1950). Therefore, when the city considers a request for rezoning based upon a plan or representation by the developer, it is presumed that the city grants the request after making the determination that the plan as represented is in the interest of public health, safety, morals, and the general welfare. We do not think a developer should be allowed to develop property in a manner inconsistent with the plan or representation on which the rezoning was based, despite the fact that the inconsistent use may be permissible under the new zoning classification. By developing the property in a manner not contemplated by the city in granting the rezoning classification, the developer contravenes a decision made by the city pursuant to its police power for the benefit of the community. If the city is limited to only enacting bare zoning ordinances and is not permitted to insist that developers construct buffer zones or make other changes in order to blend the development into the surrounding community, the city will be stripped of the power to act for the benefit of the general welfare. Accordingly, the city should be permitted to condition rezoning ordinances on the adoption of an agreement between the developer and the city, or any other means assuring the developer builds the project as represented. At the risk of confusion, but for the sake of convenience, we will refer to this zoning arrangement as conditional zoning. As Rathkopf notes:

The purpose [of conditional rezoning] is to minimize the negative externalities caused by land development which otherwise benefits the community. The developer may agree to restrict development of its property, make certain improvements, dedicate a portion of land to the municipality, or make payments to the government.

Conditional rezoning is valuable as a planning tool because it permits a municipality greater flexibility in balancing developmental demands against fiscal and environmental

concerns. It also provides a municipality with flexibility to meet specific rezoning requests while preserving the integrity of adjacent property. For instance, the agreement can mitigate the harshness of commercial or industrial rezoning on neighboring residential property by requiring a buffer on the zone boundaries. Finally, conditional rezoning allows a municipality to maintain greater control over the development process.

2 A. Rathkopf & D. Rathkopf, *Rathkopf's the Law of Zoning and Planning* § 27.05 at 27-45 to 27-46 (rev. 1989). Thus, this device allows the city flexibility to extract improvements that bare zoning ordinances do not provide, grants a greater means of control over the development to the city, and gives the city a remedy to enforce the developer's plans and representations. Theoretically, if the rezoning ordinance adopts the plan, as in this case, the city could institute legal proceedings if the developer builds a project inconsistent with the plans without resorting to rezoning the property. For the foregoing reasons we hold conditional rezoning to be valid. Our holding today is a reflection of the trend started in this jurisdiction by *Bucholz* and the growing movement in this country permitting conditional rezonings. 2 A. Rathkopf & D. Rathkopf, *supra*.

However, our holding recognizing the validity of conditional rezoning is not without limitation. Conditional rezoning is a legislative function and therefore must be within the proper exercise of the police power. Accordingly, the conditions imposed by the city for the rezoning must be reasonably related to the interest \*191 of public health, safety, morals, and the general welfare. See, e.g., *Treme v. St. Louis County*, 609 S.W.2d 706 (Mo.App.1980) (where offer made or exaction demanded for rezoning bears no reasonable relationship to activities of developer, action of county or municipality in rezoning property in exchange for such offer or exaction is contracting away of police power, which is forbidden); *State ex. rel. Myhre v. Spokane*, 70 Wash.2d 207, 422 P.2d 790 (1967) (amendment to zoning ordinance and concomitant agreement should be declared invalid only if it can be shown that there was no valid reason for change, that they are clearly arbitrary and unreasonable and have no substantial relation to public health, safety, morals, and general welfare, or that city is using concomitant agreement for bargaining and sale to highest bidder or solely for the benefit of private speculators). See 2 A. Rathkopf & D. Rathkopf, *supra*. Hence, to successfully challenge the validity of conditional rezoning, the appellants must prove that the conditions imposed by the city in adopting the rezoning ordinance were unreasonable, discriminatory, or arbitrary, and that the regulation bears no relationship to the purpose or purposes sought to be accomplished by the ordinance. This is the same test used for testing the validity of zoning ordinances in this jurisdiction. See, *Wolf v. City of Omaha*, 177 Neb. 545, 129 N.W.2d 501 (1964); *Bucholz v. City of Omaha*, 174 Neb. 862, 120 N.W.2d 270 (1963); *City of Omaha v. Cutchall*, 173 Neb. 452, 114 N.W.2d 6 (1962); *City of Omaha v. Glissmann*, 151 Neb. 895, 39 N.W.2d 828 (1949); *Cassel Realty Co. v. City of Omaha*, 144 Neb. 753, 14 N.W.2d 600 (1944). "The validity of a zoning ordinance will be presumed in the absence of clear and satisfactory evidence to the contrary." *Bucholz v. City of Omaha*, *supra* 174 Neb. at 865-66, 120 N.W.2d at 273, citing *Davis v. City of Omaha*, 153 Neb. 460, 45 N.W.2d 172 (1950).

The appellants argue that by entering into the development agreement the city has curtailed or bargained away its police powers because (1) the agreement prohibits amendment without the consent of the developer; (2) the city is committed to approve a PUD "without any present indication as to what such PUD's might contain"; (3) the city is obligated to issue building permits "without regard to compliance with other building codes, rules and regulations of the City"; (4) the city is required to

spend \$64,700 for offsite improvements; (5) the agreement mandates the manner in which the city is to levy special assessments for the payments of these improvements; and (6) "[t]hroughout the Subdivision Agreement [one of the agreements in the development agreement], the City obligates itself to deal in many ways involving its legislative and administrative authority with a *non-existent* Sanitary and Improvement District to be created in the future." Brief for appellants Witherspoon et al. at 18-19. However, the plain language in the provisions of the development agreement contradict appellants' contentions. The development agreement in pertinent part provides:

## SECTION 2. DEVELOPMENT PLAN.

2.1 Except as otherwise permitted by this agreement, One Pacific Place shall be developed in accordance with the development plan....

2.2 Midlands reserves the right to modify the Development Plan in any or all of the following ways, *provided* that such modifications do not violate any provisions of the Omaha Municipal Code, *and* the City agrees that any or all of such modifications shall not constitute a violation of Section 2.1.

2.2.1 As long as the Site Development Regulations are not violated, Midlands may alter the location, physical shape, and exterior dimensions of any structure shown on the Development Plan, within the boundaries of any platted lot.

2.2.2 As long as the Site Development Regulations are not violated, Midlands may reduce the number of office buildings shown on the Development Plan from three (3) to two (2).

2.2.3 As long as the Site Development Regulations are not violated, Midlands may reduce the number of commercial \*192 buildings shown in the Retail Center on the Development Plan from four (4) to either three (3) or two (2).

2.2.4 As long as the Site Development Regulations are not violated, Midlands may increase or decrease the number of residential structures shown on the Development Plan, provided that the average density on land used for residential purposes in One Pacific Place is no less than fifteen (15) Dwelling Units per gross acre.

2.2.5 As long as the Site Development Regulations are not violated, with the approval of the Planning Director of the City, Midlands may alter the location and design of any off-street surface parking area shown on any platted lot on the Development Plan, so long as such alteration does not increase or decrease the paved surface (excluding medians, landscaped areas, and other portions of the parking area not designed for vehicular access, circulation, or parking) of such parking area by more than twenty percent (20%) from that shown on such lot on the Development Plan....

2.3 *None of the foregoing provisions shall be construed to imply any waiver of any provision of Chapter 55, Chapter 53, or any other section of the Omaha Municipal Code.*

....

## SECTION 9. MISCELLANEOUS PROVISIONS.

....

9.2 All amendments of this agreement shall require approval by the City Council of the City and by Midlands or the successor owners of the real estate.... This provision *shall not* abrogate any legal remedies available to the City Council of the City or the Planning Director of the City (as provided in the Omaha Municipal Code) under the Omaha Municipal Code....

(Emphasis supplied.) Simply stated, the agreement expressly provides that Midlands may vary the development only if the city does not find the variation deviates from the development plan *and* the variations do not violate *any* provision of the Omaha Municipal Code. Clearly, under this agreement, the powers of the city are unchanged. We fail to see how the development agreement can be construed as bargaining away the city's police power.

In fact, this agreement is in reality an enhancement of the city's police power. An examination of the development agreement and the evidence at trial establishes that the agreement provides more restrictive ceilings and development regulations than the current underlying zoning regulations. For example, a portion of the development, where the office buildings will be located, has been rezoned to ninth residence district (R-9). Absent the agreement, according to Omaha Mun.Code, ch. 55, art. XV, §§ 55-311 et seq. (1983), under the R-9 classification Midlands is free to erect any number of office buildings with no real limitations on the amount of square footage. Here, the agreement restricts Midlands to a maximum of three office buildings and a total of 390,000 square feet of office space.

In sum, we find that there is not clear and satisfactory evidence to support the appellants' contention that the city has bargained away its police power. The evidence clearly shows that the city's police powers are not abridged in any manner and that the agreement is expressly subject to the remedies available to the city under the Omaha Municipal Code. Further, we find that the agreement actually enhances the city's regulatory control over the development rather than limiting it.

The appellants' second contention is that the city engaged in an ultra vires act because there is no statutory enabling act permitting conditional rezoning. The well-settled rule in this jurisdiction is that

"a municipal corporation `possesses, and can exercise, the following powers, and no others: First, those granted in express words; second, *those necessarily or fairly implied in or incident to the powers expressly granted*; third, those essential to the declared objects and purposes of the corporation not simply convenient, but indispensable." \*193 (Emphasis supplied.) *Jacobs v. City of Omaha*, 181 Neb. 101, 104, 147 N.W.2d 160, 163 (1966), citing *Christensen v. City of Fremont*, 45 Neb. 160, 63 N.W. 364 (1895). As set forth above, the City of Omaha derives the power to zone from §§ 14-401, 14-402, and 14-403, and § 7.09 of the Omaha Home Rule Charter. Section 7.09 provides that the city may enact, amend, and modify zoning regulations in accordance with the laws of the State of Nebraska. An examination of chapter 14, article 4, of the Nebraska Revised Statutes reveals that all the statutes contained therein primarily use the term "regulations" for describing the zoning power delegated to the city. The Legislature does not specify

what regulations the city may use to zone the city. The only limitation is that the regulations must be for "the purpose of promoting the health, safety, morals or the general welfare of the community...." § 14-401. In addition to having the power to enact zoning regulations, the city also has the power to amend, supplement, change, modify, or repeal those regulations. § 14-405. Further, § 14-403 in part provides:

Whenever the City council shall determine that the use or contemplated use of any building, structure or land will cause congestion in the streets, increase danger from fire or panic, imperil public safety, cause undue concentration or congregation of people, or impede transportation, the council may include in such regulations requirements for alleviating or preventing such conditions when any change in use or zoning classification is requested by the owner.

It is axiomatic that zoning is a local concern. In light of this, plus the fact that the Legislature has used the general term "regulations" without explicitly delineating what regulations the city is permitted to use, coupled with a grant of power to the city to implement, amend, supplement, change, modify, or repeal those regulations, it is clear that the Legislature has given the city broad powers to regulate land uses within its jurisdiction as long as those regulations are within the police power. Thus, we find in chapter 14 of the Nebraska Revised Statutes an implied grant of power to the city to enact all necessary zoning regulations, including conditional rezoning, as long as those regulations are within the proper exercise of the police power.

The third contention by the appellants is that the city fostered an "appearance of evil" by engaging in conditional rezoning. They allege that conditional rezoning could result in corruption of officials and that if the practice is permitted, officials will concentrate more on what they can extract from the developer than on proper rezoning criteria. This argument lacks merit. The appellants admit there is no evidence of graft or corruption in the case at bar, and we believe our holding is more than adequate to protect against any alleged abuse of this type. We will not strike down a conditional zoning because it looks evil, but only if its application is evil. Accordingly, appellants' challenge to this conditional rezoning as invalid fails.

The appellants' next challenge is that the rezoning ordinance violates the substantive standards of §§ 14-402 and 14-403. To successfully challenge the validity of a zoning ordinance, the appellants must prove that the actions of the city in adopting that regulation were unreasonable, discriminatory, or arbitrary, and that the regulation bears no relationship to the purpose or purposes sought to be accomplished by the ordinance. *Wolf v. City of Omaha*, 177 Neb. 545, 129 N.W.2d 501 (1964); *Buchholz v. City of Omaha*, 174 Neb. 862, 120 N.W.2d 270 (1963); *City of Omaha v. Cutchall*, 173 Neb. 452, 114 N.W.2d 6 (1962); *City of Omaha v. Glissmann*, 151 Neb. 895, 39 N.W.2d 828 (1949); *Cassel Realty Co. v. City of Omaha*, 144 Neb. 753, 14 N.W.2d 600 (1944). In the absence of clear and satisfactory evidence to the contrary, a zoning ordinance is presumed valid. *Buchholz v. City of Omaha*, *supra*; *Davis v. City of Omaha*, 153 Neb. 460, 45 N.W.2d 172 (1950). The appellants contend the rezoning ordinance (1) violates the uniformity requirement in § 14-402, (2) will \*194 diminish the value of the surrounding homes, (3) violates § 14-403, (4) is not in accordance with a comprehensive plan, and (5) constitutes illegal spot zoning.

Section 14-402 provides in part:

For any or all such purposes, the city council may divide the municipality into districts of such number, shape, and area as may be deemed best suited to carry out the purposes of sections 14-401 to 14-418. Within such districts it may regulate, restrict, or prohibit the erection, construction, reconstruction, alteration, or use of buildings, structures, or land. *All such regulation shall be uniform for each class or kind of buildings throughout each district, but the regulations in one district may differ from those in other districts.*

(Emphasis supplied.) The appellants assert that the rezoning ordinance violates the uniformity provision in § 14-402 because the agreement results in concessions for both the city and Midlands which are not allowed to other developers. As an example, appellants state in their brief that "[n]o other developers in the City' have `been required to give a park for free to the City in exchange for rezoning.'" Brief for appellants Witherspoon et al. at 14. We note that the uniformity requirement in § 14-402 is derived from § 2 of the Standard State Zoning Enabling Act and that almost every jurisdiction has incorporated this limitation into its state zoning enabling legislation. 1 R. Anderson, *American Law of Zoning* § 5.25 (3d ed. 1986). In his treatise on zoning, Anderson states that there have been few cases interpreting the uniformity requirement and that attacks on conditional rezoning as being violative of the uniformity requirement have "not been notably successful." 2 R. Anderson, *American Law of Zoning* § 9.20 at 164 (3d ed. 1986); 1 R. Anderson, *supra*, § 5.25. The jurisdictions that have addressed the uniformity requirement have analyzed the challenged ordinances to see if they are reasonable and not discriminatory. 1 R. Anderson, *supra*, § 5.25. For instance, in *Mont. Co. v. Woodward & Lothrop*, 280 Md. 686, 719-20, 376 A.2d 483, 501 (1977), the court, construing a uniform provision comparable to Nebraska's, said:

The uniformity provision contained in Art. 66D, § 8-102 was derived from § 2 of the Standard State Zoning Enabling Act, as to which it was said in 1 Anderson, *American Law of Zoning*, § 5.22 (2d ed. 1976), that the purpose of the provision was mainly a political rather than a legal one, *i.e.*, to give notice to property owners that there shall be no improper discriminations. [Citations omitted.] We have also recognized that invidious distinctions and discriminations in applying the uniformity requirement are impermissible. [Citations omitted.] The uniformity requirement does not prohibit classification within a district, so long as it is reasonable and based upon the public policy to be served.

See, *Oshtemo Twp v. Central Ad. Co.*, 125 Mich.App. 538, 336 N.W.2d 823 (1983) (township rural zoning act, providing that zoning ordinance provisions must be uniform for each class of land, buildings, dwellings, and structures throughout the district, is subject to "reasonableness" exception, allowing reasonable restrictions based upon different conditions within the zone); *Quinton v. Edison Park Development Corp.*, 59 N.J. 571, 285 A.2d 5 (1971) (statute which required that zoning regulations be uniform for each class or kind of buildings or other structures or uses of land throughout each district does not prohibit classifications within a district so long as they are reasonable).

We think allowing reasonable classifications within a district is a good rule, especially in view of the broad delegation of authority given by the Legislature to the city in making zoning regulations, as set forth above. Accordingly, the uniformity requirement in § 14-402 does not prohibit reasonable classifications within a district. To successfully challenge the rezoning ordinance on the grounds it

violates the uniformity requirement of § 14-402, the appellants must prove that the actions of the city in adopting the rezoning ordinance were unreasonable, discriminatory, or arbitrary, and that the regulation bears no relationship to the purpose or purposes \*195 sought to be accomplished by the ordinance.

Other than pointing to the provisions of the agreement itself, the appellants cite no evidence in support of their claim that the rezoning action violates the uniformity requirement. Implicit in appellants' proposition is the assumption that no other developer will be able to take advantage of conditional rezoning. Today's holding clearly refutes that assumption. The appellants have failed to show by clear and satisfactory evidence, *Buchholz v. City of Omaha*, 174 Neb. 862, 120 N.W.2d 270 (1963), and *Davis v. City of Omaha*, 153 Neb. 460, 45 N.W.2d 172 (1950), that the city acted in an unreasonable, discriminatory, or arbitrary manner, and that the regulation bears no relationship to the purpose sought to be accomplished by the ordinance.

The contentions that the rezoning ordinance will result in devaluating the surrounding homes and violates § 14-403, we analyze together. Section 14-403 provides:

Such regulations shall be made in accordance with a comprehensive plan and designed to lessen congestion in the streets; to secure safety from fire, panic and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to secure safety from flood; to avoid undue concentration of population; to facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements, and to promote convenience of access. Such regulation shall be made with reasonable consideration, among other things, as to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such municipality. Whenever the city council shall determine that the use or contemplated use of any building, structure or land will cause congestion in the streets, increase the danger from fire or panic, imperil public safety, cause undue concentration or congregation of people, or impede transportation, the council may include in such regulations requirements for alleviating or preventing such conditions when any change in use or zoning classification is requested by the owner.

The city, in adopting a rezoning ordinance, is not required to accomplish all the objectives of § 14-403. *Sasich v. City of Omaha*, 216 Neb. 864, 347 N.W.2d 93 (1984). There was competent conflicting evidence on nearly all of the considerations set out in § 14-403. Both sides presented evidence regarding the impact One Pacific Place would have on traffic in the area. The appellants' expert testified that the development would increase traffic congestion and the potential for accidents along Pacific Street. Citing improvements to Pacific Street, such as widening the street, as called for in the development plan, the appellees' expert stated that the traffic congestion would actually decrease because of the improved levels of service at intersections along the street. Both sides presented evidence relating to the adequacy of the 36-acre park, as provided for by the development agreement. Here the thrust of the appellants' evidence was to exhibit that the city's previous master plans designated the entire Renstrom tract for future use as parkland and to demonstrate a need for an 84-acre public park in the area of the development. The appellees countered with evidence indicating that the city did not have the financial resources available to fund the acquisition of the Renstrom

property for a public park and that the city obtained the 36 acres for a park free from the developer through a process of negotiation. In addition, the park deeded by Midlands to the city is consistent with the current parks and recreation plan, which calls for the accumulation of linear parkland along the Big Papillion Creek. The evidence also demonstrates that there are over 200 acres of smaller parks in the area and that the studies the appellants' expert relied on in finding parkland in the Renstrom area deficient were overstated. As will be set out later in this opinion, there also was conflicting evidence relating to \*196 the impact One Pacific Place would have on flooding of downstream riparian owners.

The appellees failed to rebut the appellants' contention that the project would decrease the surrounding land values. However, the mere fact that rezoning will depreciate the value of surrounding property does not establish that the rezoning is illegal. *Bucholz, supra*. At most, the evidence establishes that there is a difference of opinion regarding the impact of the development. "Where the validity of the legislative classification for zoning purposes is fairly debatable, the legislative judgment must be allowed to control." *Bucholz, supra* 174 Neb. at 868-69, 120 N.W.2d at 275. Giving credit to the fact the trial court heard and observed the witnesses, we cannot say the court was wrong in accepting the appellees' version of what the impact of the development would be. *Sasich v. City of Omaha, supra*. We also note that these issues relating to the impact of the development raised by the appellants were also raised before the city council in opposition to appellees' request for rezoning.

"What is the public good as it relates to zoning ordinances affecting the use of property is, primarily, a matter lying within the discretion and determination of the municipal body to which the power and function of zoning is committed, and unless an abuse of this discretion has been clearly shown it is not the province of the court to interfere...."

"In passing upon the validity of zoning ordinances, an appellate court should give great weight to the determination of local authorities and local courts especially familiar with local conditions.'..."

*Wolf v. City of Omaha*, 177 Neb. 545, 556, 129 N.W.2d 501, 508 (1964). Accordingly, we find that the appellants' contentions that the rezoning ordinance will result in devaluating the surrounding homes and violates § 14-403 are without merit.

We also address the appellants' last two challenges together: the allegations that the rezoning ordinance is not in accordance with a comprehensive plan and that it constitutes illegal spot zoning. Relying on the first sentence of § 14-403, "Such regulations shall be made in accordance with a comprehensive plan," the appellants assert that the project violates the city's comprehensive plan. According to the appellants, the project violates the city policy as detailed in several city master plans from 1965 up to the latest plan in 1981 by (1) failing to restrict high-density/mixed uses, such as One Pacific Place, to the Dodge Street corridor; (2) utilizing the Renstrom property for development instead of parkland; and (3) locating One Pacific Place, a high-density project, in a low-density area.

This court said in *Sasich v. City of Omaha, supra*, that the terms "comprehensive plan" and city plan or master plan are not synonymous and that to determine whether an ordinance complies with a comprehensive plan is not a mechanical test.

It is apparent from [*Davis v. City of Omaha*, 153 Neb. 460, 45 N.W.2d 172 (1950),] that the term "comprehensive plan" is used with respect to a metropolitan city in its generic sense and does not

refer to any special document. The essence of the term "comprehensive plan" implies that not just the subject property but other similarly situated property is considered in the zoning decision. It requires rationality and some degree of consistent treatment.

*Sasich*, *supra* 216 Neb. at 870, 347 N.W.2d at 97. In applying this definition, the *Sasich* court examined the future land use plan and the surrounding area of the rezoned property. In essence, that court reviewed the surrounding uses utilizing a spot zoning analysis. "The term 'spot zoning' is used by the courts to describe a zoning amendment which is invalid because it is not in accordance with a *comprehensive or well-considered plan*." (Emphasis supplied.) 1 R. Anderson, *American Law of Zoning* § 5.12 at 359 (3d ed. 1986). Concerning spot zoning, this court has stated:

[S]pot zoning [is] generally defined as the singling out of a small parcel of land for a use or uses classified differently \*197 from the surrounding area, primarily for the benefit of the owner of the property so zoned, to the detriment of the area and the other owners therein.... "The validity of spot zoning depends upon more than the size of the spot, and spot zoning as such is not necessarily invalid, but its validity depends upon the facts and circumstances appearing in each particular case." Hagman, [Urban Planning & Development Control Law], § 93, p. 169, analyzes spot zoning in the following fashion: "Spot zoning is invalid where some or all of the following factors are present:

- "1. a small parcel of land is singled out for special and privileged treatment;
- "2. the singling out is not in the public interest but only for the benefit of the landowner;
- "3. the action is not in accord with a comprehensive plan.

"The list is not meant to suggest that the three tests are mutually exclusive. If spot zoning is invalid, usually all three elements are present, or, said another way, the three statements may merely be nuances of one another."

*Holmgren v. City of Lincoln*, 199 Neb. 178, 184-85, 256 N.W.2d 686, 690-91 (1977).

In reviewing the evidence, we note that there is conflicting evidence on the type of land use proposed for One Pacific Place, and on the classification of the land uses surrounding the development. The appellants' evidence was that One Pacific Place is a high-density/mixed-use development, that such high-density uses are designated by the city's master plan and policy to be limited to within one-half mile of Dodge Street, and that One Pacific Street is outside of the ½-mile Dodge Street corridor. The appellants provided expert testimony that the prevailing land use within a 1-mile radius is low-density residential. On the other hand, appellees produced evidence demonstrating that the area surrounding the development was composed of both low- and high-density mixed uses. This included an admission by one of the appellants' experts that there are some seven-story apartment buildings across Pacific Street and west of One Pacific Place which are high-density residential uses and that there are high-density three- to four-story office buildings along the south one-half of Regency Parkway between Pacific Street and West Dodge Street. Other evidence by the appellees showed that Pacific Street west of the development is high-density residential area, that Pacific Street east of the development has commercial uses, and that there are substantial commercial uses at Pacific Street and 87th Street, 105th Street, and Interstate 680.

Where there is a conflict in the evidence, the legislative decision must be allowed to control. *Buchholz v. City of Omaha*, 174 Neb. 862, 120 N.W.2d 270 (1963). Giving credit to the fact that the trial judge observed the witnesses and accepted the appellees' version of the facts, *Sasich v. City of Omaha*, 216 Neb. 864, 347 N.W.2d 93 (1984), we find the appellants have failed to prove by clear and convincing evidence that the rezoning ordinance was illegal spot zoning and therefore violative of the comprehensive plan. Accordingly, appellants' first consolidated assignment of error is without merit.

The appellants' second consolidated assignment of error relates to their contention that the city acted in an arbitrary, capricious, and unreasonable manner by giving inadequate consideration to the risk of flood created by the project. Prior to the commencement of construction on the Renstrom property, 90 percent of the property was within the flood plain of the Big Papillion Creek and 60 percent of that land was in the creek's floodway. The flood plain is the area of land adjoining the Big Papillion Creek which has been or may be covered by flood waters. Neb.Reb.Stat. § 31-1010 (Reissue 1988); Omaha Mun.Code, ch. 55, art. V, § 55-112 (1982). The floodway is the channel of the Big Papillion Creek and adjacent lands that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than 1 foot. Neb.Rev.Stat. § 31-1008 (Reissue 1988); Omaha Mun. Code, *supra*, § 55-112. The base flood is the flood having a 1-percent \*198 chance of being equaled or exceeded in any given year. Neb.Rev.Stat. § 31-1005 (Reissue 1988); Omaha Mun.Code, *supra*, § 55-112. The base flood is also known as the 100-year flood. The concept of the floodway is used so development may occur in a flood plain and at the same time guarantee the other riparian owners protection from flooding. By definition, the floodway is included within the flood plain. The floodway can be narrower than the flood plain, but only if the floodway is large enough to discharge a 100-year flood without the surface elevation of the water rising more than 1 foot. The remaining area in the flood plain not included in the floodway is called the flood fringe. Ideally, if a floodway is properly constructed, the 100-year flood should be entirely contained in the floodway, leaving the flood fringe dry. Once a floodway has been established, construction is permitted in the flood fringe. The City of Omaha, as a participant in the federal flood insurance program, has adopted the floodway for the Big Papillion Creek as established by the Federal Emergency Management Agency (FEMA) in its 1982 flood insurance study.

To gain more ground for development, Midlands decided to move the existing floodway closer to the Big Papillion Creek. The final plan called for filling of the flood fringe and a portion of the existing floodway. Midlands applied to the city for the appropriate permits, and the city in turn applied to FEMA on behalf of Midlands for a map amendment moving the floodway. On July 15, 1985, FEMA gave conditional approval to Midlands for the channel modifications along the Big Papillion Creek. In September 1985, the appellants submitted information to FEMA challenging the preliminary determinations. After reviewing the information, FEMA rejected the challenges and sent a letter to the city on October 29, indicating that there was no basis for withdrawing the conditional approval. In July 1986, the appellants appealed FEMA's determination, which appeal was ultimately rejected. The map amendment was granted by FEMA, creating a new floodway, and the city issued a development permit in September 1986 to allow construction in the newly designated flood fringe area. On November 14 appellant Giger filed *Giger v. FEMA et al.* in the U.S. District Court for the District of Nebraska, requesting the court to set aside FEMA's decision.

The primary thrust of appellants' attack is the assertion that the city abused its discretion by adopting the map amendment issued by FEMA and issuing the permits to Midlands for filling the new flood

fringe. The U.S. Congress has enacted laws creating a national flood insurance program and has delegated the implementation of the program to FEMA. See, generally, 42 U.S.C. §§ 4001 et seq. (1982); 44 C.F.R. §§ 59.1 et seq. (1987). FEMA, pursuant to this delegation of authority, is responsible for establishing the minimum criteria for flood plain management. 44 C.F.R., *supra*, § 60.1. In addition to using the theoretical concepts of flood plain, floodway, and flood fringe as explained above, FEMA has undertaken water studies of various flood-prone waterways such as the Big Papillion Creek. These studies, known as flood insurance studies, establish such things as water elevations and plot the flood plain, floodway, and flood fringes of the watercourses studied. This data is compiled and distributed in the form of maps, 44 C.F.R., *supra*, §§ 65.1 to 65.11, and can be amended by an appeal process. 44 C.F.R., *supra*, §§ 67.1 to 70.9. To be eligible for federal flood insurance under this program, a community must adopt the standards established by FEMA. 44 C.F.R., *supra*, § 60.1. Section 60.2(h), defining minimum compliance with flood plain management criteria, states: "The community shall adopt and enforce flood plain management regulations based on data provided by [FEMA]. Without prior approval of [FEMA], the community *shall not* adopt and enforce flood plain management regulations based upon modified data reflecting natural or man-made physical changes." (Emphasis supplied.)

The Nebraska Legislature has also enacted statutes regulating flood plain management. See, generally, Neb.Rev.Stat. §§ 31-1001 to 31-1031 (Reissue 1988). One \*199 of the express purposes of the flood plain management legislation is to "[e]ncourage local governments with flood-prone areas to qualify for participation in the national flood insurance program." § 31-1001(d). "National flood insurance program shall mean the program authorized by the United States Congress under the National Flood Insurance Act of 1968, as amended, 42 U.S.C., sections 4001 to 4128." § 31-1014. The statutory scheme encourages implementation of local flood plain management regulation under the direction of the Nebraska Natural Resources Commission (NRC). Specifically, § 31-1031 provides:

(1) The authorities granted by sections 31-1024 to 31-1031 [provisions for flood plain management by the Department of Water Resources] are intended to be exercised by the department only on an interim basis to prevent irreversible development of flood-prone areas prior to the initiation of an adequate local flood plain management program in accordance with section 31-1019 or sections 31-1020 and 31-1021. Such authorities are not intended to substitute for local flood plain management programs when sufficient flood hazard data and maps are available. The authority of the department over the flood plain of any watercourse or drainway identified in accordance with section 31-1025 or 31-1026 shall terminate immediately upon the effective date of an adequate local program which encompasses the same land area. For purposes of this section, *a local program shall be considered adequate if it entitles the local government to participate in the regular program of the national flood insurance program, or if the commission has reviewed the local program and has certified that it is consistent with the minimum standards adopted in accordance with subdivision (5) of section 31-1017....*

(2) The commission shall be responsible for monitoring the status of all local flood plain management programs....

(Emphasis supplied.) Section 31-1017, defining the powers and duties of the NRC, states that

the commission shall be the official state agency for all matters pertaining to flood plain management. In carrying out that function, the commission shall have the power and authority to:

....

(5) Prepare, adopt, and promulgate, by rule or regulation, minimum standards for local flood plain management regulation.... Such minimum standards shall be designed to protect human life, health, and property, and to preserve the capacity of the flood plain to discharge the waters of the base flood.... *If deemed necessary by the commission to adequately accomplish the purposes of sections 31-1001 to 31-1031, such standards may be more restrictive than those contained in the national flood insurance program standards, except that the commission shall not adopt standards which conflict with those of the national flood insurance program in such a way that compliance with both sets of standards is not possible.*

(Emphasis supplied.) The duties of local governments concerning flood plain management are set forth in § 31-1019, which provides in pertinent part:

When the commission, a federal agency, or any other entity has provided a local government with sufficient data and maps with which to reasonably locate within its zoning jurisdiction any portion of the flood plain for the base flood of any watercourse or drainway, *it shall be the responsibility of such local government to adopt, administer, and enforce flood plain management regulations which meet or exceed the minimum standards adopted by the commission pursuant to subdivision (5) of section 31-1017.*

(Emphasis supplied.) By enacting these statutes, it is clear that the legislative purposes are to encourage local governments with flood-prone areas to implement effective flood plain management regulations and qualify for participation in federal \*200 flood insurance programs, and to require local governments to adopt local flood plain management regulations which meet the minimum criteria established by the NRC. Pursuant to § 31-1017, the NRC is required to establish, at a minimum, the standards adopted by FEMA.

In accordance with federal and state statutes, the City of Omaha has adopted local regulations for flood plain development. Omaha Mun.Code, ch. 55, art. V, §§ 55-111 to 55-123 (1982), set forth the city's flood plain regulations. Section 55-113 states:

It is the purpose of this article to promote the public health, safety and general welfare and to minimize losses by applying the provisions of this article to ... (4) Assure that eligibility is maintained for property owners in the community to purchase flood insurance in the National Flood Insurance Program; (5) Comply with the Minimum Standards of the State of Nebraska Flood Plain Regulation Act.

Section 55-112 provides the following definitions:

*Floodplain:* Those lands which are subject to a one (1) percent or greater chance of flooding in any given year. *The designated floodplain for this article shall be based on the*

*areas of one hundred (100) year flood, or areas of special flood hazards, as shown on the flood hazard boundary map, flood boundary and floodway map or flood insurance rate map issued by the Federal Insurance Administration, Federal Emergency Management Agency, and shall include Zone A and Zones A-1 through A-30.*

....

*Floodway: The channel of a river [or] other watercourses and the adjacent lands [sic] areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot. The designated floodway for this article shall be based on those areas delineated on the flood boundary and floodway map issued by the Federal Insurance Administration, Federal Emergency Management Agency.*

(Emphasis supplied.) Thus, as mandated by state statute, the city has implemented local flood regulation and has adopted standards which meet the minimum criteria established by the NRC the standards promulgated by FEMA. Accordingly, any changes of those standards by FEMA establish a new minimum threshold which the NRC and the city are required by law to meet. When FEMA approved the map amendments establishing a new floodway for the Big Papillion Creek adjacent to the Renstrom property, the city was obligated by statute and local ordinance to adopt those changes. Further, even if the city did not act under compulsion of law, the city's adoption of FEMA's standards ensured its eligibility within the federal flood insurance program, a decision by the city we find within the proper exercise of the police power. We cannot say that the city acted in an arbitrary, capricious, or unreasonable manner by adopting FEMA's map amendments and issuing the permits to Midlands for construction in the old floodway and flood fringe.

The appellants contend that the scientific information used by FEMA for amending the map and changing the floodway was incorrect. We do not review the evidence in connection with this contention because under the supremacy clause this court has no power of review over a federal agency such as FEMA. Any opinion by this court over the validity of FEMA's action would be merely advisory. It is not the function of this court to render advisory opinions. *State v. Rust*, 223 Neb. 150, 388 N.W.2d 483 (1986), *cert. denied* 481 U.S. 1042, 107 S.Ct. 1987, 95 L.Ed.2d 826 (1987). The appellants' proper avenue of judicial review, which the evidence indicates one of them has taken advantage of, lies with the federal courts. In addition, because this issue is being reviewed under this court's equity jurisdiction, the appellees urge dismissal of this issue, as the appellants have an adequate remedy at law in the federal courts. While noting that the appellants will only have an adequate remedy at law if the federal district court \*201 rules in their favor, we find, instead, that appellants have failed to meet their burden of proof to show by clear and satisfactory evidence that the city council's action in adopting the rezoning ordinance was arbitrary, capricious, or unreasonable. The appellants' second consolidated assignment of error lacks merit.

The last consolidated assignment of error is that the district court erred by not entering an injunction against Midlands preventing Midlands from filling in the flood plain and making modifications to the channel of the Big Papillion Creek.

An action for injunction sounds in equity. [Citation omitted.] "In an appeal of such an

action, this court tries the factual questions de novo on the record and reaches a conclusion independent of the findings of the trial court; provided, where the credible evidence is in conflict on a material issue of fact, we consider and may give weight to the fact that the trial judge heard and observed the witnesses and accepted one version of the facts rather than another.... In its de novo review of the record of this case, this court is guided by the rule that a party seeking injunction must establish by a preponderance of the evidence every controverted fact necessary to entitle the claimant to relief."

*Federal Land Bank of Omaha v. Swanson*, 231 Neb. 868, 870, 438 N.W.2d 765, 767 (1989).

"The flood plain of a stream is considered a part of the channel of such stream, and no one may obstruct the flow of floodwaters in the natural drainage to the detriment of another." *Kluck v. Mentzer*, 217 Neb. 8, 10, 347 N.W.2d 306, 308 (1984), citing *Bahm v. Raikes*, 160 Neb. 503, 70 N.W.2d 507 (1955). Because the appellants contend the scientific information used by FEMA was incorrect, their briefs concentrate on the allegedly improper information used by FEMA. Though this contention is irrelevant, the record does contain some evidence indicating that the project would increase water levels and velocity, causing increased flooding and erosion downstream. However, our review of the record indicates that the appellants have failed to establish by a preponderance of the evidence that the development would cause the flooding problems they allege. The record shows that prior development upstream of the development has interfered with the natural flow of the watercourse, significantly increasing the risk of downstream flooding regardless of the impact One Pacific Place may have.

Further, there was competent conflicting evidence on the impact the development would have on the Big Papillion Creek. The appellees' expert testified that the project would have no impact on downstream flooding and that if there was any impact on the velocities of the water, water velocity would actually decrease. Given the state of the evidence, we cannot say the trial judge was incorrect in ruling for the appellees, nor do we find that the appellants established by a preponderance of the evidence every controverted fact necessary to entitle them to relief.

Accordingly, the decision of the district court for Douglas County denying appellants' request for relief is hereby affirmed.

AFFIRMED.

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Community  
Evan Bromley

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### Talbot v. Myrtle Beach Bd. of Adjustment



Supreme Court of South Carolina. August 12, 1952 222 S.C. 165 (Approx. 8 pages)

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222 S.C. 165

Supreme Court of South Carolina.

TALBOT et al.

v.

MYRTLE BEACH BOARD OF ADJUSTMENT et al.

No. 16659.

Aug. 12, 1952.

Lula E. Talbot and another filed a petition with the Myrtle Beach Board of Adjustment, and others, for a variance from zoning ordinance to permit location of a restaurant in residential zone. The Court of Common Pleas, G. Badger Baker, J., reviewing by certiorari the board's action in denying petition, sustained the board's exceptions to recommendation favorable to

petitioners returned by special referee, to whom the matter had been referred, and petitioners appealed. The Supreme Court, Stukes, A. J., held that evidence sustained finding that refusal of application resulted in no unlawful discrimination against petitioners, and, therefore, no deprivation of their property.

Affirmed.

## West Headnotes (10)

### 1 Zoning and Planning



Matters affecting validity in general

A zoning law cannot constitutionally relieve land within the district covered by it from lawful restrictions affecting its use, imposed by covenants.

Cases that cite this headnote



414 Zoning and Planning

414II Validity of Zoning Regulations

414II(A) In General

414k1038 Matters affecting validity in general

(Formerly 414k25, 268k601(7))

### 2 Zoning and Planning



Uses permitted or excluded

#### Zoning and Planning



Restaurants and food services

A restaurant is a business and as such may be excluded from residential zones by zoning ordinance.

Cases that cite this headnote



414 Zoning and Planning

414II Validity of Zoning Regulations

414II(B) Particular Matters

414k1074 Residence Districts

414k1076 Uses permitted or excluded

(Formerly 414k11.1, 414k11, 268k601(4))



414Zoning and Planning  
414IIValidity of Zoning Regulations  
414II(B)Particular Matters  
414k1109Restaurants and food services  
(Formerly 414k11.1, 414k11, 268k601(4))

### **3Zoning and Planning**



Classification of property; size and boundary of zones  
Governing bodies of municipalities clothed with authority to determine residential and industrial districts are better qualified by their knowledge of the situation to act upon such matters than are courts, and they will not be interfered with in exercise of their police power to accomplish desired end unless there is plain violation of constitutional rights of citizens.

Cases that cite this headnote



414Zoning and Planning  
414XJudicial Review or Relief  
414X(C)Scope of Review  
414X(C)1In General  
414k1622Classification of property; size and boundary of zones  
(Formerly 414k603, 268k621.53, 268k21.53)

### **4Zoning and Planning**



Boundary lines  
Mere fact that business property adjoins residential property does not determine that zoning ordinance is invalid.

Cases that cite this headnote



414Zoning and Planning  
414IIValidity of Zoning Regulations  
414II(A)In General  
414k1046Boundary lines  
(Formerly 414k32, 268k601(7))

### **5Zoning and Planning**



Propriety of classification and uniformity of operation in general

### **Zoning and Planning**



Hardship, loss, or benefit to particular persons

If limitations upon use of property imposed by zoning ordinance apply reasonably and fairly to all, they are valid, and individual hardship and loss must be borne in order to make possible the greater advantage to the community as a whole.

Cases that cite this headnote



414Zoning and Planning

414IIValidity of Zoning Regulations

414II(A)In General

414k1047Propriety of classification and uniformity of operation in general  
(Formerly 414k33, 268k601(9))



414Zoning and Planning

414IIValidity of Zoning Regulations

414II(A)In General

414k1053Hardship, loss, or benefit to particular persons  
(Formerly 414k38, 268k601(12))

### **6Zoning and Planning**



Hardship, loss, or benefit to particular persons

That a party makes a large investment in a city lot, which at time of purchase is free of restrictions, with intent to use it for business purposes, does not invalidate zoning ordinance subsequently adopted restricting use of the property to residential purposes.

Cases that cite this headnote



414Zoning and Planning

414IIValidity of Zoning Regulations

414II(A)In General

414k1053Hardship, loss, or benefit to particular persons

(Formerly 414k38, 268k601(12))

**7Zoning and Planning**



Decisions of boards or officers in general

**Zoning and Planning**



Validity of regulations in general

There is a strong presumption in favor of the validity of municipal zoning ordinances, and in favor of the validity of their application, and where board of adjustment has acted after considering all the facts, the court should not disturb the findings unless board has acted arbitrarily or in obvious abuse of its discretion, or unless board has acted illegally and in excess of its lawfully delegated authority.

Cases that cite this headnote



414Zoning and Planning

414XJudicial Review or Relief

414X(C)Scope of Review

414X(C)1In General

414k1624Decisions of boards or officers in general

(Formerly 414k605, 268k122(2))



414Zoning and Planning

414XJudicial Review or Relief

414X(C)Scope of Review

414X(C)3Presumptions and Burdens

414k1676Validity of regulations in general

(Formerly 414k672, 268k621.53)

**8Municipal Corporations**



Reasonableness of ordinances

The power to declare an ordinance invalid because it is so unreasonable as to impair or destroy constitutional rights is one which will be exercised carefully and cautiously, as it is not the function of the courts to pass upon the wisdom or expediency of municipal ordinances or regulations.

Cases that cite this headnote



268Municipal Corporations

268II Governmental Powers and Functions in General

268k63 Judicial Supervision

268k63.20 Reasonableness of ordinances

(Formerly 268k63.2, 268k63(2))

**9 Zoning and Planning**



Restaurants and food services

In proceeding upon petition of landowner for a variance from zoning ordinance to permit location of a restaurant in residential zone, evidence sustained finding that refusal of application resulted in no unlawful discrimination against landowners, and, therefore, no deprivation of their property. Code 1942, §§ 7390 et seq., 7396(3).

Cases that cite this headnote



414 Zoning and Planning

414IX Variances and Exceptions

414IX(A) In General

414k1521 Restaurants and food services

(Formerly 414k539, 268k621.45)

**10 Zoning and Planning**



Spot zoning

Where an ordinance establishes a small area within limits of a zone in which are permitted uses different from or inconsistent with those permitted within the larger, such "spot zoning" is invalid, if the ordinance does not form a part of a comprehensive plan of zoning or is for mere private gain as distinguished from good of the common welfare.

Cases that cite this headnote



414 Zoning and Planning

414II Validity of Zoning Regulations

414II(A) In General

414k1049Spot zoning  
(Formerly 414k35, 268k601(9))

## Attorneys and Law Firms

\*\*67 \*166 Epps & Hoffman, J. Reuben Long, Conway, for appellant.

\*167 Long, Long & Thames, Myrtle Beach, for respondent.

## Opinion

STUKES, Justice.

1 The municipality of Myrtle Beach enacted in 1947 a zoning ordinance under the authority of Sections 7390 et seq. of the Code of 1942. At that time the appellants, who are husband and wife, owned and operated (and now do) a motor court at the northwest corner of 38th Avenue and U.S. Highway 17, commonly called the King's Highway and the principal thoroughfare of the town. The wife, the appellant Lula E. Talbot, owned vacant contiguous lots across 38th Avenue from the motor court which included, as described in the pleadings, lot No. 2 of block 11-K of King's Highway Extension and is the southwest corner of 38th Avenue and the highway. Record, folio 1072. The latter property, with which this litigation is concerned, was acquired in 1946 by deed containing a restrictive covenant limiting the use of it to residential, clubhouse or boarding house purposes. This proceeding is not to construe or enforce the covenant but the fact of it was in evidence. 'It is worthy of notice that a zoning law cannot constitutionally relieve land within the district covered by it from lawful restrictions affecting its use, imposed by covenants.' 58 Am.Jur. 942, Zoning, sec. 4.

2 The area which included the motor court was zoned by the ordinance as R-4, in which motor courts are expressly permitted; but the lots across 38th Avenue and thence South to 31st Avenue, on both sides of the King's Highway, were placed in Zone R-1, which is the most restricted residential zone. In this restricted residential area a public restaurant or dining room is not permitted. It was for the latter purpose that appellants sought a 'variance' from the terms of the ordinance. Such is authorized \*168 by Sec. 7396(3), quoting, 'as will not be contrary to the public interest, where owing to special conditions a literal enforcement of the provisions of the

ordinance will result in unnecessary hardship, and so that the spirit of the ordinance shall be observed and substantial justice done.' It is well-settled elsewhere, and there can hardly be contrary contention, that a restaurant is a business and as such is properly excluded from residential zones. State ex rel. Szodomka v. Gruber, 201 La. 1068, 10 So.2d 899; City of Lincoln v. Foss, 119 Neb. 666, 230 N.W. 592; People on Complaint of Fullam v. Milray Corp., 225 App.Div. 860, 233 N.Y.S. 860. Moreover, it is obvious that a public restaurant presents more features that are objectionable to neighboring residents than does a motor court. However, a motor court is not allowed in Zone R-1, under the ordinance.

The city authorities rejected appellants' application and the action was reviewed by the Court of Common Pleas by certiorari. The matter was referred to the Master as special referee who took testimony and recommended favorably to appellants, but the city's exceptions to the Master's report were sustained by the court, whence this appeal. The procedure followed is prescribed by the cited state-Code sec. 7396(3). The appeal is upon the broad ground that enforcement of the ordinance with respect to the lot in question (the failure of the municipal authorities to grant a variance as to it) amounts to an unconstitutional deprivation of property, and is therefore invalid. Particularly, it is urged that the questioned regulation of the use of the subject property does not comply with the provision of Code sec. 7392, which follows: 'Such regulations shall be made with reasonable consideration, among other things, to the character of the district and its peculiar suitability for particular uses, and with a view of conserving the value of buildings and encouraging the most appropriate use of land throughout such municipality.'

\*169 The regulation of the uses of property within municipalities, which is called zoning, began relatively late in this country, having had its beginning in France about a century ago under Napoleon III. Lewis, City Planning. Other European countries followed, and finally ours. The enabling statute of this State, which has been cited, has been in force since 1924 and several cases which arose under ordinances enacted \*\*68 pursuant to the authority of it have reached this court. They are conveniently collected and digested in 14 South Carolina Digest Municipal Corporations, k601, page 305. The subject is well treated under the topic, Zoning, in 58 Am.Jur. 935,

et seq. and in the footnotes there are references to several A.L.R. annotations in which many relevant decisions are digested.

3 From the cited text the following presently applicable generalizations are taken:

'One of the most firmly established principles in the field of constitutional law is that the wisdom of legislation is a matter exclusively for legislative determination. This principle has been applied to zoning laws, and courts have been declared to have nothing to do with the question of the wisdom, expediency, propriety, or good policy thereof. The courts may not interfere with the enactment or enforcement of zoning provisions for the sole reason that they may be considered unwise, as long as their requirements may not be classified as unreasonable, or as long as there is an apparent legal reason for the enacted requirements.' 58 Am.Jur. 954, sec. 23.

'The matter is largely within the discretion of the legislative authority, which is presumed to have investigated and found conditions such that the legislation which it enacted was appropriate, so that if the facts do not clearly show that the bounds of that discretion have been exceeded, the courts must hold that the action of the legislative body is valid. In this respect, it has been declared that the municipal governing bodies are better qualified because of their knowledge of the situation to act upon those matters than \*170 are the courts, which will not substitute their judgment for that of the legislative body.' 58 Am.Jur. 956, 957, sec. 26.

'Zoning enabling statutes frequently authorize the division of municipalities into districts of such number, shape and areas as may be deemed suited for the purposes of the act. Under such a provision, the number and nature of districts created, as well as the boundaries thereof, are matters which lie within the discretion of the municipal legislative body, and the courts will not substitute their judgment for that of the legislature where there is a possible reason in support of the legislative zoning lines.' 58 Am.Jur. 960, sec. 32.

'However, the fact that property in a restricted area adjoins or is close to property in a nonrestricted area does not necessarily render the ordinance invalid, since, if there is to be zoning at all, the dividing line must be somewhere, with the result that certain desirable neighborhoods adjoin others less desirable. It is also a general principle that the courts will not substitute their judgment for that of the legislature where there is a

possible reason in support of the legislative zoning lines.' 58 Am.Jur. 968, sec. 42.

'Under terms of particular zoning laws, restaurants are permitted in some specified zones, and prohibited in others. The validity of such a restriction or prohibition has been sustained.' 58 Am.Jur. 1001, sec. 105.

'Judicial relief from the action of a zoning board of appeals, review, or adjustment may be secured in a proper case, whether such action consists of the denial or grant of an exception or variation in the application of zoning restrictions. However, the authority of the zoning board in this respect is a discretionary one, and its decision is generally upheld, whether the application for the variation is granted or refused.' 58 Am.Jur. 1062, sec. 229.

A late and useful textbook is Yokley's Zoning Law and Practice, Michie, 1948. State and federal decisions are critically and succinctly reviewed. At pages 30, 31, the following \*171 is approvingly quoted from American Wood Products Co. v. City of Minneapolis, 8 Cir., 35 F.2d 657: 'Governing bodies of municipalities clothed with authority to determine residential and industrial districts being better qualified by \*\*69 their knowledge of the situation to act upon such matters than are the Courts, they will not be interfered with in the exercise of their police power to accomplish the desired and unless there is a plain violation of the constitutional rights of citizens.'

4 Illustrative of the fact that lines between zones must be fixed somewhere and there will always be nearby properties subject only to different uses, because in practice there is no 'no man's land', is Wilkins v. City of San Bernardino, Cal. App., 162 P.2d 711, 717. In this case the creation of small business zones entirely within residential sections was declared valid and within the reasonable exercise of the police power of the City of San Bernardino, the court holding that the line between business and residential property must be drawn somewhere and that the mere fact that business property is located across the street from residential property, or even adjoining the residential property, or even does not determine that the ordinance is invalid or discriminatory.

The following is quoted from the opinion of the court: 'The power to declare zoning ordinances (here, application of the ordinance-interpolated) unconstitutional only should be exercised where no substantial reason

exists to support the determination of the city council. If the reasonableness of the ordinance is reasonably debatable the ordinance must be upheld.'

A recent Kentucky decision is to the effect that the fact that property within a few feet of the plaintiff's lot was placed in a commercial zone while plaintiff's property was zoned for residential purposes would not establish that the plaintiff had been discriminated against. *Schloemer v. City of Louisville*, 298 Ky. 286, 182 S.W.2d 782.

5 \*172 Mr. Yokley concludes at pages 46, 47 from his review of the decisions, as follows: 'Thus it may be seen that the courts have adopted a liberal attitude in permitting municipalities to restrict within proper limits the right of the individual to use his property as he pleases. If the limitations upon the use of property imposed by a zoning ordinance apply reasonably and fairly to all, they are valid; and the individual hardship and loss must be borne in order to make possible the greater advantage to the community as a whole. The depreciation of property value by zoning does not render an ordinance void since the general welfare is superior in importance to the pecuniary profits of an individual.'

6 Typical of the cases upon which the foregoing conclusion is founded and peculiarly applicable to the case *sub judice* is *City of Des Moines v. Manhattan Oil Co.*, 193 Iowa 1096, 184 N.W. 823, 828, 188 N.W. 921, 23 A.L.R. 1322. There is no doubt that in many instances residential property owners could derive much larger incomes if they were permitted to devote the same to commercial purposes. The right, however, to restrict such areas has become the law in this and practically every jurisdiction of the United States. While such regulations frequently result in financial loss to property owners, they are based upon the idea that 'the interests of the individual are subordinate to the public good.' It was likewise held in *O'Rourke v. Teeters*, Cal.App., 146 P.2d 983, that a party makes a large investment in a city lot, which, at the time of purchase is free of restrictions, with the intent to use it for business purposes, does not invalidate a zoning ordinance subsequently adopted restricting the use of the property to residential purposes. The reasoning employed followed the earlier, leading case of *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 47 S.Ct. 114, 71 L.Ed. 303, 54 A.L.R. 1016. The police power, of the exercise of which zoning is, cannot be thereby impaired. \*173 *Douglass v.*

City Council of Greenville, 92 S.C. 374, 75 S.E. 687, 49 L.R.A., N.S., 958. The present appellants testified that they bought the subject property before enactment of the zoning ordinance with the intention of later erecting on it an eating place which they would now lease to another for public operation; but they purchased it subject to an inconsistent covenant, as has been seen.

7 At the foot of page 53 of Yokley there are cited numerous state and federal decisions to the point that there is a strong \*\*70 presumption in favor of the validity of municipal zoning ordinances, when within the municipal power as here; and, we add, in favor of the validity of the application of them and the refusal by the municipal authorities to vary them upon the intercessions of landowners. The latter flows from the presumption of validity with which any ordinance is ordinarily clothed, 37 Am. Jur. 810, Municipal Corporations, sec. 177; Annotation, Ann. Cas. 1916B, p. 502, which is, in turn, product of the like presumption which follows a legislative enactment.

Footnotes to pages 322, 323, of Yokley, are replete with citations of authorities to sustain the following: 'The law recognizes that there is a presumption that administrative boards, such as a zoning board, will act fairly and with proper motives and upon valid reasons upon an application for a change in the use of premises or in connection with the granting of a variance. However, this presumption of fairness and correctness will fall and if favorable to a variance, the same will be set aside where there is a clear abuse of discretion by the board. It is a well settled proposition of zoning law that a court will not substitute its judgment for the judgment of the board. The court may not feel that the decision of the board was the best that could have been rendered under the circumstances. It may thoroughly disagree with the reasoning by which the board reached its decision. It may feel that the decision of the board was a substandard piece of logic and thinking. None the less, the court will not set aside the board's view of the matter just to inject its own ideas into the picture of things.' And at \*174 pages 324, 325, likewise with respect to the following: 'This, then, brings us to the general consideration of cases holding that the decision of a board of appeals will not be set aside unless its acts are arbitrary or illegal or in excess of the jurisdiction lawfully conferred on the board by statute. Zoning boards are given a wide discretion, but its actions

are subject to review in case of an abuse of that discretion. Where the board of adjustment or appeals has acted after considering all the facts and circumstances of a particular case, the court should not disturb the findings of the board unless the board has acted arbitrarily or in the obvious abuse of its discretion or unless the board has acted illegally and in excess of its lawfully delegated authority. To support this proposition, the cases are legion.'

8 In point is the following excerpt from the opinion in the recent case of *De Treville v. Groover, Mayor*, 219 S.C. 313, 329, 65 S.E.2d 232, 240: 'It should be added that the power to declare an ordinance invalid because it is no unreasonable as to impair or destroy constitutional rights is one which will be exercised carefully and cautiously, as it is not the function of the courts to pass upon the wisdom or expediency of municipal ordinances or regulations.'

9 Of course, the finding of the circuit court in the case in hand that there has been no unlawful discrimination against appellants by refusal of the application for a variance of the zoning ordinance and, therefore, no deprivation of them of their property, cannot be affirmed on account of the reluctance last referred to or on the presumption of valid municipal action alone; and we have carefully reviewed the voluminous evidence and considered the arguments of appellants. It would serve no useful purpose to fully state them. They have not convinced us of error by the trial court, whose decree will be affirmed.

10 Appellants have earnestly contended that the Myrtle Beach ordinance and map, which are in evidence constitute objectionable 'spot' zoning. 58 Am.Jur. 965, \*175 sec. 39. *Yokley*, Art. 3, p. 152. On the contrary, we think that this might be the result if the variance which appellants have sought were permitted; it would allow a single business establishment in a residential zone of considerable area which now contains no 'spot'. Courts cannot become city planners but can only correct injustices when they are clearly shown to result from the municipal action, which is not the case here. The decisions relating to spot zoning are rather against appellants than in their favor. Annotations, 128 A.L.R. 741 and 149 A.L.R. 292. Summary of them is \*\*71 stated in 149 A.L.R. 293, as follows: 'So, generally speaking, it has been held that where an ordinance establishes a small area within the limits of a zone in which are permitted uses different

from or inconsistent with those permitted within the larger, such 'spot zoning' is invalid where the ordinance does not form a part of a comprehensive plan of zoning or is for mere private gain as distinguished from the good of the common welfare.'

Reliance is also had by appellants upon the comparatively early case of *Nectow v. City of Cambridge*, 277 U.S. 183, 48 S.Ct. 447, 72 L.Ed. 842, which however is inapplicable under its facts. There the zoning, which was held invalid by the Supreme Court, attempted to subdivide singly owned vacant property, placing a portion only of the owner's lot in a restricted residential zone, with adjoining property unrestricted and actually used for industry.

The exceptions are overruled.

Affirmed.

BAKER, C. J., and FISHBURNE, TAYLOR, and OXNER, JJ., concur.

## All Citations

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Topic: Block Muslim Refugee Relocation to Beaufort County  
Date Submitted: November 30, 2015  
Submitted By: Kerry Johnson  
Venue: Council Regular Session

**117.132.** (GP: Refugee Resettlement Program) No state funds shall be expended to assist in the United States Refugee Resettlement Program unless the county council of the county where the resettlement is to occur approves the relocation.

County Council End Fed Refugee 113015

*Comments made by Kerry Johnson at the Beaufort County Council meeting held on Nov. 30, 2015*

I am Kerry Johnson. Beaufort County has been my home since 1976. I am mother, stepmother, and grandmother to generations growing up, and living here.

County Councilmen and women, my neighbors, section 117.132 of the current South Carolina Budget Law states, "no state funds shall be expended to assist in the Federal Refugee Resettlement Program unless the County Council approves the relocation".

Astoundingly, in a time of war, the Federal Government has been unwavering in its commitment to compel South Carolinians to accept Muslim refugees in our state.

When we look to the law, we find tyrannical power in the Federal Refugee Resettlement Program of 1980; we find a tangled web of

National and International relocation organizations with public and private funding (some with ties to terrorist organizations); we find overlapping and non-existent legal jurisdictions; and we find layers of bureaucracies so complex that they defy accountability. All against a backdrop of systemic Federal dereliction to enforce our borders and our immigration laws mingled with a curious refusal to distinguish between aggressors and victims when granting access.

Tonight, I am turning to you, the leaders whose families share our community, our schools, our interests, and our legitimate concerns for the safety of our children. I am requesting that you use all means available to you to block Muslim refugee relocation to Beaufort County and, further, to urgently petition our good Governor to suspend acceptance of any more refugees until we have untangled the web of responsibly at all levels, International,

Federal, State, and County – and also, have identified all involved organizations, with the names of the department heads, so we can **know** with absolute certainty, who to hold responsible when the promises of safety being made to South Carolinians fail.

This room – this state - is filled with compassionate people of good will. Sadly, we share this world with ruthless barbarians of murderous intent. Such people view our compassion and our naiveté as a weakness to be exploited for our destruction.

Not all Muslims are Islamist Terrorists. But all Islamist Terrorists are Muslims. As in Paris, some percentage of Muslim refugees will be, or will become, Islamist Terrorists who will find a way to murder some of us. This is a historic and statistical certainty. Since terrorists usually act alone or in small groups, danger to American citizens increases with each Muslim we permit within our borders. This is a risk

the Federal Government has been insisting we take.

All I'm asking my good neighbors on the County Council is that when the dark day dawns in South Carolina, as it did on Nov. 13<sup>th</sup> in Paris, when we find ourselves washing South Carolinian blood from our streets, you will have done everything possible to make sure we know exactly who to hold accountable for compelling us to accept, to aid and to comfort enemies of Western Civilization ideologically bound to our extermination.

Kerry Johnson

Bluffton, SC

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