

HABERSHAM AMENDED PUD

46.88 ACRE TRACT

1214/2004



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

Habersham
PLANNED UNIT DEVELOPMENT
BY REZONING ACTION
This master plan represents the preliminary plan
for development approved by action of the
Beaufort County Council on 3/13/06
as the result of a request for rezoning to PUD
status. Any further development action must be
consistent with this approved plan.
Amendment to Habersham
PUD - 600-2
Hillary Austin

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Amendment to Habersham
PUD - 600-2
Hillary Austin

APPLICANT: HABERSHAM LAND COMPANY, INC.

DECEMBER 14, 2004



In the Tradition of Beautiful Coastal Towns

December 14, 2004

Mr. Anthony J. Criscitiello
Director of Planning
Beaufort County Planning Department
100 Ribaut Road, Room 260
Beaufort, SC 29902

Re: Master Plan Submittal and Zoning Amendment Application for the Habersham Amended PUD – 46.88 Acre Tract

Dear Mr. Criscitiello:

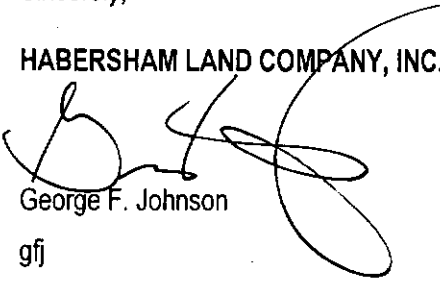
On behalf of Habersham Land Company, I am pleased to submit this application amending the existing Habersham PUD to include an additional 46.88 acres. The parcel borders Habersham's eastern most property line and will be developed as a seamless extension of the existing Habersham neighborhood. The basis for this submittal is the earlier approved land use and project guidelines for the Habersham PUD. The plan calls for 86 single family and 84 multi family residential units to be developed on the site.

If you have any questions, please do not hesitate to contact me. I can always be reached at (843) 846-1000.

Thank you for your assistance.

Sincerely,

HABERSHAM LAND COMPANY, INC.


George F. Johnson

gfj

cc: Robert J. Turner

RECEIVED

DEC 14 2004

PLANNING DEPARTMENT

AN ORDINANCE OF THE COUNTY OF BEAUFORT, SOUTH CAROLINA, AMENDING THE PORT ROYAL ISLAND ZONING MAP FOR R100-28-77; FROM RURAL WITH TRANSITIONAL OVERLAY TO PLANNED UNIT DEVELOPMENT (46.88 ACRES TO BE ADDED TO HABERSHAM PLANNED UNIT DEVELOPMENT ADOPTED DECEMBER 9, 1996).

BE IT ORDAINED, that County Council of Beaufort County, South Carolina, hereby amends the Zoning Map of Beaufort County, South Carolina. The map is attached hereto and incorporated herein.

Special Conditions Attached to Habersham PUD

The PUD amendment that corresponds to this application possesses certain unique factors that bear upon regional planning issues. It is for this reason that the following special conditions shall apply in addition to the Staff and Planning Commission recommendations that pertains to the Habersham PUD amendment.

1. The developer shall construct the following road improvements as part of Phase I and Phase II of this development to address the intersection of Joe Frazier Road/Cherokee Farms Road/Still Shadow Road:

Construct a new primary access for the Habersham Development to intersect directly onto Joe Frazier Road approximately 900 feet north of the existing Cherokee Farms Road/Joe Frazier Road intersection. Realign Still Shadow Road to intersect Joe Frazier Road approximately 250 feet south of the existing Cherokee Farms Road/Joe Frazier Road intersection. Both the primary access intersection and the intersection of Still Shadow Road and Joe Frazier Road will require turn lanes. Realignment of the Cherokee Farms/Joe Frazier Road intersection will be completed by the developer. If additional ROW is required for this realignment, it will be pursued in partnership with Beaufort County and the SCDOT. Any future traffic signal installation at these intersections will be paid for by the developer (subject to a three-year timeline).

Final plans and designs for either of these options are subject to approval by the Beaufort County Engineering Division and the SCDOT. A 15-ft. pathway easement will be made available within the required buffers along Joe Frazier Road.

2. The entrance boulevard shall be constructed as part of Phase II of this development as either a two-lane divided or undivided roadway with sidewalks, which may incorporate on-street parking and traffic calming measures. A minimum lane width of 10 feet is required, separate from on-street parking, to provide sufficient width for school bus and emergency vehicle access. The entrance boulevard shall be built to County standards, and the portion of the road to the school entrance(s) may be deeded to the County upon commencement of

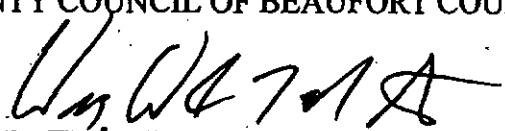
construction of the school. Still Shadow Road shall be abandoned by the County upon completion of the entrance road, and access to the new road shall be provided by the developer to all parcels currently along Still Shadow Road.

3. All other collector type roadways shall provide a minimum pavement width of 20 ft. Non-collector or non-through roads may be permitted to be 18 ft. in width without curbing with an additional two feet of compacted subgrade on both sides to permit large trucks and emergency vehicles to pass. Internal intersections shall be planned and designed to allow truck and emergency vehicle turning movements.
4. The proposed Habersham expansion roadways shall tie into the existing Habersham PUD at logical points to promote ease of access. Roadway connections between the proposed development and the existing development and the roadway network plan shall be submitted for review and approval by the County Engineer and County Traffic Engineer with each phase of development.
5. The "Commercial" portion of the development, as shown on the Conceptual Lot Layout Plan, shall meet the standards and requirements pertaining to the Urban Zoning District of the ZDSO with regard to allowable uses, landscaped surface ratio (LSR), floor area ratio (FAR), lot and building standards. There shall be a 50-foot bufferyard adjacent to Joe Frazier Road.
6. Prior to receiving final development approval of any phase of this project, the developer shall either enter into a Memorandum of Agreement with the SC Department of Archives and History, and with Beaufort County, to manage the eligible archeological sites on the property, or agree to designate the three sites as open space that will not be disturbed.

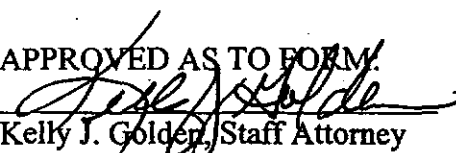
Adopted this 13th day of March, 2006.

COUNTY COUNCIL OF BEAUFORT COUNTY

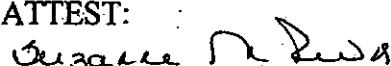
BY:


Wm. Weston J. Newton, Chairman

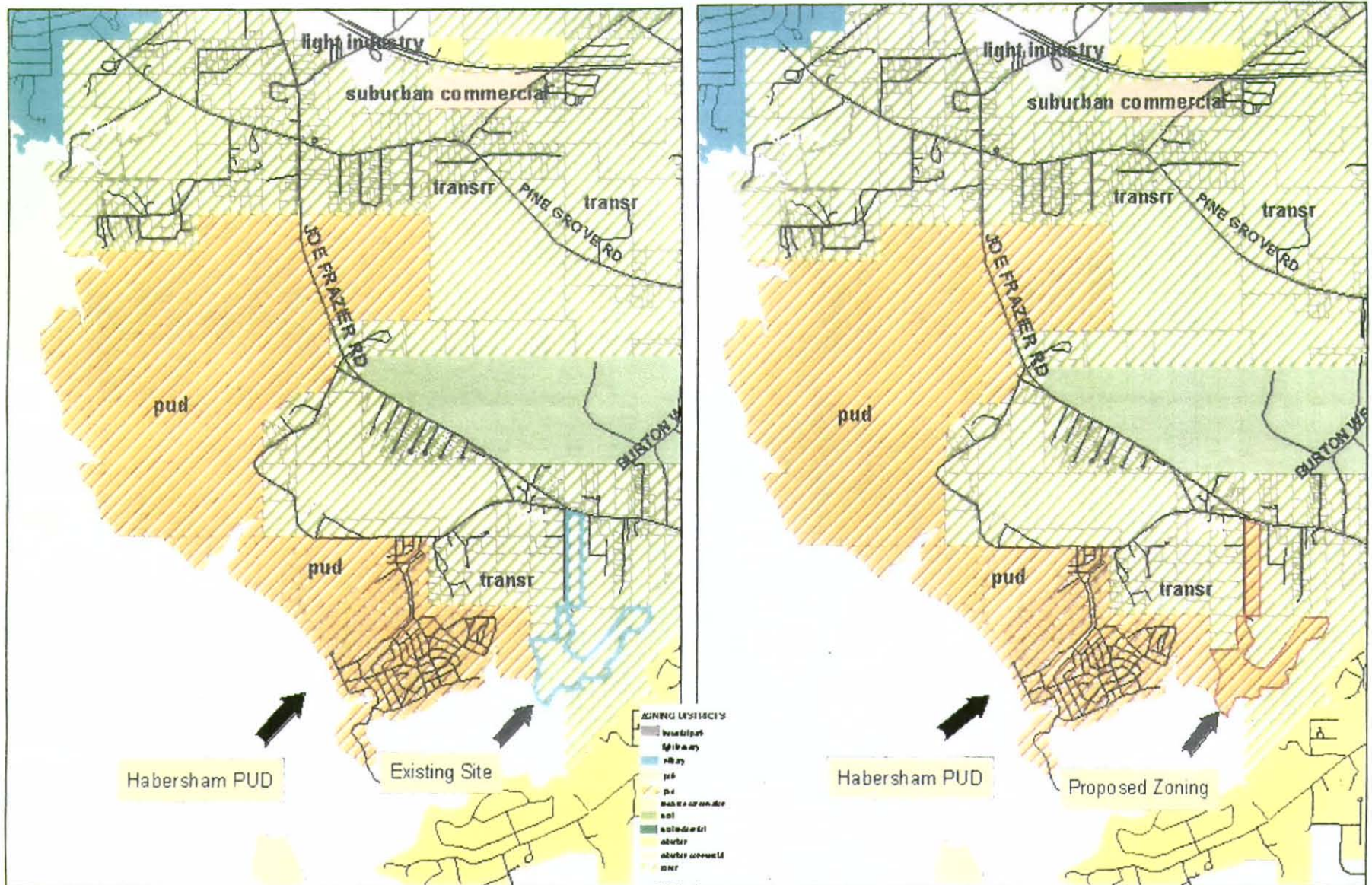
APPROVED AS TO FORM:


Kelly J. Golden, Staff Attorney

ATTEST:


Suzanne M. Rainey, Clerk to Council

First Reading: June 27, 2005
Second Reading: February 27, 2006
Public Hearing: March 13, 2006
Third and Final Reading: March 13, 2006
Amending 1996/28



UNIFIED DEVELOPMENT PLAN
HABERSHAM AMENDED PUD TRACT
AND CHEROKEE FARMS PROJECT

CHEROKEE FARMS

NEW INTERSECTION - PHASE 1
(PAID BY DEVELOPER)

NEW INTERSECTION - PHASE 2
(PAID BY DEVELOPER)

COUNTY DIRT ROAD PAVED
(PAID BY DEVELOPER)

**HABERSHAM
PHASE 1**

**HABERSHAM
PHASE 2**



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

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EXHIBIT INDEX

The Exhibits Referenced Herein Below Are Included In This Application Binder.

- A. Location Map
- B. Aerial
- C. Habersham Photographs
- D. Habersham Amended PUD Master Plan
- E. Boundary Survey
- F. Topographic Survey
- G. USDA Soils Classification
- H. Delineated Wetlands Survey *
- I. Threatened and Endangered Species Report
- J. Archeological Survey and Site Evaluation
- K. Urban Standards
- L. Thoroughfare Standards
- M. Traffic Analysis and Emergency Evacuation Assessment
- N. Preliminary Storm Drainage Master Plan
- O. Preliminary Water Distribution and Sanitary Sewage Collection Master Plan
- P. Intent to Serve Letters from Applicable Utility Providers
 - 1. Beaufort Jasper Water and Sewer Authority
 - 2. South Carolina Electric and Gas Company
 - 3. Sprint Communications
 - 4. Hargray Communications
 - 5. Waste Management



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PROJECT DEVELOPER AND CONSULTANTS

The Following Is A List Of The Professional Team That Has Been Consulted And Provided Design And Development Expertise With Respect To This Application.

- | | | |
|-------------------------------------|-------------------------------|---|
| 1. <u>Developer:</u> | Habersham Land Company, Inc. | Mr. Robert J. Turner
Mr. Stephen Davis |
| 2. <u>Town Planner:</u> | Duany Plater-Zyberk & Company | Mr. Tom Low |
| 3. <u>Engineer:</u> | Davis & Floyd | Mr. Jeffrey Poole |
| 4. <u>Archeological Consultant:</u> | New South Associates | Mr. Brad Botwick |
| 5. <u>Wetlands Consultant:</u> | Simpkins Environmental | Mr. Hamp Simpkins |
| 6. <u>Wildlife Consultant:</u> | Simpkins Environmental | Mr. Hamp Simpkins |
| 7. <u>Traffic Engineer:</u> | SRS Engineering, LLC | Mr. Mike Ridgeway |

BEAUFORT COUNTY, SOUTH CAROLINA
PROPOSED ZONING/DEVELOPMENT STANDARDS ORDINANCE
ZONING MAP/TEXT AMENDMENT APPLICATION

TO: The Chairman & Members, Beaufort County Council

The undersigned hereby respectfully requests that the Beaufort County Zoning/Development Standards Ordinance (ZDSO) be amended as described below:

1. This is a request for a change in the (check as appropriate):
☒ Zoning Map Designation/Rezoning ☐ Zoning/Development Standards Text
2. Give exact information to locate the property for which you propose a change:
Tax District Number: 100, Tax Map Number: 28, Parcel Number(s): 77
Size of subject property: 46.88 Square Feet/Acres (circle one)
Location: Habersham - Port Royal Island / Burton Area
3. How is this property presently zoned? (Check one)

☐ Urban/U	☐ Community Preservation/CP	☐ Light Industrial/LI
☐ Suburban/S	☐ Commercial Regional/CR	☐ Industrial Park/IP
☒ Rural/R	☐ Commercial Suburban/CS	☐ Transitional Overlay/TO
☐ Rural Residential/RR	☐ Research & Development/RD	☐ Resource Conservation/RC
	☐ Planned Unit Development/PUD	
4. What new zoning do you propose for this property? PUD
(Under Item 10 explain the reason(s) for your rezoning request.)
5. Do you own all of the property proposed for this zoning change? ☒ Yes ☐ No
Only property owners or their authorized representative/agent can sign this application. If there are multiple owners, each property owner must sign an individual application and all applications must be submitted simultaneously. If a business entity is the owner, the authorized representative/agent of the business must attach: 1- a copy of the power of attorney that gives him the authority to sign for the business, and 2- a list of all owners of the business.
6. If this request involves a proposed change in the Zoning/Development Standards Ordinance text, the section(s) affected are: _____
(Under Item 10 explain the proposed text change and reasons for the change.)
7. Is this property subject to an Overlay District? Check those which may apply:

☐ AOD - Airport Overlay District	☐ MD - Military Overlay District
☐ COD - Corridor Overlay District	☐ RQ - River Quality Overlay District
☐ CPOD - Cultural Protection Overlay District	
8. The following sections of the Beaufort County ZDSO should be addressed by the applicant and attached to this application form:
 - a. Section 106-492, Standards for zoning map amendments.
 - b. Section 106-493, Standards for zoning text amendments.

9. Explanation: The Owner and Applicant are petitioning that this 46.88 acre tract be rezoned to PUD Zoning District and become part of the existing Habersham development. This 46.88 acre tract is contiguous to the existing Habersham development. (Continue on separate sheet if needed)

It is understood by the undersigned that while this application will be carefully reviewed and considered, the burden of proof for the proposed amendment rests with the owner.



Signature of Owner

12/10/04

Date

Printed Name:

Robert J. Turner / TED Land Holdings, LLC

Telephone Number:

(843) 846-1000

Address:

22 Market Beaufort, SC 29906

Agent:

Habersham Land Company, Inc.

(Name/Address/Phone)

P.O. Box 365 Beaufort, SC 29901 (843) 846-1000

FOR ZONING MAP AMENDMENT REQUESTS, THE PLANNING OFFICE WILL POST A NOTICE ON THE AFFECTED PROPERTY AS OUTLINED IN SEC. 106-402(D) OF THE BEAUFORT COUNTY ZDSO.

THE COMPLETED APPLICATION WILL BE REVIEWED FIRST BY THE BEAUFORT COUNTY PLANNING COMMISSION SUBCOMMITTEE RESPONSIBLE FOR THE AREA IN WHICH YOUR PROPERTY LIES. MEETING SCHEDULES ARE LISTED ON THE APPLICATION PROCESS (ATTACHED). THE SUBCOMMITTEES REVIEW REZONING REQUESTS SUBMITTED TO THE PLANNING DEPARTMENT BY NOON WITHIN:

- A. FOUR (4) WEEKS FOR PLANNED UNIT DEVELOPMENTS (PUDs).
- B. THREE (3) WEEKS FOR ALL OTHER ZONING/DEVELOPMENTS.

PUD APPLICANTS WILL BE REQUIRED TO SUBMIT MULTIPLE COPIES TO THE PLANNING DEPARTMENT. CONSULT THE APPLICABLE STAFF PLANNER FOR DETAILS.

CONTACT THE PLANNING DEPARTMENT AT 470-2724 FOR APPLICABLE APPLICATION FEES.

FOR PLANNING DEPARTMENT USE ONLY:

Date Application Received:
(place received stamp below)

Date Posting Notice Issued: _____

Application Fee Amount Received: _____

Receipt No. for Application Fee: _____

*Subdivision II. Amendments to Zoning Map or Text***Sec. 106-491. Purpose.**

(a) *Generally.* This subdivision provides a means for changing the 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 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.

(c) *General standards.* The applicant shall demonstrate findings that an amendment to the zoning map or an amendment to this chapter's text meets the standards in section 106-492 or section 106-493.

(Ord. No. 99-12, § 1 (21.210), 4-26-1999)

Sec. 106-492. Standards for zoning map amendment.

There are two types of map amendments. The first involves a change from the rural district with a transitional overlay designation to one of the priority investment area classifications. The second includes all other map amendments. Rezoning requests that are not consistent with the comprehensive plan cannot be considered until an amendment to the comprehensive plan has been approved by the county council. Rezoning requests cannot be considered for economic or speculative reasons. A zoning map amendment may be approved if the weight of the findings describe and prove:

(1) All changes as follows:

- a. The change is consistent with the county's comprehensive plan and the purposes of this chapter. In areas of new development, consistency with the comprehensive plan shall be considered to meet the standards in subsections (1)b, (1)c and (1)d of this section, unless compelling evidence indicates the proposed amendment would threaten public health, safety, and welfare if so designated as planned in the comprehensive plan.
- b. The change is consistent with the character of the neighborhood.
- c. The extent to which the property is consistent with the zoning and use of nearby properties.

that portion of the priority investment area served by that facility, or that the developer is building the facilities or has paid the government providing the service with funds to make the improvement.

(3) Also, a zoning map amendment inconsistent with the comprehensive plan shall be approved only 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, population 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 consistent with the comprehensive plan.

(Ord. No. 99-12, § 1 (21.211), 4-26-1999)

Sec. 106-493. Standards for zoning text amendment.

A zoning ordinance text amendment may be approved if:

- (1) It would implement a new portion of the comprehensive plan or amendment.
- (2) It would implement and better achieve the comprehensive plan's goals and objectives that have proved difficult to achieve under the ordinance's existing provisions.
- (3) The ordinance's provisions were inconsistent or unreasonable in light of standards for similar uses.
- (4) It is necessary to respond to state and/or federal legislation.
- (5) It provides additional flexibility in meeting the ordinance's objectives without lowering the ordinance's general standards.
- (6) It addresses a new use, changing conditions, and/or clarifies existing language.
- (7) It clarifies the ordinance or makes adjustments to account for interpretation.

(Ord. No. 99-12, § 1 (21.212), 4-26-1999)

Sec. 106-494. Decision by county council.

Upon receiving the recommendation regarding the zoning text or map amendment from the planning commission and the council's planning committee, the county council may adopt the recommendations of the planning commission, override the recommendation by a majority vote of the council membership, or return the recommendation to the planning commission for reconsideration with a statement of concerns.

(Ord. No. 99-12, § 1 (21.213), 4-26-1999)



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

I. APPLICANT INFORMATION

It is understood by the undersigned that, while this application will be carefully reviewed and considered, the burden of proof for the proposed amendment rests with the owner. Furthermore, any questions or items related to this application should be directed to the following address and contact person.

December 14, 2004

Date

Habersham Land Company, Inc.

Company Name

P.O. Box 365

Mailing Address

South Carolina 29901

State / Zip Code

(843) 846-1000

Telephone #

George F. Johnson

Contact Person


Authorized Signature

Robert J. Turner – Principal

Printed Name / Title

Beaufort

City

57-6171398

Federal Tax ID #

(843) 846-1114

Facsimile #

gjohnson@habershamsc.com

E-mail of Contact Person

Robert J. "Bob" Turner and **Stephen Davis** are the principals of Habersham Land Company as well as the town founders of the Habersham neighborhood. Messieurs Turner and Davis have worked together for over fourteen years in a variety of roles with other development companies and partnerships in Beaufort County.

Stephen Davis is also a Manager and Development Consultant with the prestigious engineering firm of Davis and Floyd. Stephen has worked along side a number of respected developers throughout South Carolina and thus, has gained valuable insight into the development process. While working on projects in environmentally pristine areas of Beaufort such as Spring Island, Brays Island and Newpoint, Stephen has developed a unique skill set in the areas of storm water management, preservation of water quality and alternative engineering methods.

For a number of years, Bob Turner was the development manager for Spring Island and Callawassie Island. In 1992, Mr. Turner struck out on his own as a managing partner of the Newpoint community, a New Urbanism project, which quickly gained national recognition and honors for its traditional design and architecture. As Newpoint neared completion, Mr. Turner led a partnership that developed in-fill residential and commercial sites for the Town of Port Royal, South Carolina. Today, Mr. Turner is the primary development manager for the Habersham project.

II. PROJECT INTRODUCTION

Habersham Land Company, Inc. (hereinafter, referred to as the "Applicant") is pleased to submit this application amending the existing Habersham PUD to include an additional 46.88 acres. This 46.88 acre tract (hereinafter, referred to as the "Amended PUD Tract") adjoins the eastern edge of the present-day Habersham development. A location map and an aerial of the Amended PUD Tract are included as Exhibits



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"A" and "B". The Applicant plans to develop the Amended PUD Tract in such a way that it interconnects and blends seamlessly with the existing design elements and development standards of the Habersham neighborhood.

A. History of the Habersham Development

On June 11, 1997, the Beaufort County Council ratified the Applicant's request for a change of zoning for 275.1 acres located along the southern marshes of the Broad River at its confluence with Habersham Creek. However, this "change" represented a significant departure from the suburban cul-de-sac design that was initially approved for the site in 1988. In essence, the old design was supplanted by New Urbanism – which is a traditional village format of walkable, mixed-use, neighborhoods. And ever since the "change", the Applicant has pursued a development strategy that places a major emphasis on designing and building a quality public realm. This strategy not only adds to private property values, but also lures residents and visitors onto porches, streets, greens, plazas, civic sites and waterfront parks. The Habersham neighborhood has received numerous design awards (including "Best Neighborhood" from The National Association of Home Builders) as well as plaudits from some of the nation's most influential magazines and newspapers. Today, the built-environment of Habersham is widely regarded as one of the country's best models for Greenfield development. A collection of photographs representative of the Habersham development are included as Exhibit "C".

B. Project Description and Rationale

Again, the Applicant is petitioning that a small tract of land along Habersham Creek, encompassing some 46.88 acres, be rezoned to a PUD Zoning District and become part of the Habersham development. The site, known as the Amended PUD Tract, is located entirely in Beaufort County and has a parcel identification number of R100 028 000 0077 0000. The property is currently zoned Rural with Transitional Overlay. Pursuant to Table 106-1526 of the Beaufort County Zoning and Development Standards Ordinance, this zoning permits a maximum density of .45 dwelling units per gross acre (i.e., based on a planned development type with a minimum site area of 20 acres).

The proposed regulating plan for the Amended PUD Tract has been designed by Duany Plater-Zyberk & Company (hereinafter, referred to as "DPZ") and is included as Exhibit "D" (hereinafter, referred to as the "Master Plan"). In 1996, DPZ created the original regulating plan and project specific design codes and guidelines that are foundational to the Habersham PUD. To achieve seamless connectivity and design character, the Applicant must rely on the same site design and development standards that were approved for the Habersham PUD in 1997. This is an extremely important point that must be noted. Therefore with this submittal, the Applicant is not proposing any new design constructs for Beaufort County Planning or County Council to deliberate. With regard to the Amended PUD Tract, the Applicant will adhere to the same design criterion that was approved in 1997. Any deviations from the 1997 PUD will be noted in the accompanying text.

Another important element of this project is land use, and thus, the Amended PUD Tract will closely follow the form of the original Habersham PUD. The design for the Amended PUD Tract calls for .41 acres of Neighborhood Center Commercial plus 86 single family and 84 multi-family residential units. The existing Habersham PUD is comprised of 275.1 gross acres and is approved for 8.3 acres of Neighborhood Center Commercial plus 650 single family units and 350 multi-family units (i.e., an



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equivalent density of 3.64 dwelling units per gross acre). Under the proposed Master Plan, the Amended PUD Tract will maintain a density of 3.63 dwelling units per gross acre which is, in essence, identical to that of the original Habersham PUD.

Finally, one of the most compelling reasons for merging the Amended PUD Tract into Habersham is that this represents a tried and cohesive development model with benefits to both the public and private sectors. The Habersham PUD has become a symbol and an exemplar of the principles underlying the New Urbanism that is sweeping the nation. Habersham has provided Beaufort County and the Low Country with an alternative to suburban sprawl. With its growing town center, the Habersham PUD will serve as an urban hub for the surrounding Burton community. The different street sections and assortment of building types afford a varied and authentic environment. This permits a single development like Habersham to capture a variety of home-buyer market segments. Furthermore, it is the Applicant's intention to develop an even more affordable housing stock in the Neighborhood Center area of the Amended PUD Tract.

II. EXISTING CONDITIONS

The following section along with the referenced Exhibits is intended to supply detailed information on the existing conditions of the Amended PUD Tract.

A. Current Ownership

The Amended PUD Tract is currently owned by T & D Land Holdings, LLC (hereinafter, referred to as the "Owner"). The Owner is an affiliated entity of the Applicant. The Applicant has been given full authority to submit this application and petition on the Owner's behalf.

B. Location and Adjacent Property Owners

The 46.88 acre site, referred to as the Amended PUD Tract, is located on Port Royal Island in the Burton community and is bounded on the north by Joe Frazier Road, on the east and south by Habersham Creek and on the west by the Habersham PUD. A location map and an aerial of the subject property are included as Exhibits "A" and "B".

The Beaufort County School System owns approximately 19.51 acres of undeveloped land that is surrounded on three sides by the Amended PUD Tract. The School System site is situated at the northern part of the subject property and incorporates a shared access easement with the Owner. Beaufort County Schools had originally planned to construct a neighborhood Elementary School on this site; however, the schedule and ultimate reality of the school is unclear at this time. According to representatives of the School System, no decisions will be made on this site or any other new construction until after the completion of a countywide consultant's study in January/February 2005.

The predominant use of property north of the school site is single family residential including a number of mobile home parks. The marshes of Habersham creek are immediately east and south of the Amended PUD Tract; however, there is single family residential including mobile homes along the eastern shore of Habersham Creek. There are several small undeveloped land parcels immediately



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west of the Amended PUD Tract, but the predominant neighbor on the western border is the Habersham PUD.

The precise location of all of the individual property owners is detailed on the Boundary Survey which is attached hereto as Exhibit "E".

C. Current Zoning

The Amended PUD Tract is part of Official Land Use Zoning Map 100-28 and is specifically identified as District 100, Map 28, Parcel 77. The current zoning classification is Rural with Transitional Overlay District.

D. Boundary Survey

A boundary survey is attached as Exhibit "E" and includes the following information:

- 1) Vicinity Map
- 2) Computed Acreage
- 3) Control Points, Dimensions and Coordinate Data
- 4) Existing Roads and Easements
- 5) Adjacent Property Owners
- 6) Existing Freshwater Wetlands and Adjacent Marshes
- 7) Office of Coastal Resource Management (OCRM) Critical Line
- 8) FEMA Zones

E. Topographical Survey

Davis and Floyd has completed a topographical survey of the property which is attached hereto as Exhibit "F". There are no permanent structures or existing infrastructure on the property. Elevations vary from over 29 feet above sea level to 6 feet along the marsh edge. The existing drainage pattern is limited to natural sheet flow that runs to the surrounding marsh or freshwater wetlands at the northwest corner of the tract.

The last known use of the property was agricultural, and therefore, a large part of the Amended PUD Tract has been cleared by previous owners. The major stands of trees are indicated on the topographical survey. The existing wooded areas are primarily limited to the western portion of the property (i.e., the area adjacent to the Habersham PUD property line) and along the marsh edge. These areas are covered with a mature hardwood forest typical of the South Carolina Low Country. Native over story specimens such as white oak, sand live oak, live oak, southern magnolia and hickory can be found in these sections of the property. It also appears that a ring of loblolly pines was planted around the perimeter of the cleared field. These trees are young growth pines that have not been thinned. The portion of the property that forms a pan-handle that extends to Joe Frazier Road is not considered a natural community by informed sources. The dominant vegetation is young growth trees of 25 years or less including loblolly pine, water oak, sweetgum and scattered live oak. A more detailed discussion of the forest type occurring on the Amended PUD Tract is included in the threatened and endangered species report which is attached hereto as Exhibit "I".



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

F. Soils

The existing soil conditions are portrayed on the soils classification plan prepared by Davis & Floyd (see Exhibit "G"). The information was compiled from Beaufort County and USDA soil surveys and indicates that the property contains a majority of moderately well drained soils. The soils inherent to the Amended PUD Tract are Wando, Polawana and Seabrook.

G. Delineated Wetlands

An analysis of the freshwater wetlands has been performed by Simpkins Environmental Consulting and is attached hereto as Exhibit "H". The extent of the wetlands has been delineated and is depicted on the boundary survey (see Exhibit "E"). Specifically, there are two very small freshwater wetlands which, all totaled, equal .12 acres. The wetlands consultant has sent a letter to the U.S. Army Corps of Engineers – Charleston District requesting verification of jurisdictional wetlands.

The delineated wetlands are believed to be non-jurisdictional. Regardless of the Corps' ruling, the Applicant has no plans to develop or impact these areas (see the Master Plan – Exhibit "D"). This fact makes the Corps' jurisdictional determination somewhat irrelevant to the future development of the Amended PUD Tract.

Finally, the boundary survey also includes a certification of the OCRM critical line (see Exhibit "E").

H. Threatened and Endangered Species

A Threatened and Endangered Species Report has been completed by Simpkins Environmental Consulting and is attached hereto as Exhibit "I". The survey concluded that there is no presence or likely presence of any threatened and endangered species on the Amended PUD Tract. A copy of the final report has been submitted to the U.S. Army Corps of Engineers – Charleston District, United States Fish & Wildlife Service and South Carolina Department of Natural Resources. No development shall occur on the property until letters of concurrence have been received from these same governmental entities.

I. Archeological Survey

New South Associates has conducted a Phase I Archeological Survey and Phase II Site Evaluation of the Amended PUD Tract. The consultant's findings are included as Exhibit "J". In summary, the survey identified that a portion of Site 38BU2123 is potentially eligible for the National Register of Historic Places. Any historical significance is limited to the northernmost section of the archeological site where there is a shell midden deposit. This shell midden deposit is actually located in a wooded area on the northeastern edge of the property and is delineated on the boundary survey (see Exhibit "E"). This area is slated to remain as a buffer that will not be developed (see the Master Plan – Exhibit "D").

The existence of a twentieth-century cemetery is also noted in the archeologist's report and has been delineated in the boundary survey (see Exhibits "E"). The cemetery is situated along northwestern edge of the main tract and has been determined to have no apparent historic significance. The archeological methodology and ultimate determination of the cemetery boundaries are discussed in a letter by New



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

South Associates, which is also included in Exhibit "J". In order to protect the integrity of the cemetery, the Applicant will provide a minimum 20 foot development buffer around the delineated boundary. The appearance of the cemetery will also be greatly enhanced through a more manicured buffer and the installation of improved perimeter fencing.

This entire report has been forwarded to the South Carolina State Historic Preservation Office for review and approval of the archeological findings.

J. FEMA Zones

According to the Flood Insurance Rate Map (Community Panel # 450025-0065-D Index Dated November 4, 1992), there are 2 FEMA zones on the Amended PUD Tract. The 2 zones are detailed on the boundary survey (see Exhibit "E") and include Zone C (minimal hazard) and Zone A9 (subject to a 100-year flood event). All habitable structures and other qualifying facilities within Zone A9 must be constructed above an elevation of 13 feet mean sea level.

K. Easements

As previously discussed, the Beaufort County School System has a shared access easement with the Owner of the Amended PUD Tract. The easement is portrayed as a cross hatched area on the boundary survey (see Exhibit "E").

It already has been noted that there is a twentieth-century cemetery on the property. The Applicant will make every accommodation to provide a cemetery easement (for purposes of accessing the cemetery and maintaining the existing graves) to any family members that have established a right of ongoing use.

III. DEVELOPMENT PLAN

To reiterate, the Amended PUD Tract is intended to be a seamless extension of the existing Habersham neighborhood. The basis for this submittal and the ultimate development of the Amended PUD Tract is the earlier approved land use and project specific design codes and guidelines for the Habersham PUD. Using this same framework is crucial to creating a great neighborhood – one that affords enhanced access to the water, increased common areas, expanded walking networks and a mix of housing types.

The development standards included herein will supersede the requirements of the Beaufort County Zoning and Development Standards Ordinance (hereinafter, referred to as the "ZDSO"). Except for the noted exceptions, the intent of this application is to transfer over the same standards that were approved for the Habersham PUD in 1997 to the development of the Amended PUD Tract.

A. Land Use Summary

The Applicant contemplates land use and density in conformity with the following Land Use Summary Chart. In brief, land use within the Amended PUD Tract is consistent with the earlier approved Habersham PUD and overall density, as measured in dwelling units per gross acre, is identical. A total of 170 residential units are planned with a maximum of 10,000 square feet of Neighborhood Center Commercial.



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

LAND USE SUMMARY CHART						
USE		DWELLING UNITS PER ACRE	ACREAGE	NUMBER OF UNITS	% OF TOTAL ACREAGE	COMMERCIAL / CIVIC (SQ. FT.)
Neighborhood Center	Comm. / Civic		5.20		11.1 %	10,000 Comm. 0 Civic
	Multi-Family	16.15		84		
Neighborhood General		4.21	19.94	86	42.5 %	
Open Space			10.49		22.4 %	
R.O.W.			11.25		24.0 %	
TOTAL	Max. Gross Density	3.63	46.88	170	100 %	10,000
	Max. Net Density	4.67				

* Shading Indicates That An Entry Is Not Applicable.

B. Controlling Documents for Site Design and Development

The growth and development of the Amended PUD Tract will be implemented and guaranteed by a series of specialized, inter-related documents – the Master Plan, the Urban Standards and the Thoroughfare Standards. These same documents underpin the existing Habersham PUD. Likewise, the Master Plan, Urban Standards and Thoroughfare Standards will be the controlling documents and ultimate guide for the development of the Amended PUD Tract. Basically, these three documents will enable the development of a compact, integrated-use neighborhood coming together with the existing Habersham PUD to form a cohesive village.

1. Master Plan

The property will be developed in accordance with the Master Plan which is attached hereto as Exhibit "D". In essence, the plan is a graphic representation of the urbanized areas. For purposes of designating land use, the Master Plan is divided up into two distinct urban conditions – Neighborhood Center and Neighborhood General. These two conditions describe the range of building and thoroughfare typologies which are coded into the plan from more urban to less urban. These same land use designations were utilized in the original Habersham PUD.

2. Urban Standards

The development standards for the Amended PUD Tract are contained in Exhibit "K" (hereinafter, referred to as the "Urban Standards"). The Urban Standards document is a code that defines the two urban conditions – Neighborhood Center and Neighborhood General. Essentially, it is a code that describes, in-depth, the allowed uses, lot specifications and building types (including orientation, massing and parking). Please note that Exhibit "K" is made up of two related documents: 1) the original urban regulations document approved in 1997; and 2) Section 4.10.1 and 4.10.2 of the July 1996 Design Standards Ordinance which details the allowed uses for Neighborhood Commercial District.



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

3. Thoroughfare Standards

The Amended PUD Tract will have a private system of roads that will be maintained by a community association. The street standards are attached hereto as Exhibit "L" (hereinafter, referred to as the "Thoroughfare Standards"). This document details the layout of traffic lanes, parking and sidewalks (which will be built within the rights-of-way shown in the Master Plan). The referenced Thoroughfare Standards are patterned after the original Habersham PUD.

C. Compatibility of Land Use with the Surrounding Area

Development of the Amended PUD Tract will compliment current and proposed residential projects that are planned for the Cherokee Farms Road area. The Habersham PUD, Coastal Construction's Cherokee Farms project and the Amended PUD Tract are all DPZ designs, and thus, are very similar and interrelate as far as the contemplated land use, design codes and architectural guidelines.

D. Open Space

Open space within the Amended PUD Tract has been calculated using the entire boundary of the property and is not applicable to any phasing of the development. The Master Plan includes 10.49 acres of open space which includes private recreation areas, natural areas, active parks, passive parks, lakes, freshwater wetlands and buffers, trails, perimeter buffers and setbacks (excluding the 50 foot OCRM critical line setback), community landscape areas and the delineated cemetery. This calculation also excludes any landscaped area within developed parcels or any undeveloped area within the shared access easement. The Amended PUD Tract is akin to the Habersham PUD in that it affords large areas of unobstructed marsh access.

Based on the aforementioned paragraph, the open space ratio for the Amended PUD Tract is .224.

E. Buffers and Landscaping

The Amended PUD Tract will incorporate a 50 foot bufferyard from the collector street (i.e., only Joe Frazier Road). Generally, at least a 25 foot development buffer will surround the perimeter of the property so as to minimize the impact on adjacent owners. However, a buffer will not be necessary in the area where the Habersham PUD and the Amended PUD Tract interconnect and blend together. Of course, more modest buffers of 15 feet or less are proposed in the area where the School site and the Amended PUD Tract border one another and share an access easement. This is logical given that the original intent of the Elementary School is to have its design tie to and be part of the larger Amended PUD Tract. Buried utilities may encroach into buffer yards. Some buffer yards are not intended to be left undisturbed and may be covered by lawns and planted materials. As previously discussed, there will be at least a 20 foot buffer around the delineated boundary of the cemetery (as established by the archeological field studies by New South Associates).

The character of the Amended PUD Tract is narrow streets with narrow rights-of-way in order to save and protect as many existing trees as possible. Formal street tree plantings will of a type that maintains the natural character of the property. All phases of the Amended PUD Tract will adhere to the latest version of the ZDSO standards with respect to tree and landscaping standards.



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

F. Setbacks

Lot standards and building setbacks will be in accordance with the Urban Standards document (see Exhibit "K"). Setbacks from the freshwater wetlands shall be 20 feet or as established by the U.S. Army Corps of Engineers and OCRM, whichever is greater. Setbacks from the OCRM critical line will be 50 feet for all single family residential.

G. Traffic Analysis

Potential traffic impacts to Joe Frazier Road and other proximate roads and intersections are documented in the attached traffic study by SRS Engineering (see Exhibit "M").

A letter from SRS Engineering indicating the overall effect of the proposed development in the event of an evacuation is also included in Exhibit "M".

H. Wetlands and Natural Resource Protection

The freshwater wetlands on the property have been delineated and surveyed (see Exhibits "E" and "H"). A jurisdictional determination is pending with the U.S. Army Corps of Engineers. However as noted on the Master Plan, these same freshwater wetlands will be preserved with no developmental.

Preservation of trees is a hallmark of the Habersham neighborhood. Tree surveys and tree protection, removal and mitigation plans will be submitted on each phase of Amended PUD Tract. The internal road layout will respond to detailed tree surveys and avoid as many specimen trees as possible.

I. Storm Water Management

A preliminary storm water management plan has been designed by Davis and Floyd and is attached hereto as Exhibit "N". Davis and Floyd served as the engineer of record for the original storm water plan that was approved for the Habersham PUD. The original plan, written in 1996, withstood the rigorous evaluation of a qualified third party consultant selected by the County Engineer. Much of the same groundbreaking methodology (which is now accepted best practice) will be incorporated into the design of the Amended PUD Tract.

Storm water management for the Amended PUD Tract will adhere to the ZDSO standards as well as South Carolina Department of Health and Environmental Control (DHEC) and OCRM requirements. Best Management Practices and other accepted practices will be employed to reduce post-development discharge and improve storm water quality. Collection and conveyance of storm water runoff will involve a combination of shallow, grass lined swales, open ditches and conventional storm sewer systems. Where site typology permits, storm water runoff from roads shall drain. As necessary to achieve proper drainage, catch basins and storm drainage piping will be installed to collect and convey storm water. Storm water runoff from the developed land will be routed through a detention basin or other control device. Vegetative buffers will be maintained around the critical areas, open drainage channels and detention basins to prevent erosion and control sediment.



HABERSHAM AMENDED PUD – 46.88 ACRE TRACT

The proposed detention basin will not impact any existing freshwater wetlands. No off-site improvements for the proper drainage of the Amended PUD Tract are anticipated.

J. Utility Services

A preliminary water distribution and sanitary sewer collection plan has been completed by Davis and Floyd and is included as Exhibit "O".

Letters from applicable utility providers indicating their ability to serve the Amended PUD Tract are attached hereto as Exhibit "P". Potable water and wastewater collection will be provided by Beaufort Jasper Sewer Water Authority. Electric and natural gas service will be provided by South Carolina Electric and Gas. Telecommunication and cable service will be provided by Sprint and Hargray. Finally, Waste Management has agreed to serve the project's solid waste removal needs.

K. Community Docks

A community dock system is proposed for the Amended PUD Tract. The dock would be located where a deepwater bend of Habersham Creek comes very close to the shore line of the subject property. The Master Plan (see Exhibit "D") more accurately indicates the particular location of the dock. The proposed dock will be accessible to the community via a pedestrian path. A dock plan will be submitted to OCRM. The exact configuration of the community dock is subject to OCRM guidelines and approval.

L. Ownership of the Improvements

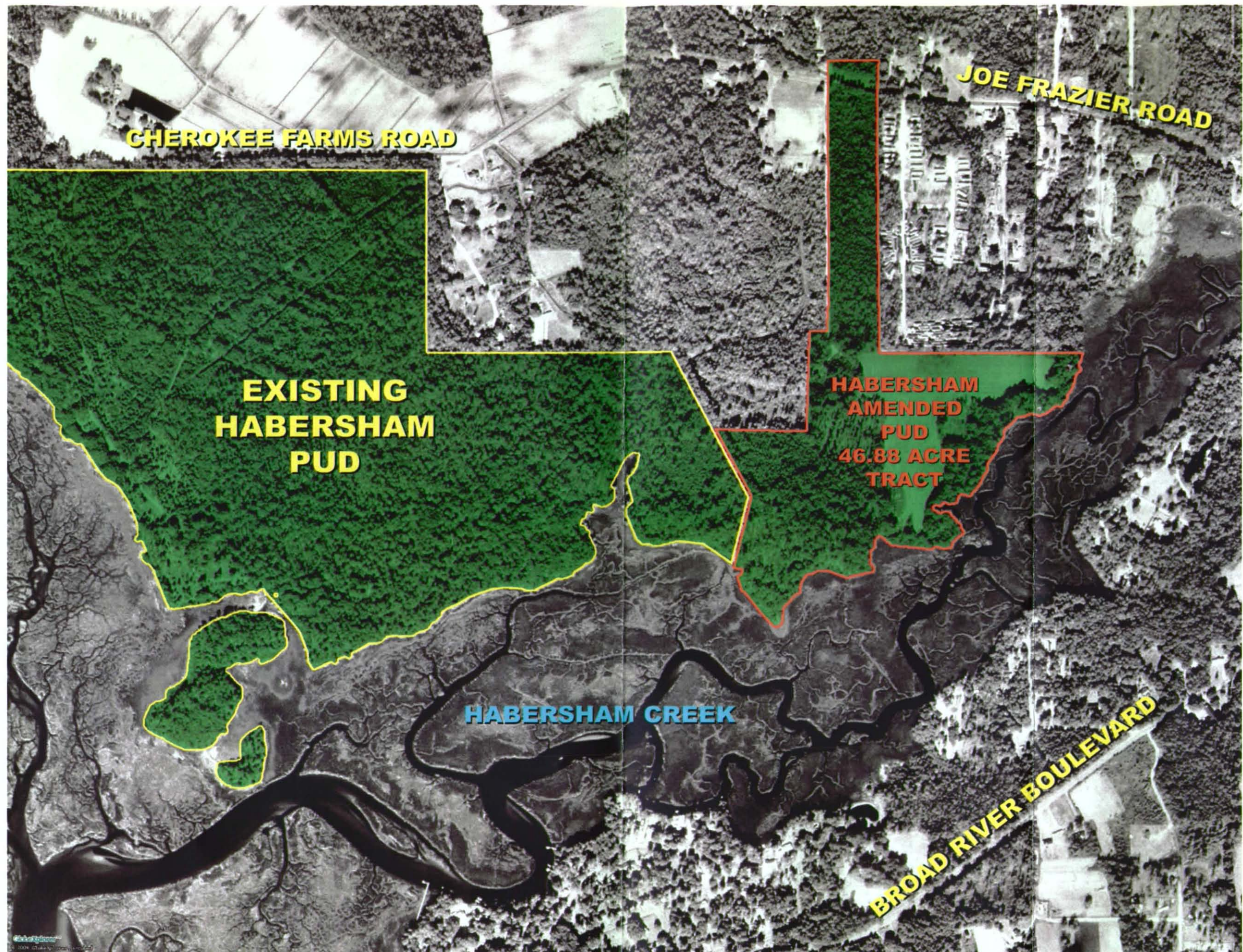
Roads, drainage systems, open spaces and other proposed amenities and improvements will be privately owned and maintained by the Habersham property owners association.

M. Phasing

The Amended PUD Tract will be constructed in one phase over an estimated one year period. The proposed phasing schedule may need to be adjusted based on actual lot absorption and market conditions.



B



C



- ◆ The Habersham Fire Station is an example of a public/private development partnership that ultimately created a functional and architecturally pleasing building.

- ◆ These live work buildings are an example of the high quality, village scale commercial that is being developed as part of Habersham's village center.



HABERSHAM NEIGHBORHOOD



- ◆ These authentic town homes front onto a large green where specimen trees have been protected.

- ◆ Eastover Park is one of the many community parks within Habersham and is an example of the great public spaces that can be created and become significant assets and amenities for the neighborhood.



HABERSHAM NEIGHBORHOOD



- ◆ Community parks emphasize the natural beauty and preserve specimen trees.

- ◆ Another large community green with beautiful trees.



HABERSHAM NEIGHBORHOOD



- ◆ At Habersham, the existing freshwater wetlands were enhanced by planting aquatic vegetation along the water's edge.

- ◆ Homes front public green spaces and incorporate narrow, traffic calming streets which are safer for children at play.



HABERSHAM NEIGHBORHOOD



- ◆ A Habersham street view where extra care has been taken to preserve specimen trees that occur in the right-of-way.

- ◆ Another street scene with houses fronting a community park.



HABERSHAM NEIGHBORHOOD



- ◆ Sidewalks and the overall streetscape are enhanced with planted trees and groundcover.

HABERSHAM NEIGHBORHOOD

D

BEAUFORT COUNTY, SOUTH CAROLINA

BEAUFORT COUNTY, SOUTH CAROLINA

MATCH LINE

— MATCH LINE

BEAUFORT COUNTY
SCHOOLS

COMMUNITY DOCK

HABERSHAM
LAND COMPANY

S-56/72 (PHASE 1)



COMMERCIAL

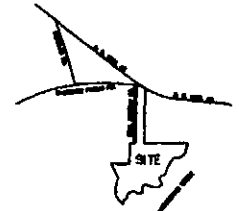
NEIGHBORHOOD CENTER

NEIGHBORHOOD GENERAL

OPEN SPACE

SCALE 1" = 250'
DECEMBER 8, 2004

E



LOCATION MAP (N.T.S.)

NOTES:

- 1) THE BOUNDARY SHOWN HEREON ARE SHOWN AND AS SUCH ARE SUBJECT TO LOCAL ADJUSTMENT.
- 2) THIS PLAN DOES NOT CONVEY THE INTEREST OR INTEREST OF U.S. ARMY CORPS OF ENGINEERS JURISDICTION, BELONGS TO THE U.S. ARMY CORPS OF ENGINEERS.
- 3) METHOD OF AREA CALCULATION BASED ON CONVENTIONAL METHOD.
- 4) LOCATION OF UNDERGROUND UTILITIES ARE FROM SURFACE INFORMATION ONLY AND ARE NOT CERTAIN.
- 5) THIS PLAN REPRESENTS A SURVEY BASED ON THE LISTED REFERENCES ONLY AND IS NOT THE RESULT OF A TITLE SEARCH.
- 6) CONVEYANCE ARE NOT TRANSMISSIBLE TO ADDITIONAL INSTRUMENTS OR SUBSEQUENT OWNERS.
- 7) THE OWNER HAS NOT INVESTIGATED OR BEEN INSTRUCTED TO INVESTIGATE THE EXISTENCE OR NONEXISTENCE OF ANY OVERLAY DISTRICTS, SUCH AS AIRPORT, MILITARY, HAZARDOUS, PORTAL, OR ENVIRONMENTAL, ETC.
- 8) BEFORE ANY DESIGN WORK OR CONSTRUCTION ON THIS SITE IS STARTED FLOOD ZONE INFORMATION MUST BE VIEWED BY THE APPROPRIATE BUILDING CODES OFFICIAL.
- 9) THIS PROPERTY APPEARS TO BE IN FLOOD ZONE "C" & "D" (1-100) AS DETERMINED BY FEMA FIRM COMM-FIRM NUMBER 40000 0000 D, DATED 08/08/98. (DATE DATED 11/04/04)
- 10) ALL CORNERS ARE 1/2" RED SET UNLESS OTHERWISE NOTED.

REFERENCES:

- 1) B 100-100-000-0077 (PORTAL)
- 2) PLAN BY R. C. WOODMAN, JR. DATED 10/31/98
- 3) PLAN BY DAVIS & FLOYD, INC. DATED 07/07/98

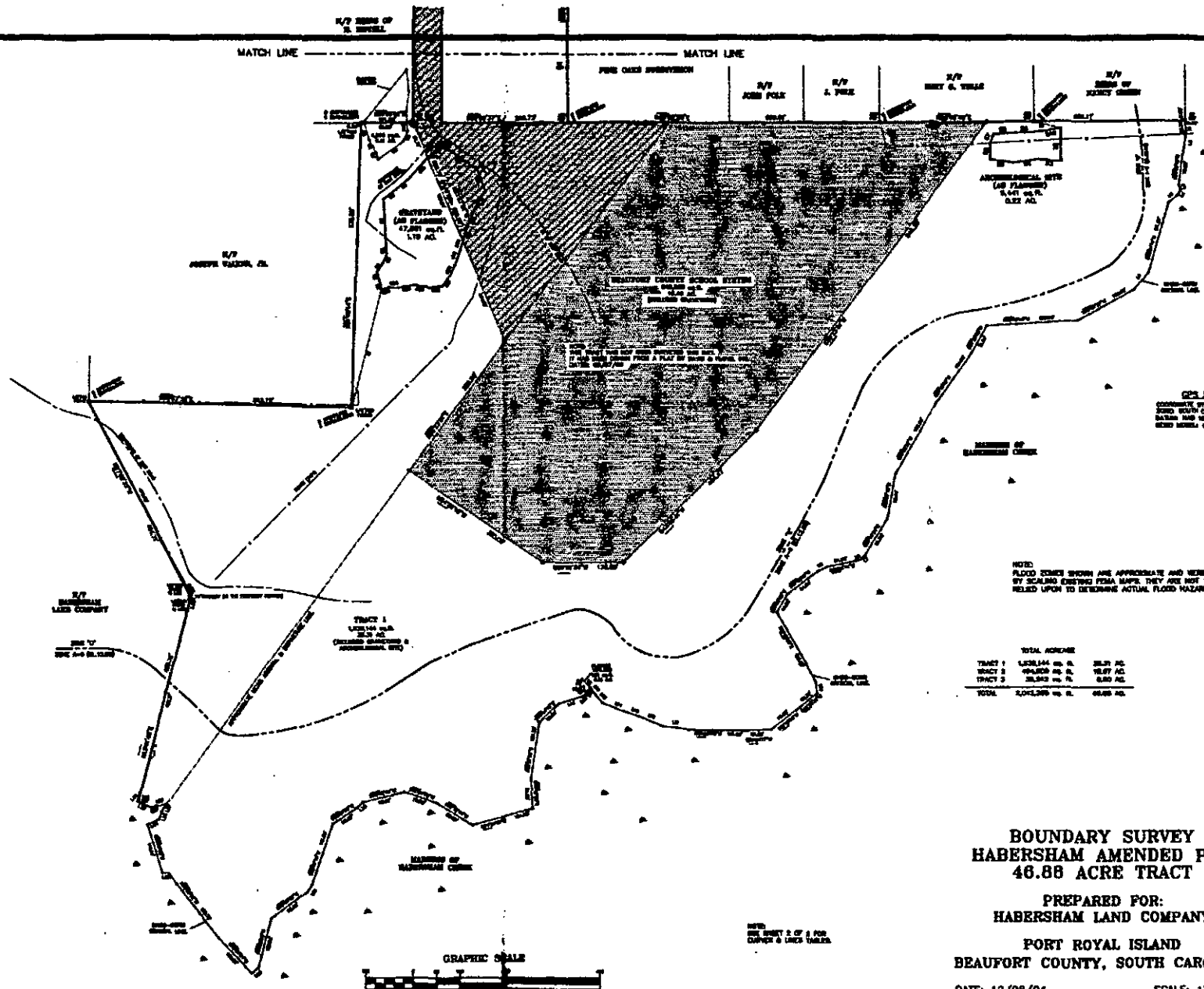
BOUNDARY SURVEY
 THE AREA SHOWN ON THIS PLAN IS A PART OF THE PROPERTY OF HABERSHAM LAND COMPANY, BEAUFORT, SOUTH CAROLINA. THE BOUNDARY SHOWN ON THIS PLAN IS BASED ON THE LISTED REFERENCES ONLY AND IS NOT THE RESULT OF A TITLE SEARCH. THE BOUNDARY SHOWN ON THIS PLAN IS NOT TO BE USED FOR ANY OTHER PURPOSES.

LEGAL DESCRIPTION
 THE LEGAL DESCRIPTION OF THE PROPERTY SHOWN ON THIS PLAN IS AS FOLLOWS: BEING THAT CERTAIN LOT OR LOTS OF LAND, TO-WIT: LOT 1, BEING A PART OF THE PROPERTY OF HABERSHAM LAND COMPANY, BEAUFORT, SOUTH CAROLINA, AS SHOWN ON THE LISTED REFERENCES ONLY.

ACKNOWLEDGMENT
 I, the undersigned, being a duly qualified and licensed land surveyor and planner, do hereby certify that the foregoing is a true and correct statement of the facts and circumstances as shown by the survey and plan hereon, and that the same are in accordance with the laws and regulations of the State of South Carolina, and that the same are in accordance with the laws and regulations of the State of South Carolina, and that the same are in accordance with the laws and regulations of the State of South Carolina.

GASQUE & ASSOCIATES INC.
 LAND SURVEYORS - PLANNERS
 30 PROFESSIONAL VILLAGE CIRCLE, BEAUFORT, S.C.
 P.O. BOX 1363, BEAUFORT, S.C.
 (843) 882-1798

THIS PLAN IS PREPARED FOR THE USE OF THE CLIENT AND IS NOT TO BE USED FOR ANY OTHER PURPOSES.



NOTE: FLOOD ZONES SHOWN ARE APPROXIMATE AND WERE DETERMINED BY SCALING EXISTING FEMA MAPS. THEY ARE NOT TO BE RELIED UPON TO DETERMINE ACTUAL FLOOD HAZARD AREAS.

TOTAL ACRES	
TRACT 1	1.50144 ac. ±
TRACT 2	45.37856 ac. ±
TOTAL	46.88 ac. ±

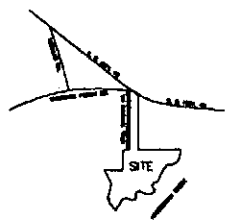
BOUNDARY SURVEY
HABERSHAM AMENDED PUD
46.88 ACRE TRACT
 PREPARED FOR:
HABERSHAM LAND COMPANY
 PORT ROYAL ISLAND
 BEAUFORT COUNTY, SOUTH CAROLINA.

DATE: 12/08/04

SCALE: 1" = 100'

SHEET 1 OF 2

JOHN J. GASQUE, SURV. 60040 P.S. 6022 DRAWN BY: DESIGN 4/0



This is a detailed plat map of a portion of the City of New York, showing various tracts, streets, and property boundaries. The map includes labels for "N.Y. HARRY GREEN", "N.Y. ABRAHAM & VERA BROTH", "N.Y. S.C. DEPT. OF NAVY", "N.Y. M. WALKER", "N.Y. M. HALLADAY", and "N.Y. H. TALKER". It also shows "TRACT 8" and "TRACT 9" with their respective areas. The map is oriented with North at the top and includes a scale bar at the bottom.

LAND GRACE BY BEAUFORT COUNTY SCHOOL DISTRICT

SHARED ACCESS EASEMENT

PROPERTY LINE

POLE LINE

400-0000 CRITICAL LINE

SEAWALL & APPROACHMENT, SETS

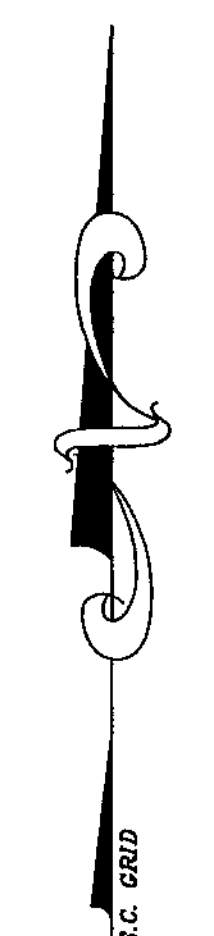
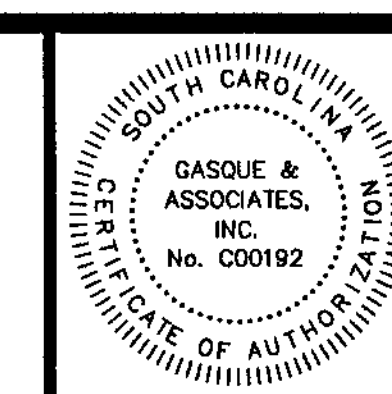
CONTINUOUS OF ROAD

FLUSH FENCE LINE

ADVANCED PROPERTY LINE

(IN FEET)
1 inch = 500 ft.

SCALE: 1" = 100'



LOCATION MAP (N.T.S.)

- NOTES:**
- 1.) THE BEARINGS SHOWN HEREON ARE MAGNETIC AND AS SUCH ARE SUBJECT TO LOCAL ATTRACTION.
 - 2.) THIS PLAT DOES NOT CERTIFY THE PRESENCE OR ABSENCE OF U.S. ARMY CORPS OF ENGINEERS JURISDICTIONAL WETLANDS.
 - 3.) METHOD OF AREA CALCULATION BASED ON COORDINATE METHOD.
 - 4.) LOCATION OF UNDERGROUND UTILITIES ARE FROM SURFACE INDICATIONS ONLY AND ARE NOT CERTIFIABLE.
 - 5.) THIS PLAT REPRESENTS A SURVEY BASED ON THE LISTED REFERENCES ONLY AND IS NOT THE RESULT OF A TITLE SEARCH.
 - 6.) CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.
 - 7.) THE CERTIFIER HAS NOT INVESTIGATED OR BEEN INSTRUCTED TO INVESTIGATE THE EXISTENCE OR NONEXISTENCE OF ANY OVERLAY DISTRICTS, SUCH AS: AIRPORT, MILITARY, NOISE, CRASH POTENTIAL OR ENVIRONMENTAL ISSUES.
 - 8.) BEFORE ANY DESIGN WORK OR CONSTRUCTION ON THIS SITE IS STARTED FLOOD ZONE INFORMATION MUST BE VERIFIED BY THE APPROPRIATE BUILDING CODES OFFICIAL.
 - 9.) THIS PROPERTY APPEARS TO LIE IN FLOOD ZONES "C" & A-9 (EL.13.00) AS DETERMINED BY FEMA FIRM COMM.-PANEL NUMBER 450025 0065 D, DATED: 09/29/86. (INDEX DATED: 11/04/92.)
 - 10.) ALL CORNERS ARE 1/2" ROD SET UNLESS OTHERWISE NOTED.

- REFERENCES:**
- 1.) R 100-028-000-0077 (PORTION)
 - 2.) PLAT BY R. D. TROGDON, JR. DATED: 10/31/86
 - 3.) PLAT BY DAVIS & FLOYD, INC. DATED: 07/07/99

DHEC-OCRM CRITICAL LINE

THE AREA SHOWN ON THIS PLAT IS A GENERAL REPRESENTATION OF DHEC-OCRM PERMIT AUTHORITY ON THE SUBJECT PROPERTY. CRITICAL AREAS, BY THEIR NATURE, ARE DYNAMIC AND SUBJECT TO CHANGE OVER TIME. BY GENERALLY DELINEATING THE PERMIT AUTHORITY OF THE DHEC-OCRM, THE OFFICE OF OCRM IN NO WAY WAIVES THE RIGHT TO ASSERT PERMIT JURISDICTION IN ANY CRITICAL AREA ON THE SUBJECT PROPERTY WHETHER SHOWN OR NOT. ALL PROPERTY OWNERS OR PROSPECTIVE BUYERS ARE ADVISED TO HAVE THE LINE CHECKED BY COUNCIL STAFF PRIOR TO CONSTRUCTION OR CLOSING ON THE SALE OF THIS PROPERTY.

SIGNATURE: *[Signature]* DATE: 12-10-04

THE CRITICAL LINE SHOWN ON THIS PLAT IS VALID FOR THREE YEARS FROM THE DATE OF THIS SIGNATURE, SUBJECT TO THE CAUTIONARY LANGUAGE ABOVE

THIS PLAT IS NOT BINDING UNLESS ACCOMPANIED BY AN ORIGINAL SIGNATURE AND AN EMBOSSED SEAL.

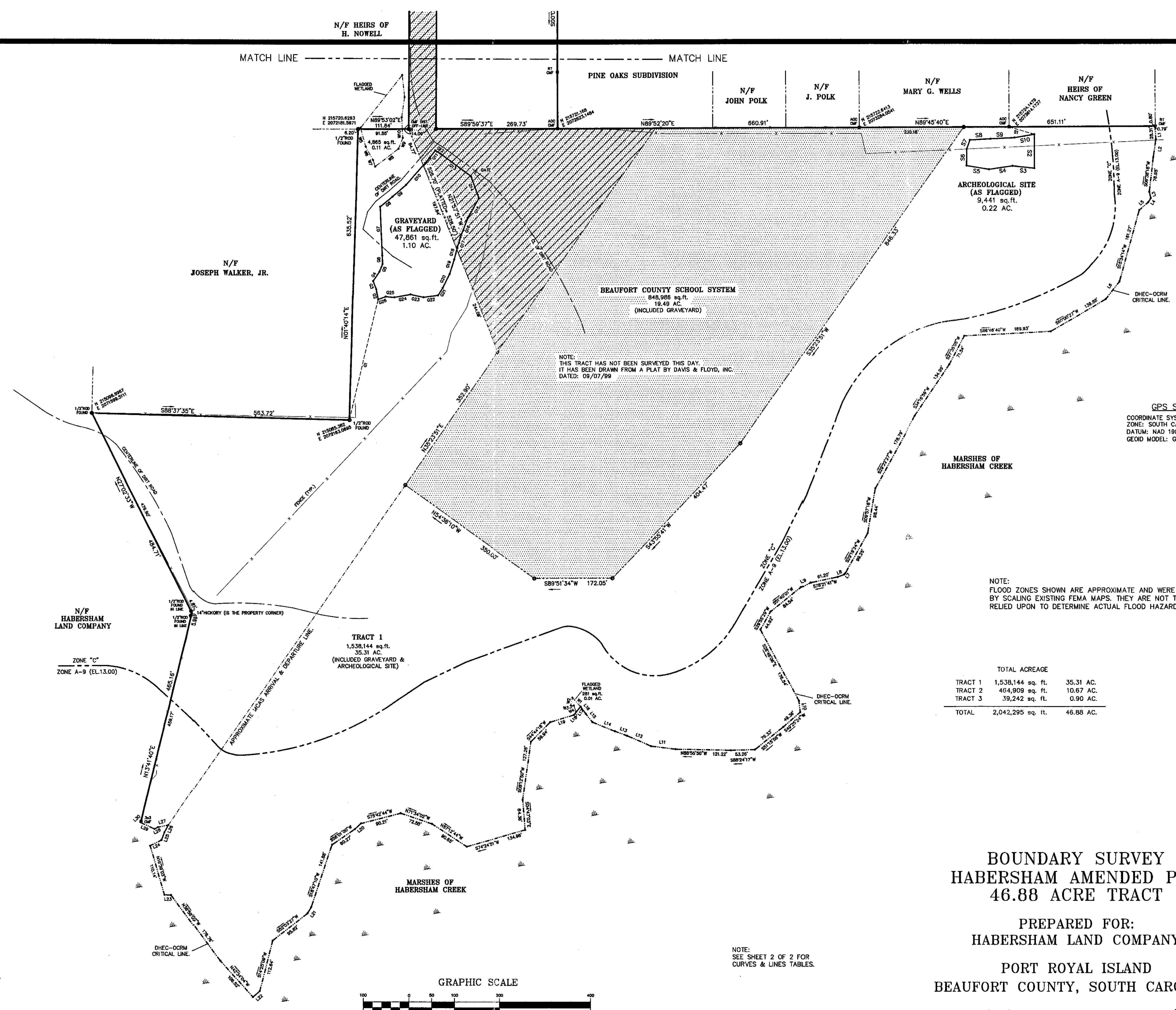
I, David E. Gasque, a Registered Professional Land Surveyor in the State of South Carolina, certify to client(s) shown hereon that to the best of my knowledge, information and belief, the survey shown hereon was made in accordance with the requirements of the minimum standards manual for the practice of land surveying in South Carolina, and meets or exceeds the requirements for a CLASS "A" survey as specified therein, also there are no encroachments or projections other than shown. This survey is not valid unless it bears the original signature and has an embossed seal.

[Signature] David E. Gasque, R.L.S. S.C. Registration Number 10508

GASQUE & ASSOCIATES INC.
LAND SURVEYORS · PLANNERS

28 PROFESSIONAL VILLAGE CIRCLE, BEAUFORT, S.C.
P.O. BOX 1363, BEAUFORT, S.C.
(843) 522-1798

THIS PLAT IS COPYRIGHTED AND IS ONLY INTENDED FOR THE USE OF THE ENTITY OR PERSON(S) SHOWN HEREON.



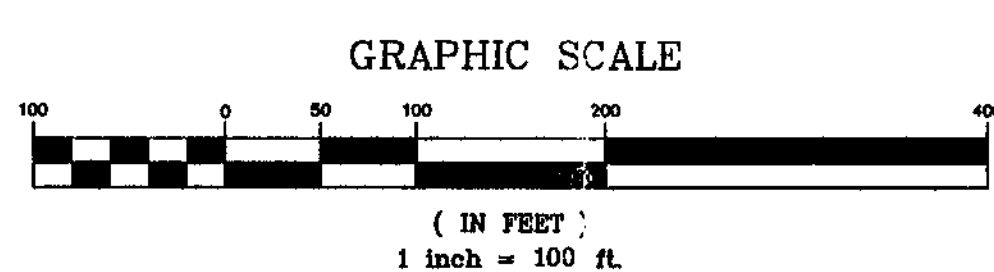
**BOUNDARY SURVEY
HABERSHAM AMENDED PUD
46.88 ACRE TRACT**

PREPARED FOR:
HABERSHAM LAND COMPANY

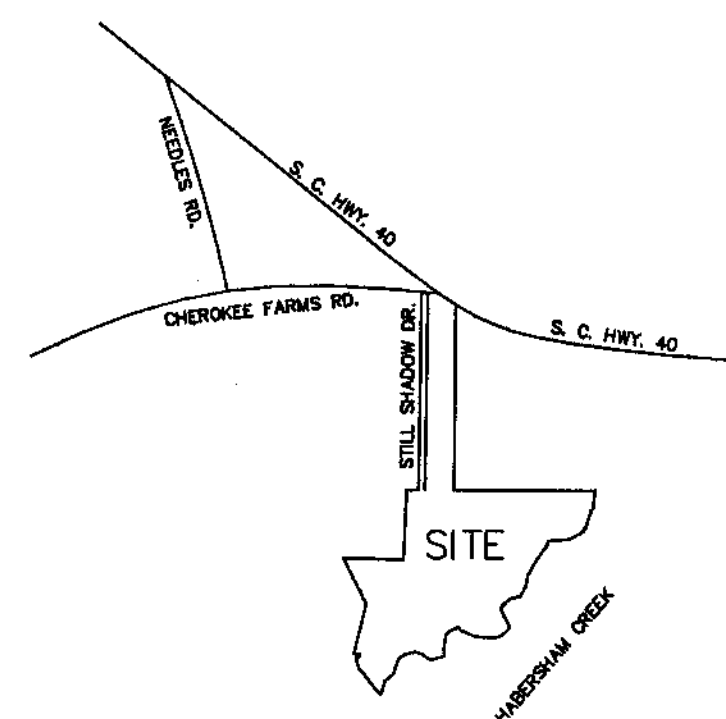
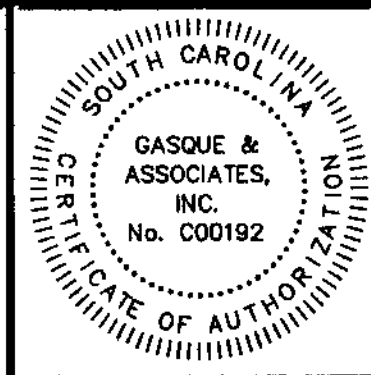
PORT ROYAL ISLAND
BEAUFORT COUNTY, SOUTH CAROLINA.

DATE: 12/06/04 SCALE: 1" = 100'

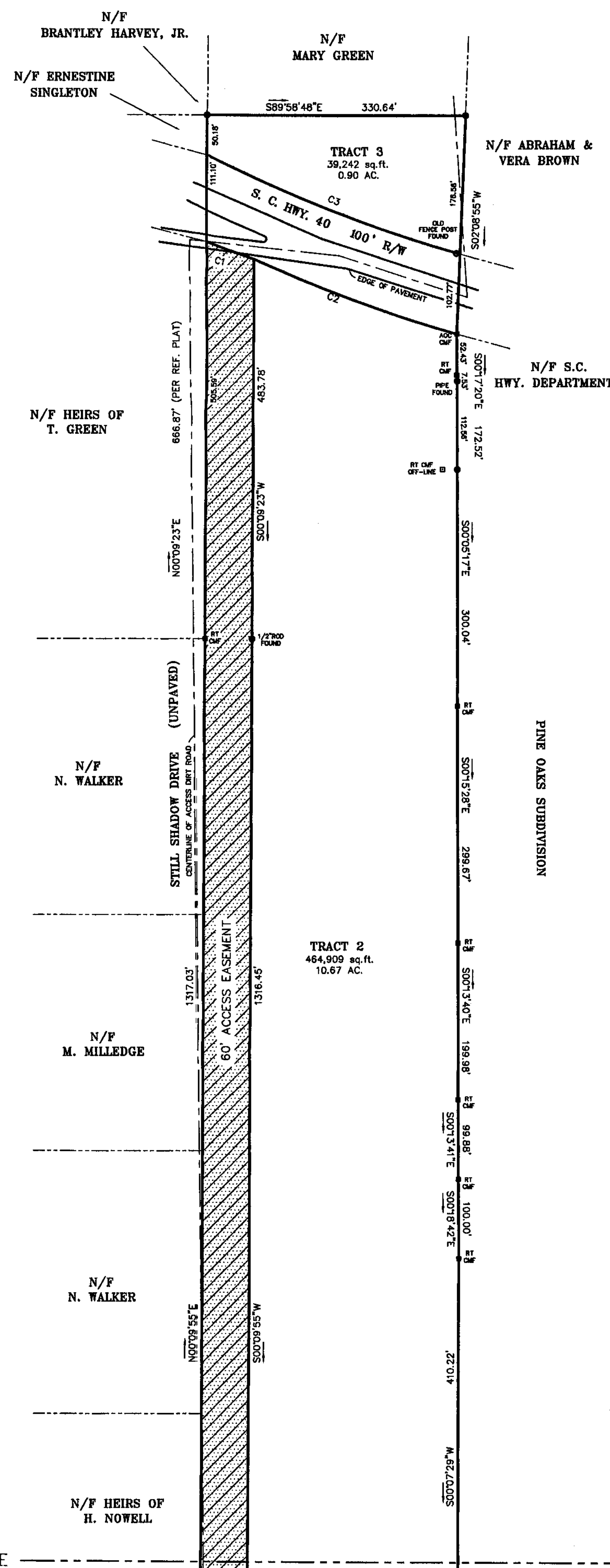
JOB # 26849REV REF. #26849 F.B. #623 DRAWN BY: DESIGN 4/JP



NOTE:
SEE SHEET 2 OF 2 FOR
CURVES & LINES TABLES.



LOCATION MAP (N.T.S.)



CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	1921.55'	63.85'	31.93'	63.85'	S89°47'55"E	01°54'14"
C2	1921.55'	278.02'	139.29'	277.78'	S89°47'55"E	08°17'23"
C3	1821.55'	348.45'	174.76'	347.92'	S88°42'07"E	10°57'37"

LINE	DIRECTION	DISTANCE
G1	N13°36'10"E	270.47'
G2	N11°55'33"W	22.52'
G3	N20°27'43"W	19.65'
G4	N33°03'29"E	24.64'
G5	N22°25'58"E	18.36'
G6	N02°23'29"W	18.36'
G7	N02°34'30"W	106.45'
G8	N50°31'18"E	35.14'
G9	N48°18'44"E	39.54'
G10	N41°19'23"E	78.51'
G11	N38°20'23"E	20.76'
G12	S58°36'50"E	13.27'
G13	S53°31'22"E	82.72'
G14	S19°48'53"E	51.59'
G15	S29°20'41"W	49.15'
G16	S21°17'58"W	45.17'
G17	S16°38'13"W	23.80'
G18	S14°35'22"W	28.25'
G19	S17°49'18"W	33.92'
G20	S25°50'43"W	33.45'
G21	S32°54'36"W	19.23'
G22	S62°20'18"W	32.35'
G23	N7°52'41"W	29.28'
G24	S79°08'47"W	36.05'
G25	N85°25'58"W	19.01'
G26	S68°53'29"W	17.56'
L1	S04°21'59"E	28.11'
L2	S08°18'37"W	39.11'
L3	S14°48'04"E	14.28'
L4	S33°13'23"W	10.48'
L5	S48°49'49"W	26.05'
L6	S38°05'14"W	48.78'
L7	S41°59'50"W	3.78'
L8	S69°28'03"W	15.31'
L9	S63°23'22"W	22.09'
L10	S06°29'18"E	25.28'
L11	N83°04'51"W	54.09'
L12	N66°39'32"W	56.84'
L13	N69°34'21"W	28.83'
L14	N68°09'06"W	53.34'
L15	N38°53'28"W	23.08'
L16	N35°29'42"W	19.90'
L17	S39°02'51"W	15.31'
L18	S37°19'26"W	8.49'
L19	S73°12'48"W	54.45'
L20	S47°00'31"W	17.95'
L21	S32°13'29"W	15.64'
L22	S49°17'58"W	19.70'
L23	N87°27'06"W	14.50'
L24	N63°26'14"E	27.97'
L25	N20°56'53"E	17.89'
L26	N26°30'29"E	18.14'
L27	S78°37'11"W	23.24'
L28	S62°24'45"W	8.59'
L29	N64°51'58"W	34.94'
L30	N54°20'54"E	3.00'
S1	S74°07'47"E	57.55'
S2	S00°00'31"W	73.83'
S3	N84°09'26"W	48.22'
S4	S81°47'24"W	52.33'
S5	N80°37'49"W	49.70'
S6	N00°24'40"E	35.88'
S7	N19°31'08"E	21.08'
S8	N86°38'50"E	45.09'
S9	N87°14'01"E	52.64'
S10	N80°33'10"E	44.51'
W1	N42°21'16"W	26.46'
W2	S12°02'34"W	17.57'
W3	S89°06'41"E	6.68'
W4	S20°02'23"E	15.07'
W5	S15°54'02"E	39.23'
W6	S28°31'53"E	33.54'
W7	S18°11'11"E	14.86'
W8	N52°48'30"E	54.88'
W9	N22°32'53"E	25.20'
W10	N03°08'00"W	19.17'

GPS SURVEY DATA

COORDINATE SYSTEM: US STATE PLANE 1983
ZONE: SOUTH CAROLINA 3900
DATUM: NAD 1983 (CONUS)
GEOID MODEL: GEOID98 (CONUS)

LEGEND

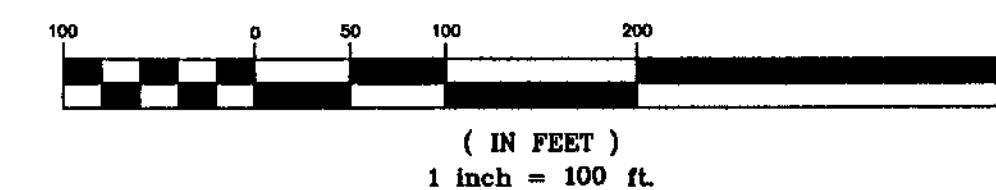
- LAND OWNED BY BEAUFORT COUNTY SCHOOL DISTRICT
- SHARED ACCESS EASEMENT
- PROPERTY LINE
- FENCE LINE
- DHEC-QORM CRITICAL LINE
- GRAVEYARD & ARCHEOLOGICAL SITE
- CENTERLINE OF ROAD
- FLOOD ZONE LINE
- ADJACENT PROPERTY LINE

BOUNDARY SURVEY
HABERSHAM AMENDED PUD
46.88 ACRE TRACT

PREPARED FOR:
HABERSHAM LAND COMPANY

PORT ROYAL ISLAND
BEAUFORT COUNTY, SOUTH CAROLINA.

GRAPHIC SCALE



DATE: 12/06/04

SCALE: 1" = 100'

GASQUE & ASSOCIATES INC.
LAND SURVEYORS PLANNERS

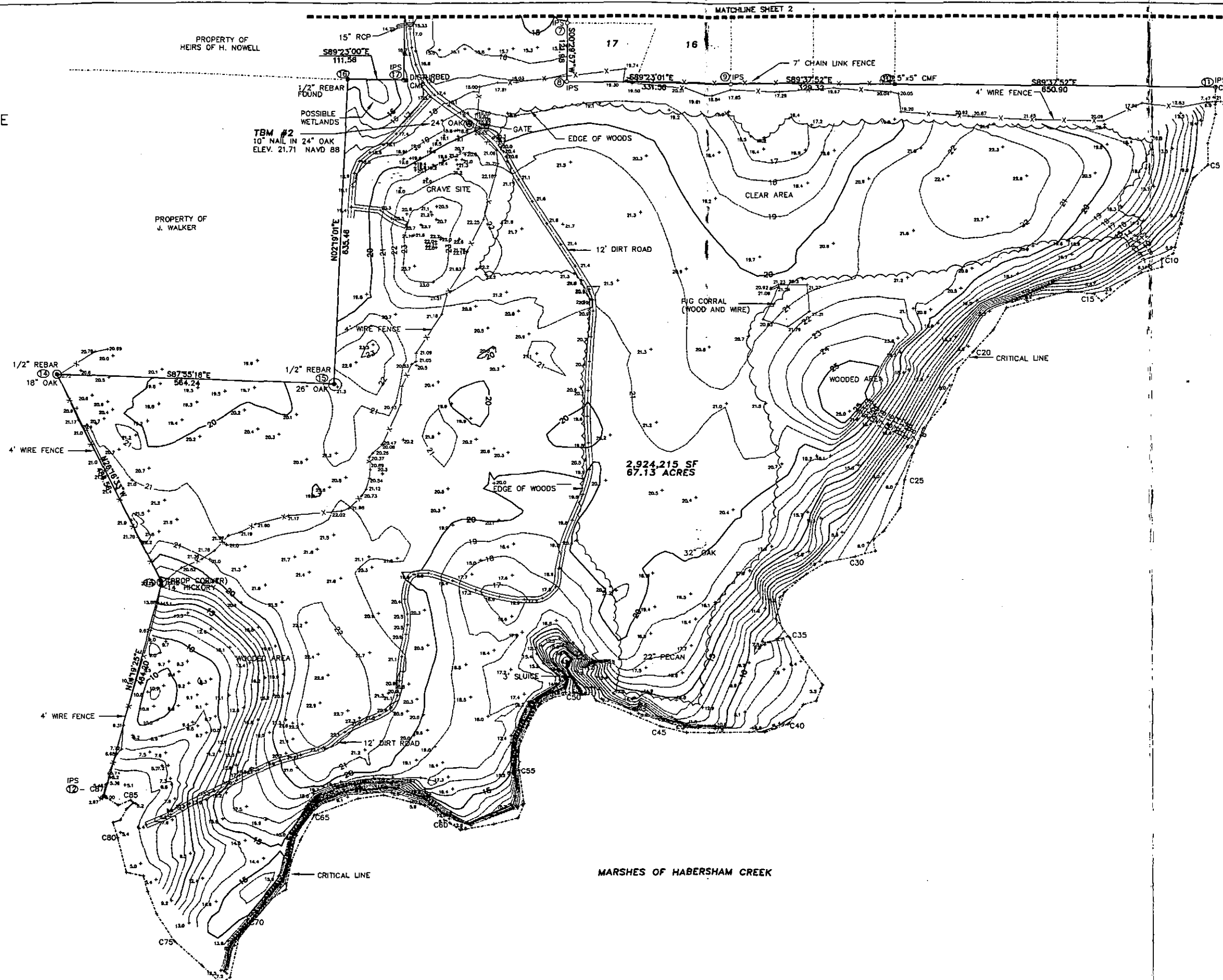
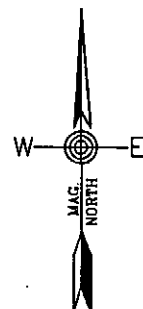
28 PROFESSIONAL VILLAGE CIRCLE, BEAUFORT, S.C.
P.O. BOX 1363, BEAUFORT, S.C.
(843) 522-1798

THIS PLAT IS COPYRIGHTED AND IS ONLY INTENDED FOR THE USE
OF THE ENTITY OR PERSON(S) SHOWN HERE ON.

SHEET 2 OF 2

JOB # 26849REV REF. #26849 F.B. #623 DRAWN BY: DESIGN 4/JP

F



LOCATION MAP

NOTE: BY GRAPHIC PLOTTING ONLY, THIS PROPERTY APPEARS TO BE IN FLOOD ZONE "C", AREA OF MINIMAL FLOODING AND FLOOD ZONE "A9" (EL. 13) AREAS OFF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY - PANEL # 450025 0065 D: EFFECTIVE DATE SEPTEMBER 29, 1986.

REFERENCE DRAWINGS

1. R.D. TROGDON JR. - OCT. 31, 1986
PLAT BOOK-PAGE NOT RECORDED

LEGEND

- PROPERTY LINE W/ 5/8" IRON PIN SET
- PROPERTY LINE W/ IRON PIN FOUND
- PROPERTY LINE W/ CONCRETE MONUMENT FOUND
- PROPERTY LINE
- CRITICAL LINE W/ DESCRIPTOR
- ADJACENT PROPERTY LINE
- RIGHT OF WAY
- EASEMENT LINE
- CENTER LINE
- FENCE LINE
- WOODS LINE
- TELEPHONE RISER
- TEMPORARY BENCH MARK
- SSMH SANITARY SEWER MANHOLE
- OVERHEAD POWER LINE W/ POWER POLE
- CONTOUR LINE

TOPOGRAPHIC SURVEY

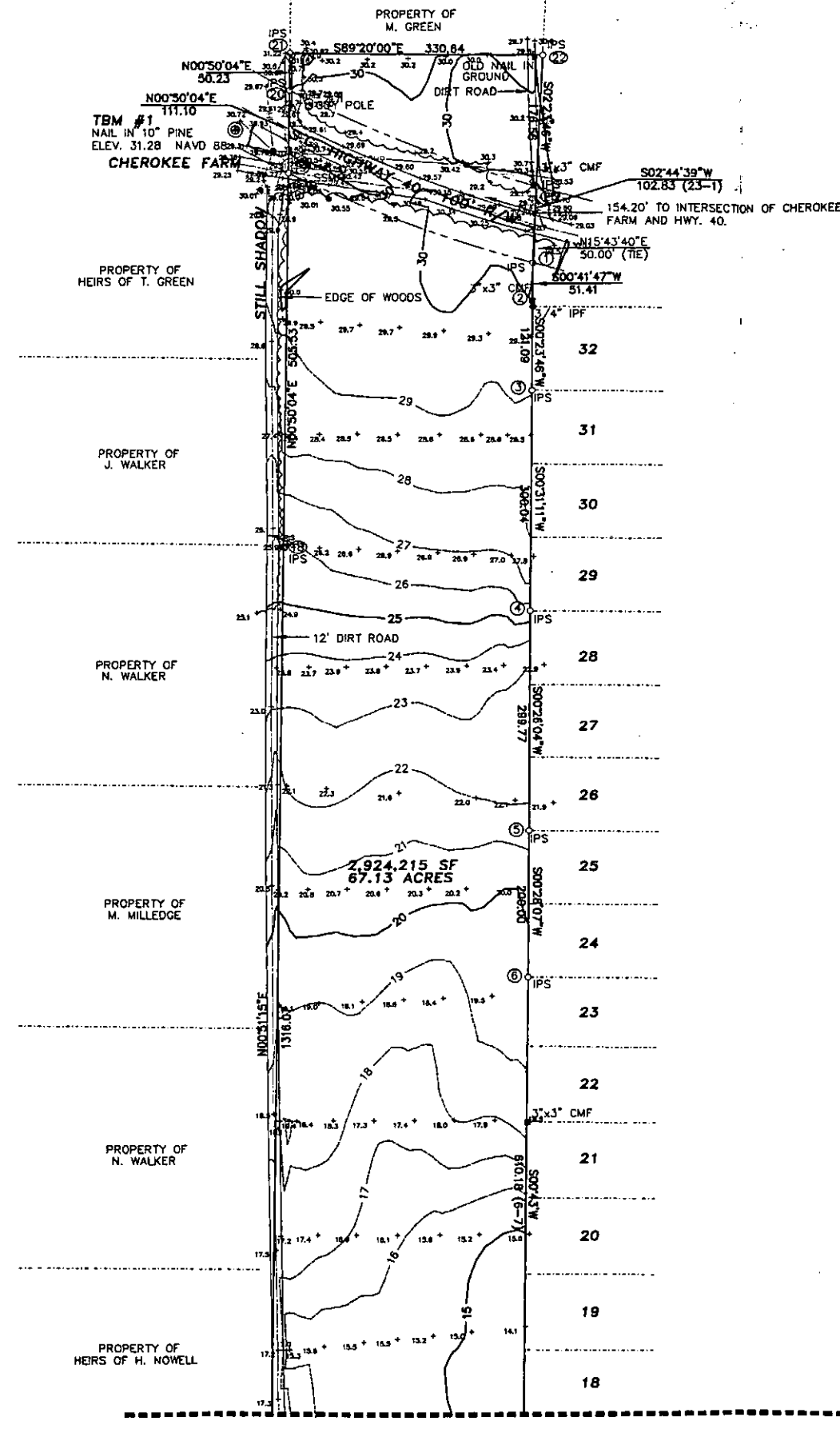
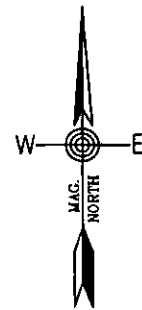
SHOWING
OLD HUBBEL TRACT
LOCATED
BEAUFORT
BEAUFORT COUNTY, SOUTH CAROLINA

SCALE: 1" = 100' DATE: 06/19/98
100 50 0 100 200



SHEET 1 OF 2

DAVIS & FLOYD, INC.
POST OFFICE BOX 61599
CHARLESTON, S.C.
PHONE (803) 554-8602



PINE OAKS SUBDIVISION
PLAT BOOK 23-90

MATCHLINE SHEET 1

LOCATION MAP

NOTE: BY GRAPHIC PLOTTING ONLY, THIS PROPERTY APPEARS TO BE IN FLOOD ZONE "C", AREA OF MINIMAL FLOODING AND FLOOD ZONE "A9" (EL 13) AREAS OFF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY - PANEL # 450025 0065 D; EFFECTIVE DATE SEPTEMBER 29, 1986.

REFERENCE DRAWINGS:

1. R.D. TROGDON JR. - OCT. 31, 1986 PLAT BOOK-PAGE NOT RECORDED

LEGEND

- PROPERTY LINE W/ 5/8" IRON PIN SET
- PROPERTY LINE W/ IRON PIN FOUND
- PROPERTY LINE W/ CONCRETE MONUMENT FOUND
- PROPERTY LINE
- CRITICAL LINE W/ DESCRIPTOR
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- WOODS LINE
- TELEPHONE RISER
- TEMPORARY BENCH MARK
- SSMH SANITARY SEWER MANHOLE
- OVERHEAD POWER LINE W/ POWER POLE
- CONTOUR LINE

TOPOGRAPHIC SURVEY
SHOWING
OLD HUBBEL TRACT
LOCATED
BEAUFORT
BEAUFORT COUNTY, SOUTH CAROLINA
SCALE: 1"=100' DATE: 06/19/98
100 50 0 100 200

SHEET 2 OF 2
DAVIS & FLOYD, INC.
POST OFFICE BOX 61599
CHARLESTON, S.C.
PHONE (803) 554-8602

G

HABERSHAM AMENDED PUD
46.88 ACRE TRACT
BEAUFORT COUNTY, SOUTH CAROLINA
SOILS CLASSIFICATION



H

THE EXTENT OF THE FRESHWATER WETLANDS ARE DELINEATED ON THE BOUNDARY
SURVEY - SEE EXHIBIT "E"

**THREATENED AND
ENDANGERED SPECIES ASSESSMENT**

**SUNRISE TRACT
BEAUFORT COUNTY
SOUTH CAROLINA**

**PREPARED FOR:
HABERSHAM LAND COMPANY
9 SEPTEMBER 2004**

Simkins Environmental Consulting

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1.0 INTRODUCTION

This report provides an assessment regarding the presence of protected species of wildlife and plants on an approximately 183 acre parcel known as the Sunrise Tract in Beaufort County, South Carolina. Results are based on consideration of State and Federal records, habitat requirements of species of concern, the biotic communities present on the site, and field observations. Sources of information considered herein include: (1) elements of occurrence records maintained by the South Carolina Department of Natural Resources, Heritage Trust Program; (2) a list of species potentially occurring in Georgetown County provided by the US Fish and Wildlife Service; and (3) an on-site reconnaissance, taking into account habitat requirements of species potentially occurring on the property and biotic communities present there.

2.0 SITE DESCRIPTION

The Sunrise Tract lies on the lower Coastal Plain Physiographic Province in Beaufort County, South Carolina. Situated along the upper reaches of Habersham Creek on the east side of Port Royal Sound, elevations range from sea level to more than 20 feet above sea level. The true size of the property is close to 183 acres. All but 67.13 acres, however, consists of salt marsh. The salt marsh portions, for all intents and purposes, belong to the State of South Carolina and the Federal Government.

About one third of the upland portion of the property appears to have been intensively managed for row crop agricultural in the recent past. That portion has been fallow for the past five or six years. The owners have deeded this portion (19.51 acres) to the Beaufort County School District for a school site. The panhandle shaped portion that extends out to Cherokee Farms road has a shared access road on it, to the east of which is Successional Stage Forest roughly 25 years old. Most of the remainder of the property has older second growth timber, but the under-story has been extensively thinned, and otherwise intensively managed so as to nearly eliminate the shrub and sapling stratum. Many of the trees on the property are in excess of 150 years old. The characteristics of the vegetation on the property are described in more detail in section 5.0.

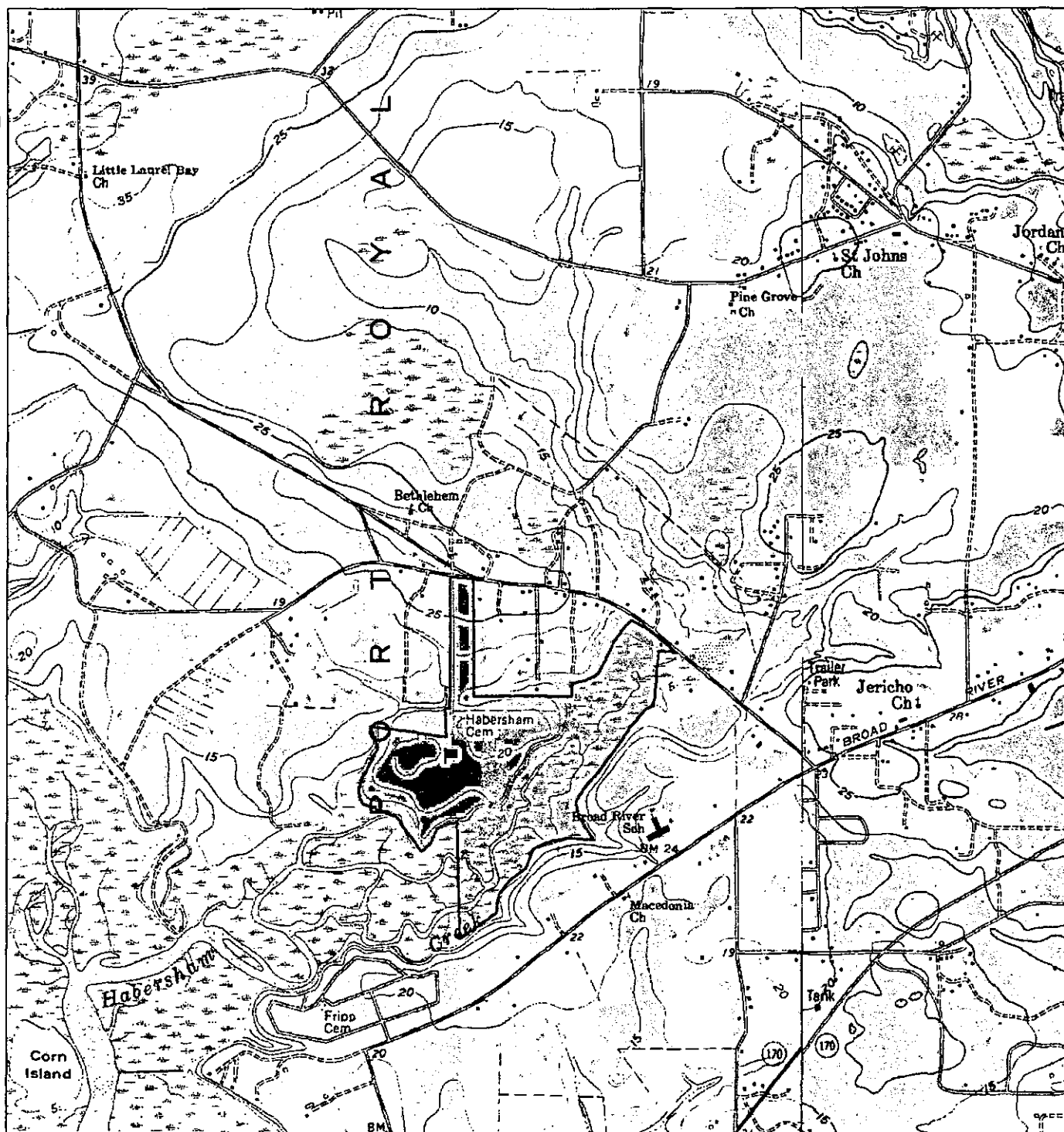


Figure 1 Location Map

Sunrise Tract

Source: DeLorme 3D Topoquads

Prepared by Simkins Environmental Consulting



Scale 1:24,000

3.0 STATE AND FEDERAL REGULATIONS

3.1 The Federal Endangered Species Act

The Endangered Species Act of 1973 (the Act), as amended, declares that economic growth and development in the United States, combined with an inadequate concern and conservation effort, have resulted in the extinction of, or threat of becoming extinct for, various species of native fish, wildlife, and plants. The Act gives the Secretary of the Interior, acting through the U.S. Fish and Wildlife Service; and the Secretary of Commerce, acting through the National Marine Fisheries Service, the power to protect and conserve all forms of wildlife and plants deemed to be in serious jeopardy.¹ The primary objective of the USFWS Endangered Species Program is to protect and restore populations of listed species and their habitat to a point where they are no longer in danger of extinction and are again self-sustaining members of the ecosystem.

The Act defines an endangered species as any species of fish, wildlife or plant that is in danger of extinction throughout all or a significant portion of its range.² A threatened species is any species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.³

Species identified as in need of protection are placed on the Federal list. Any species that is officially proposed for inclusion on the list as threatened or endangered is given the same protection as listed species. The degree of legal protection afforded to both endangered and threatened species is the same.

Section 9 of the Act establishes prohibited acts regarding threatened and endangered species of animals and plants. The most important of these prohibitions, with regard to private

¹ *Endangered and Threatened Species of the Southeastern United States (The Red Book)*, 2 vols. (Atlanta, GA: US Fish and Wildlife Service, Southeast Region, 1992), Vol.1, Preface.

² *Endangered Species Act of 1973*, as amended through the 100th Congress (Washington, DC: US Fish and Wildlife Service, U.S. Department of the Interior, 1988), p. 3.

³ *Ibid.*, p. 4.

property, regards the issue of “take”. The Act prohibits the take of any listed animal species within the United States and its waters and on the high seas.⁴ Take is defined to mean “harass, harm, pursue, hunt, shoot, wound, trap, capture, or collect.”⁵ USFWS regulatory policy interprets harassment so as to encompass adverse modification of habitat.⁶

Take provisions apply only to animals and not to listed plants. It is, however, unlawful to collect them from, or damage or destroy them on areas under Federal jurisdiction or in knowing violation of State law. Among other prohibitions, it is also unlawful to transport them in interstate commerce.

Section 7 of the Act requires that all Federal agencies - or their designated non-Federal representatives - consult with the USFWS Service and/or NMFS to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any listed species or result in the adverse modification of critical habitat.⁷ While the provisions of Section 7 have no direct impact on non-Federal projects, indirect impacts may occur if any project actions require Federal permits; such permits having been deemed “authorization” for those actions.

Table 1 indicates Federally listed species known to occur or potentially occurring in Georgetown County.

3.2 The South Carolina Non-game and Endangered Conservation Species Act

The South Carolina Non-game and Endangered Species Conservation Act frames the State’s role in assisting with the preservation and propagation, within the State of South Carolina, of species of non-game wildlife deemed by the Wildlife and Marine Resources

⁴ *Ibid.*, p. 28.

⁵ *Ibid.*, p 4.

⁶ 50CFR 17.3

⁷ *Endangered Species Act of 1973*, as amended through the 100th Congress (Washington, DC: US Fish and Wildlife Service, U.S.Department of the Interior, 1988), p. 16.

Commission (now Department of Natural Resources) to be in need of management. Species deemed in need of management include all non-game wildlife on the Federal list and the State list of endangered and threatened species and species of State concern. Except as provided in regulations issued by the Commission, it is unlawful for any person to take, possess, transport, export, process, sell or offer for sale or ship non-game wildlife occurring on the Federal or State lists. Take is defined to mean "harass, hunt, capture, kill or attempt to harass hunt, capture, or kill wildlife". Harass is not defined further under State statute.⁸

With respect to these provisions, non-game wildlife includes any wild mammal, bird, reptile, amphibian, fish, mollusk, crustacean, or other wild animal or any part, product, egg or offspring, or the dead body or parts thereof. A list of these species known to occur in Georgetown County is presented in Table 2.

Plants on the State list are not protected by law, but their rarity is, nevertheless, a matter of concern to the SC Heritage Trust, botanists, and environmental enthusiasts. They are therefore included in Table 3.

4.0 METHODOLOGY

A list of rare and endangered species known to occur in Beaufort County, and a map showing known occurrences in the vicinity of the Sunrise Tract was obtained from the SC Heritage Trust on August 7, 2004 (Appendix A). The Federal list was obtained from the USFWS on (Table 1).

A site reconnaissance was conducted on August 7, 2004. This consisted of driving roads on the property, and walking the marsh front and wooded portions of the property.

4.1 Limitations

This assessment does not wholly eliminate uncertainty regarding the potential for additional protected species occurring on or adjacent to the property. Recognizing reasonable

⁸ "NonGame and Endangered Species Act," *Code of Law of South Carolina of 1976*. 1992. Ch. 15, § 50-15-10. Lawyers Cooperative Publishing, Rochester, NY.

limits on time and cost, this assessment is intended to reduce, not eliminate, any liability that might be associated with the presence of protected species, and to offer current and/or future owners information they may wish to consider while formulating management or development plans.

5.0 BIOTIC COMMUNITIES

Only one natural community occurs on the upland portion of the property, and that is one resembling Wharton's (1978)⁹ Upland Maritime Forest, and Schafale's and Weakley's (1990) Maritime Deciduous Forest. This same forest type is cataloged by NatureServe¹⁰ as an Atlantic Coastal Fringe Evergreen Forest, and is also known as an Atlantic Coastal Plain Central Maritime Forest. South Carolina's own Nelson (1986)¹¹, fails to separate Maritime Forest into sub-categories and therefore makes no distinction of this forest type. While the forest on the Sunrise Tract retains a high amount of diversity, it is bush-hogged on a regular basis to remove most of the under-storey.

The Atlantic Coastal Fringe Evergreen Forest occupies nearly half of the property, chiefly over its western portion. Typical over-story species observed include white oak (*Quercus alba*), post oak (*Q. stellata*), sand live oak (*Q. hemispherica*), live oak (*Q. virginiana*), pignut hickory (*Carya glabra*), southern magnolia (*Magnolia virginiana*), and loblolly pine (*Pinus taeda*). The shrubs, which are at ground cover level, include American beauty berry, (*Callicarpa americana*), witch hazel (*Hamamelis virginiana*), yaupon holly (*Ilex vomitoria*), red buckeye (*Aesculus pavia*), and farkle berry (*Vaccinium arboretum*). A few red bay (*Persea borbonia*) are also present. Woody vines include wild grapes (*Vitis* spp.), green brier (*Smilax* spp.), and poison ivy

⁹ Wharton, Charles H. 1978. *The Natural Environments of Georgia*. Georgia Department of Natural Resources. Atlanta, GA.

¹⁰ NatureServe. 2004. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.0. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>.

¹¹ Nelson, John B. *The Natural Communities of South Carolina*. 1986. South Carolina Department of Natural Resources. Columbia, SC.

(*Toxicodendron radicans*),. The herbaceous stratum includes, partridge berry (*Mitchella repens*), jumpseed (*Tovara virginianus*), butterfly pea (*Clitoria mariana*), creeping bush clover (*Lespedeza repens*), slender bush clover (*Lespedeza virginica*), *Psoralea canescens*, coral beads (*Ebenacea herbacea*), elephant's foot (*Elephantopus nudatus* and *E. caroliniana*), and silver-haired grass (*Heterotheca graminifolia*).

The physical setting for this portion of the property is a high bluff overlooking Habersham Creek. Oddly, the Soil Survey of Beaufort and Jasper Counties maps the soils as belonging to the Polawana series, which is a very poorly drained soil found in nearly level areas adjacent to drainage ways and in depressional areas. Perhaps this happened because the land has remained forested as opposed to cultivated. The soils in the area that has been farmed are mapped as the excessively drained Wando series. However, there are little no differences in elevation or drainage characteristics between the two portions of the property. Those responsible for mapping this are must have assumed that the forested area remained so because of poor drainage.

No Federally listed threatened or endangered species are necessarily associated with this community type. Bald eagles will nest on sites such as this. All trees, however, were thoroughly examined, and no nests are present.

Historically, the portion of the property that appears as cleared land on the 7.5 minute topographic map has been used for agriculture (most likely pastureland) until about five years ago. A portion of this area is still planted as a food plot for deer. Another is used to stockpile dirt and topsoil that has been brought in from off-site.

The portion of the property that forms the pan-handle that extends to Cherokee Farms Road is defined by Wharton (1978) as a Successional Stage Forest and is not considered a Natural Community by most sources. The age of most trees is about 25 years, though scattered individuals may be closer to 50 or 60 years of age. Dominant vegetation include loblolly pine, water oak (*Quercus nigra*), sweetgum, and scattered live oaks. Shrubs include deer berry

(*Vaccinium stamineum*), sassafras, yaupon holly, waxmyrtle, and fetter-bush (*Lyonia lucida*) in lower areas.

5.2 Wetland Communities.

There is one freshwater wetland community on the property roughly ½ acre is size. It is an isolated depression that has been abused by people dumping waste and trash. It is forested almost exclusively with red maple (*Acer rubrum*), with scattered specimens of sweetgum and Carolina ash (*Fraxinus caroliniana*). Its borders harbor an assortment of wax-myrtle (*Morella cerifera*), sweetgum (*Liquidambar styraciflua*), and Chinese privet (*Ligustrum sinense*), draped heavily with muscadine grapes, and pepper vine (*Ampelopsis arborea*). Low-growing switch cane (*Arundinaria gigantea*) was the only species present in the herbaceous stratum. This is a fairly disturbed part of the property, and the wetland community does not fit the description of any natural communities of Georgia or the Carolinas, nor does it match any described by Natureserve,

6.0 RESULTS AND CONCLUSIONS

According to records obtained from the SC Heritage Trust and USFWS, the only Federally listed threatened or endangered species occurring within the study area (actually, on the Laurel Bay Quadrangle, not on the property, is the Bald Eagle. Records indicated no known occurrences of Federal or State listed threatened or endangered species on the subject property. The site reconnaissance, likewise, revealed no presence or likely presence of threatened or endangered species of animals or plants.

While the potential exists for additional federally listed species to occur on the subject property, Simkins Environmental found no evidence during the records review or on-site reconnaissance to suggest that and Federally or State protected animals or plants occur there.

TABLE 1
FEDERAL LIST OF THREATENED AND ENDANGERED SPECIES OCCURRING,
OR POTENTIALLY OCCURRING IN BEAUFORT COUNTY
SOUTH CAROLINA

SCIENTIFIC NAME	COMMON NAME	STATUS	NOTES ON HABITAT AND OCCURRENCES
Plants			
<i>Lindera melissifolia</i>	Pond berry	FE	Found in cypress ponds and wet flatwood depressions.
<i>Oxypolis canbyi</i>	Canby's dropwort	FE	Found in cypress and pine savannahs and wet meadows in soils with heavy to moderate organic content, nearly always with a clay substrate.
<i>Schwalbea americana</i>	Chaffseed	FE	Located in savannahs and low pine woodlands.
Animals			
<i>Acipenser brevirostrum</i>	Shortnose sturgeon	FE	Inhabits lower estuaries during winter months (December through April), migrates upstream in January and February, and spawns in February, March and April (possibly beginning as early as January).
<i>Ambystoma cingulatum</i>	Flatwoods salamander	FT	Optimum habitat is an open, mesic woodland of longleaf/slash pine maintained by frequent fires, usually over spodic soils that perch water.
<i>Haliaeetus leucocephalus</i>	Bald eagle	FT	Nests along major river drainages of the lower coastal plain, usually adjacent to large areas of impounded marshes. Also found at lakes and along rivers throughout the inland portions of the Carolinas.
<i>Picoides borealis</i>	Red-cockaded woodpecker	FE	Nest exclusively in mature, living pines, usually over 90 years old.
<i>Mycteria americana</i>	Wood Stork	FE	Found on or near the coast, in swamps, marshes, and mudflats; a fairly common summer resident and an uncommon winter resident from Georgetown southward.
<i>Charadrius melodus</i>	Piping plover	FT	Resides along the coast from early August to late May and usually remains on the drier portions of beaches and mudflats.
<i>Trichechus manatus</i>	West Indian manatee	FE	Has a vast range of recorded sightings but is generally tropical. Inhabits inshore waters and open ocean and nests on beaches in this area during late spring and early summer.
<i>Caretta caretta</i>	Loggerhead sea turtle	FT	

TABLE 1 (Continued)

FEDERAL LIST OF THREATENED AND ENDANGERED SPECIES OCCURRING,
OR POTENTIALLY OCCURRING IN BEAUFORT COUNTY
SOUTH CAROLINA

SCIENTIFIC NAME	COMMON NAME	STAT US	NOTES ON HABITAT AND OCCURRENCES
<i>Dermochelys coriacea</i>	Leatherback sea turtle	FE	Primarily tropical, but has been known to wander as far north as Nova Scotia and Newfoundland.
<i>Lepidochelys kempi</i>	Kemp's Ridley sea turtle	FE	Inhabits the Gulf of Mexico and East Coast but is uncommon along South Carolina shores. Shallow tropical waters are considered suitable habitat.
<i>Chelonias mydas</i>	Green sea turtle	FT	Pan-tropical in distribution; migrates long distances across open seas but spends most time in shallow waters feeding; a rare straggler in South Carolina and does not nest here.
<i>Balaenoptera physalus</i>	Finback whale	FE	Occasional offshore visitor to the area
<i>Megaptera navaeanaqliae</i>	Humpback whale	FE	Occasional offshore visitor to the area
<i>Eubalaena glacialis</i>	Northern right whale	FE	Seasonal visitor to offshore and nearshore waters.
<i>Balaenoptera borealis</i>	Sei whale	FE	Occasional offshore visitor to the area
<i>Physeter catodon</i>	Sperm whale	FE	Occasional offshore visitor to the area
<i>Charcharhinus obscurus</i>	Dusky shark	C	This and the following species are offshore reef species that are thought to be threatened by over-fishing.
<i>Odontaspis taurus</i>	Sand tiger shark	C	See above
<i>Charcharinus signatus</i>	Night shark	C	"
<i>Epinephelus drummondhayi</i>	Speckled hind	C	"
<i>Epinephelu itijaras</i>	Jewfish	C	"
<i>Epinephelus nigritus</i>	Warsaw grouper	C	"
<i>Epinephelus striatus</i>	Nassau grouper	C	"
FE = Federally Endangered			
FT= Federally Threatened			
C = Candidate			

TABLE 2

SOUTH CAROLINA LIST OF PROTECTED NON-GAME ANIMALS
OCCURRING IN BEAUFORT COUNTY
(exclusive of species occurring on the Federal List)

SCIENTIFIC NAME	COMMON NAME	STATUS	NOTES ON HABITAT PREFERENCE
	Colonial water bird	SC	This category includes any water bird rookery, of which there are many in area
<i>Heterodon simu</i> *s	Southern hognose snake	SC	Open, dry sandy areas, fields and wiregrass flatwoods
<i>Hyla avivoca</i>	Bird-voiced tree frog	SC	Cypress-tupelo swamps
<i>Lasiurus intermedius</i> *	northern yellow bat	SC	By day, clumps of Spanish moss in long leaf pine, scrub oak habitat.
<i>Limnothylypsis swainsonii</i>	Swainson's warbler	SC	Wooded bottomlands and swamps
<i>Myotis austroriparius</i>	Southern myotis	SC	Hollow trees, culverts, buildings and various other habitats
<i>Micrurus fulvius</i> *	Eastern coral snake	SC	Moist, densely vegetated hammocks in hardwood forests and pine flatwoods
<i>Neotoma floridana</i> *	Eastern wood rat	SC	Osage orange and other hedges and low wooded sites in our area.
<i>Pelecanus occidentalis</i>	Brown pelican	SC	Located throughout Beaufort County
<i>Phoca vitulina</i>	Harbor seal	SC	Rare visitor to coastal waters.
<i>Pseudotriton montanus</i> var. <i>flavissimus</i>	Gulf coast mud salamander	SC	Muddy springs and streams, wooded floodplains, and swampy pools.
<i>Sciurus niger</i>	Eastern fox squirrel	SC	
<i>Sterna antillarum</i>	Least tern	ST	Sandy coasts and shorelines of interior islands.
Notes			
SC=State Concern			
ST=State Threatened			
* denotes species potentially occurring on the Sunrise Tract.			

TABLE 3

SOUTH CAROLINA HERITAGE TRUST ELEMENT OF OCCURRENCE RECORDS FOR
PLANT SPECIES OF CONCERN, BEAUFORT COUNTY

SCIENTIFIC NAME	COMMON NAME	STATUS	NOTES ON HABITAT PREFERENCE
<i>Aletris obovata</i>	White colic root	S?	Pine and cypress savannahs
<i>Asclepias connivers</i>	Large-flowered milkweed	S?	Bogs, wet pine savannahs and flatwoods
<i>Asclepias pedicellata</i> *	savannah milkweed	S1	Seasonally wet pine savannahs and flatwoods, infrequently in well-drained sands of scrub.
<i>Canna flacida</i> *	bandanna of the everglades	S4	Edges of ponds, lakes, marshes and savannahs.
<i>Carex basiantha</i>	A sedge	SR	Bogs and stream banks
<i>Carex hyalinolepsis</i>	Shore-line sedge	S?	Non-acid marshes, floodplain forests, swales, shores, ditches
<i>Cynanchum scoparium</i>	Leafless swallowwort	S?	Known only from coastal hammocks around Bluffton
<i>Cyperus distinctus</i>	Marshland flatsedge	S1	Marshy shores of ponds lakes and streams, wet depressions.
<i>Cyperus tetragonus</i>	Piedmont flatsedge	S1	Sandy depressions and brackish marshes
<i>Epidendrum concpseum</i>	Green fly orchid	S?	On various trees in swamps and forests
<i>Eriochloa michauxii</i>	Cupgrass	S?	Riverbanks, praries, brackish or fresh marshes, wet pinelands
<i>Eupatorium scabridum</i>	A thoroughwort	SR	Depressions in flatwoods, cypress and gum plnds
<i>Foresteria godfreyi</i>	Godfrey's privet	S?	Presumed extinct
<i>Helianthemum georgianum</i>	Georgia frostweed	S?	Maritime forests.
<i>Ipomea macrorhiza</i>	large-stem morning glory	S1?	Sandy clearings and beaches.
<i>Litsea aestivalis</i>	Pondspice	S3	Depressional wetlands and cypress-gum ponds, often with pondberry.
<i>Lyonia ferruginea</i>	Rusty lyonia	S1	Open, sandy areas, both wet and dry
<i>Muhlenbergia filipes</i>	Bentgrass	S?	Pine savannahs and flatwoods, interdune swales
<i>Nyssa ogeche</i>	Ogeechee tupelo	S?	River banks, swamps, sloughs, pond and lake margins
<i>Panicum webberianum</i>	A panic grass	SR	

TABLE 3 (Continued)

SOUTH CAROLINA HERITAGE TRUST ELEMENT OF OCCURRENCE RECORDS FOR
PLANT SPECIES OF CONCERN BEAUFORT COUNTY
(CONTINUED)

SCIENTIFIC NAME	COMMON NAME	STATUS	NOTES ON HABITAT PREFERENCE
<i>Pinckneya pubens</i>	Hairy fever tree	S1	Bogs, bay heads, seepage swamps
<i>Psilotum nudum</i> *	Whisk fern	S1	Various habitats, epiphytic, epipetric and terrestrial
<i>Quercus austrina</i>	Bluff oak	S?	Rich soils and bluffs along rivers. Found with other calciphytes
<i>Quercus myrtifolia</i>	Myrtle-leaf oak	S?	Sandy pine and scrub-oak woods
<i>Rhapidophyllum hystrix</i>	Needle-palm	S?	Shady forests, various habitats
<i>Ruellia caroliniensis</i> ssp. <i>ciliosa</i>	A petunia	S?	Dry sandy woods and fields
<i>Sageretia minutiflora</i>	Tiny-leaved buckthorn	S2	Shell mounds and middens, calcareous bluffs
<i>Thalia dealbata</i>	Powdery thalia	S?	In waters of ditches, margins of swamps and in freshwater marshes

NOTES

SC = State Concern
RC = Regional Concern
NC = National Concern

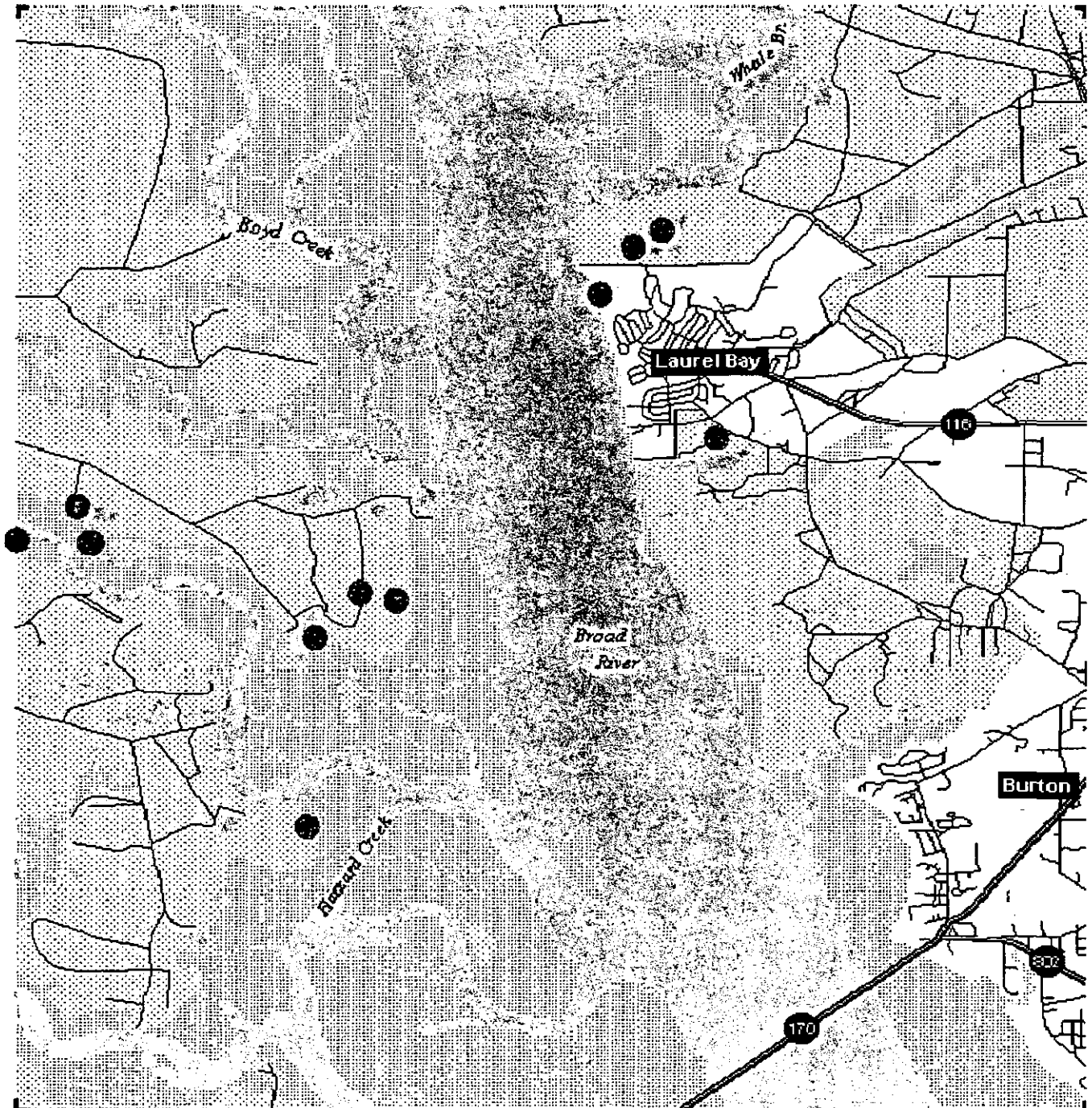
Appendix A
Element of Occurrence Maps and Tables

South Carolina Rare, Threatened & Endangered Species Inventory

Species Map of the LAUREL BAY Quadrangle

Data Last Updated June 9th, 2003.

Click On A Red Marker In The Map Below To Display Species Found At Its Location



Map Legend

Marker ID	Genus species
1	COLONIAL WATERBIRD
2	COLONIAL WATERBIRD
3	HALIAEETUS LEUCOCEPHALUS
4	MYOTIS AUSTRORIPARIUS
5	HALIAEETUS LEUCOCEPHALUS
6	HALIAEETUS LEUCOCEPHALUS
7	COLONIAL WATERBIRD
8	HALIAEETUS LEUCOCEPHALUS
9	COLONIAL WATERBIRD
10	COLONIAL WATERBIRD
11	HALIAEETUS LEUCOCEPHALUS
12	COLONIAL WATERBIRD

[[Beaufort County Quad Selection Map](#) | [County Selection Map](#) | [SCDNR GIS Data Home Page](#)]

Appendix B
Site Photographs



View 1, Inland Maritime Forest



View 2, Inland Maritime Forest



Edge of Bluff Overlooking Marsh



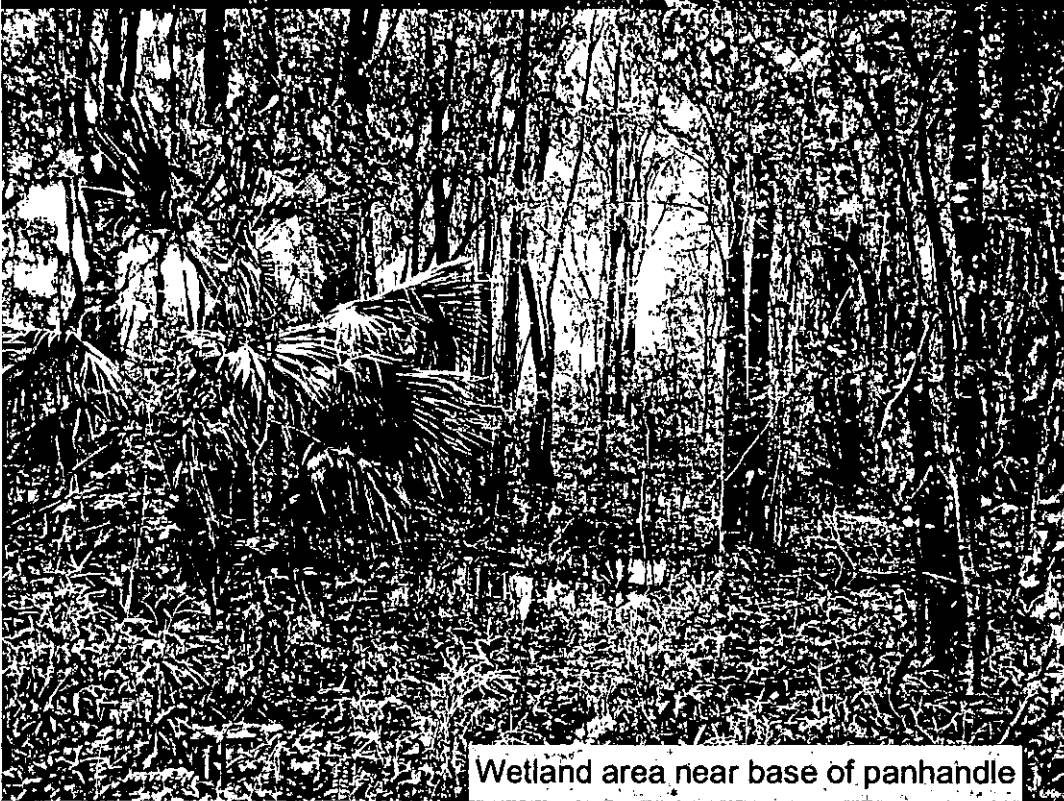
Fallow area in former pastureland



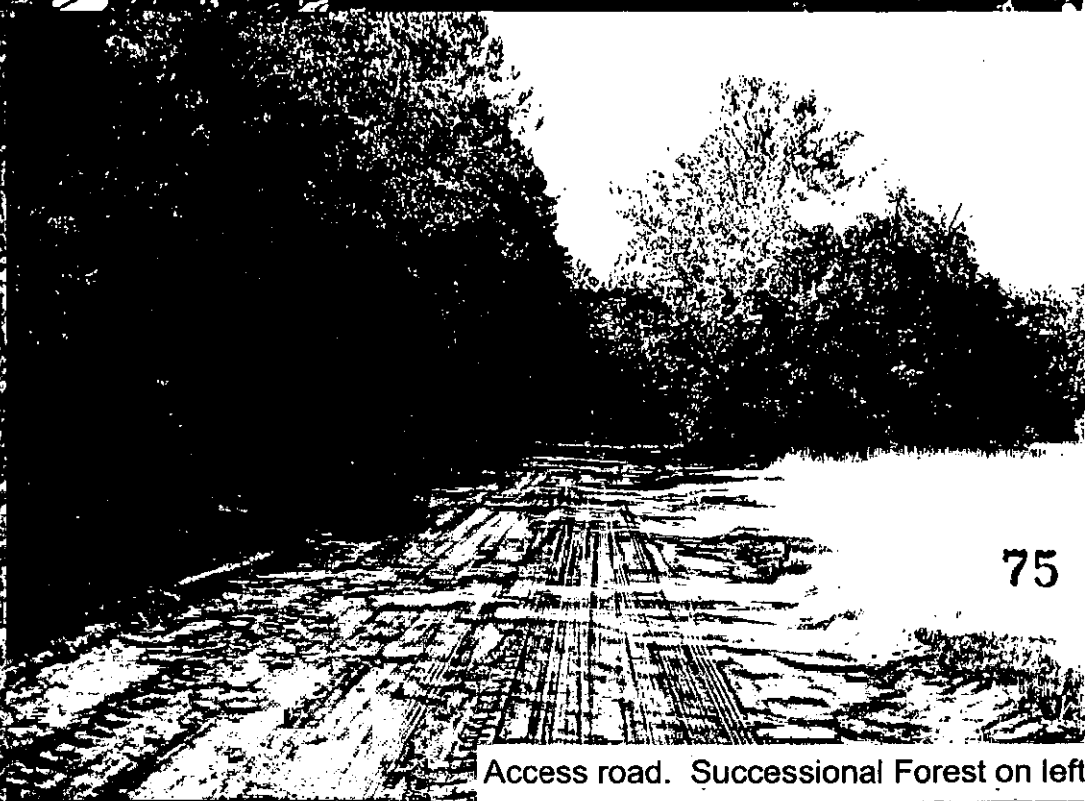
Marsh view facing east



Southern magnolia on forested portion



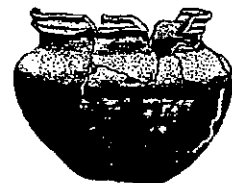
Wetland area near base of panhandle



Access road. Successional Forest on left

J

Phase I Archaeological Survey and
Phase II Site Evaluation of
the Habersham Tract
Beaufort County, South Carolina



New South Associates
6150 East Ponce de Leon Avenue
Stone Mountain, Georgia 30083

Phase I Archaeological Survey and Phase II Site Evaluation of the Habersham Tract

Beaufort County, South Carolina

Report submitted to:

Habersham Land Company • PO Box 365 • Beaufort, South Carolina 29901

Report prepared by:

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Natalie P. Adams – Principal Investigator

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December 3, 2004 • Draft Report
New South Associates Technical Report 1209

ABSTRACT

This report describes an archaeological study of 54 acres at the Habersham Development in Beaufort County, South Carolina. The purpose of this survey was to identify archaeological sites on the study tract and evaluate their eligibility for nomination to the National Register of Historic Places (NRHP). The survey identified five sites (38BU2119, 38BU2120, 38BU2121, 38BU2122, and 38BU2123) and three sites (38BU2120, 38BU2121, and 38BU2123) were evaluated with additional shovel testing and test unit excavation.

Site 38BU2120 is a prehistoric site which also contains the remains of a nineteenth-century slave settlement. A shell midden makes up much of the site but it is not certain whether this midden developed during the prehistoric or historic occupation. Therefore, this site is recommended not eligible for nomination to the NRHP.

Site 38BU2121 also produced evidence for a slave occupation dating to circa 1800 as well as of prehistoric Woodland occupations. Twentieth-century agricultural activities and other processes have disturbed the site, leaving it with poor integrity and limited archaeological research potential. Therefore, this site is recommended not eligible for the NRHP.

Site 38BU2123 is a multicomponent prehistoric site containing a shell midden and sparse artifact scatters. The shell midden possesses good integrity and lies in a wooded area on the north side of the site. Based on the presence of this feature, the site is recommended eligible for the NRHP. However, the southern portions of the site are disturbed by plowing and contain only sparse artifact deposits. These areas do not contribute to the site's NRHP eligibility. Because the wooded area with the shell midden will be maintained as a development buffer, this site will not be impacted by the planned development and should be preserved in place through avoidance. If avoidance is not feasible, data recovery excavation would be recommended.

Sites 38BU2119 and 38BU2122 lack historic significance. Site 38BU2119 is a historic artifact scatter that has been graded and disturbed. Also, the artifacts at this site cannot be distinguished from those in a spoil pile adjacent to the site. Site 38BU2122 consists of very low-density prehistoric artifact scatter in a natural catchment area between two other sites. It is possible that these materials were displaced from one of these other sites. For these reasons, no further investigations for them are recommended for Sites 38BU2119 and 38BU2122.

The twentieth-century Habersham cemetery lies at the northern edge of the main survey tract. The cemetery does not appear to possess any unique or exemplary qualities that would make it eligible for listing on the NRHP. No further historic preservation work is recommended for the cemetery, although it is recommended that no construction take place in the graveyard.

Areas adjacent to the survey area contain no buildings or other structures that are 50 years old or older. Land use in the project area is predominantly residential and includes relatively new mobile homes and permanent dwellings that do not constitute significant cultural resources.

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I. INTRODUCTION

New South Associates, Inc. (NSA) has completed an identification survey and archaeological evaluations of a 22-ha (54-ac) tract on the Habersham Development in Beaufort County, South Carolina. The project was conducted for the Habersham Land Company, Beaufort, South Carolina pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended) and the requirements of the SC Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management as well as Beaufort County planning guidelines. This report presents the objectives, methods, and results of the archaeological work and provides recommendations regarding further historic preservation needs.

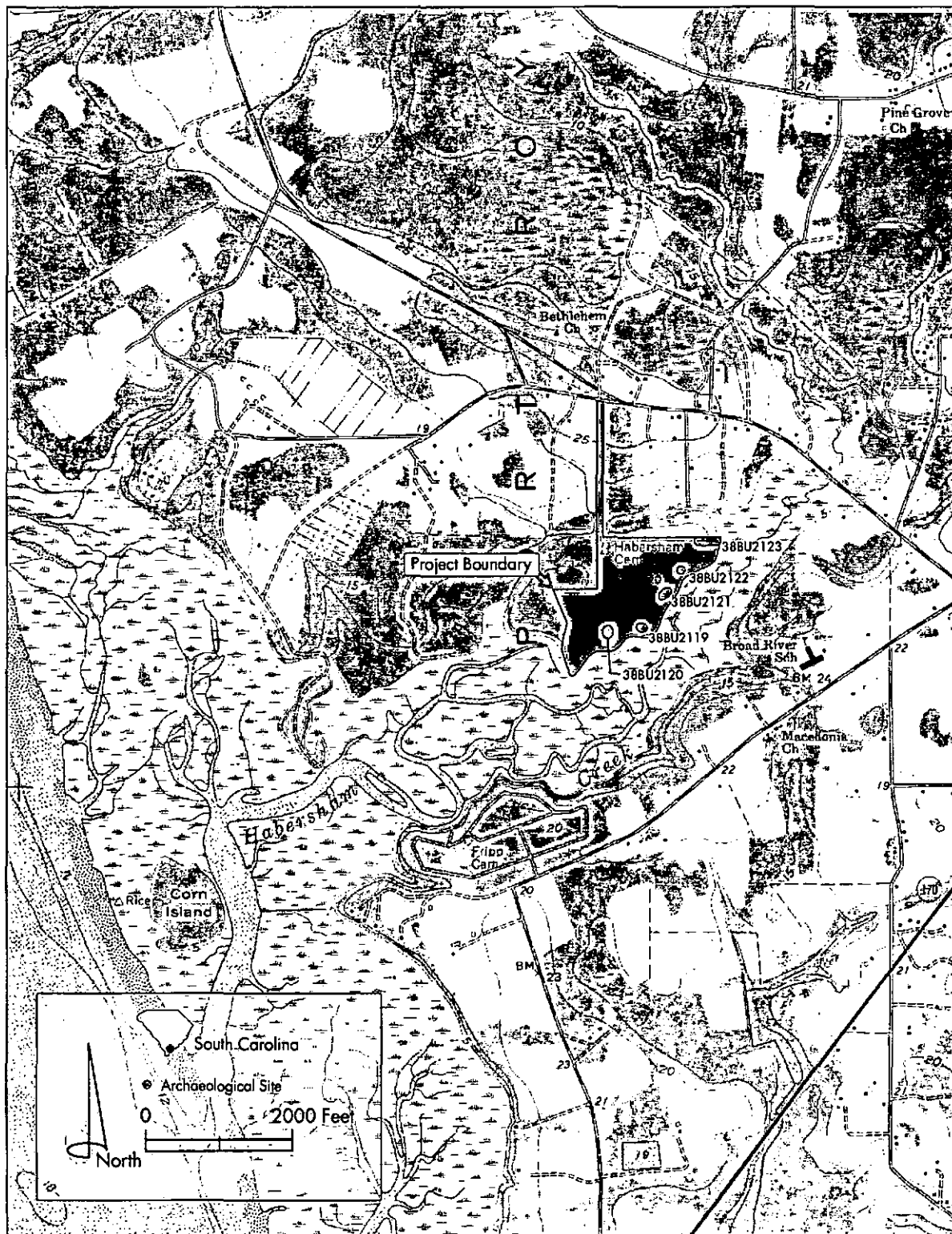
The project area encompasses terraces of Habersham Creek (Figure 1). Project plans identify this roughly triangular-shaped parcel as the "Sunrise Tract." An additional survey area consists of an access easement on the east side of existing Still Shadow Road between the north boundary of the Sunrise Tract and SC Highway 40. Plans for this tract include a residential neighborhood, which will involve grading, digging of building foundations, road construction, installation of buried utilities, and other activities that can have adverse impacts on archaeological resources. The area of potential effect (APE) for this project is the entire 22-ha (54-ac) area. In addition, the areas within view of the property were inspected to determine if they contain any structures 50 years old or older that might constitute historic architectural resources.

The purpose of the identification (Phase I) survey was to identify archaeological resources in the project area. The survey included background research, fieldwork, and artifact analysis. The goal of the background research was prepare prehistoric and historic contexts necessary for interpreting and evaluating any archaeological resources identified during the survey. Fieldwork consisted of systematic shovel testing to identify archaeological sites within the project area while artifact analysis was intended to characterize the chronology and possible functions of the sites found during the survey. Evaluation studies were conducted at three sites (38BU2120, 38BU2121, and 38BU2123) identified during the survey. This work included excavation of shovel tests to better delineate site size and artifact distributions, followed by excavation of test units to assess site content, stratigraphy, and integrity.

Natalie P. Adams served as the project's Principal Investigator for NSA and Brad Botwick acted as Project Archaeologist. Field Archaeologists Scott Halvorson, Iva Lane, Paul Lewis, John Maronski, Michael McCaffrey, and Katherine Morse assisted in completing the fieldwork and the artifact analysis was conducted by Iva Lane, Catherine Long, and Amy Vest under the supervision of Laboratory Director Matt Matterness. Tracey Fedor produced the graphics for this report. NSA appreciates the assistance of Mr. George Johnson of Habersham during the fieldwork phase of this project.

Chapters II and III of this report describe the environmental and cultural contexts of the project area. Chapter IV presents the methods and results of the survey and describes the archaeological resources identified. Chapter V provides evaluations regarding the potential historic significance of newly identified archaeological resources and presents recommendations for their treatment.

Figure 1
Project Location Map and Newly Identified Archaeological Resources



II. ENVIRONMENTAL CONTEXT

PHYSIOGRAPHY AND DRAINAGE

The study area lies in the Sea Island complex of South Carolina's Coastal Zone physiographic province. The site is at the eastern margin of Port Royal Island, an erosion remnant island. Once part of the mainland, such islands became separated as sea levels receded during Pleistocene glacial advances and streams cut down behind them to form river valleys. At the end of the glacial era, rising sea levels flooded these valleys, converting the remnant uplands into islands (Kovacik and Winberry 1987: 24-25).

Erosional remnant islands contain broad, level plains that exhibit little relief. The survey area encompasses a generally level upland overlooking marshes along Habersham Creek. Surface relief is moderate, the most extreme changes in elevation being bluffs fronting the marshes at the south and east sides of the survey area. Elevations in the project area range from 1.5m (5ft) above sea level (asl) at Habersham Creek to a maximum of 7.6m (25ft) asl.

The Coastal Plain is made up of Mesozoic and Cenozoic sediments and sedimentary rocks (Murphy 1995:88). Pleistocene-age Marine terrace deposits and Holocene shoreline deposits underlie the project region (Maybin and Nystrom 1997). The sands and clays of the coast generally do not yield rocks suitable for prehistoric flaked stone tools. However, limestone deposits formed on the former continental shelf yield primary sources of chert (Murphy 1995). Additional sources of chert in the region are located along the Savannah River in Allendale County, while more distant sources are known from Briar Creek in Georgia (Anderson et al. 1982: Figure 53; Goodyear and Charles 1984). Other lithic materials that are found in Coastal Plain sites include quartz and quartzite, which occur as secondary deposits along major rivers that drain the mountains and Piedmont.

Soils in the Coastal Zone developed on former tidal marshes, beach ridges, and dunes (Kovacik and Winberry 1987:41). Three soil types have been mapped in the project area by the US Department of Agriculture: Polawana loamy fine sand, Seabrook fine sand, Wando fine sand (0-6% slopes). Polawana soils are very poorly drained, rapidly permeable soils that formed in thick sandy coastal plain sediment. They are nearly level and adjacent to drainageways and in depressional areas. These soils are mapped around the margin of the project area adjacent to Habersham Creek. Seabrook soils consist of moderately well drained, rapidly permeable soils that formed in thick sandy coastal plain sediment on uplands. Finally, Wando soils are excessively drained, rapidly permeable and formed in thick sandy coastal plain sediment. These soils are nearly level and are on uplands of the lower marine terraces (Stuck 1980).

The project area overlooks Habersham Creek, which discharges into the Broad River about 2km (1.2mi) south of the survey tract. The Broad River forms part of Port Royal Sound. Like many of the major drainages in the southeastern part of the state, the Broad River originates in the coastal plain, is tidally influenced, and in effect represents an inlet of the Atlantic Ocean. Also, the region's rivers are flanked by extensive marshes. Similarly, Habersham Creek is tidal and

possesses a relatively constricted drainage basin. These watercourses and their associated marshes offered rich habitats and sources of plant and animal food for prehistoric and historic humans. They also affected the historical development of the area, as the conditions created by these drainages limited the spread of rice agriculture in the Beaufort area while it flourished elsewhere along the coast.

CLIMATE

The southeastern portion of South Carolina is located on the northern edge of the subtropical zone. Because of the nearby warm ocean waters, a marine climate is present which moderates hot and cold weather. The Appalachian Mountains also help to moderate the weather by blocking shallow cold air masses from the northwest (Mathews et al. 1980:46). Precipitation averages about 49 inches per year, with July having the most rain of any month (approximately 7 inches or 14.3% of all rain fall). Summers tend to be long, very warm, and humid, with maximum daily temperature usually near or above 90 degrees Fahrenheit and lows averaging 65 to 70 degrees. The tropical storm season is generally from July to October, producing tropical storms about every two to three years and occasionally hurricanes. Winters are short, mild, and relatively dry, daily maximum temperatures averaging between 38 and 63 degrees Fahrenheit. Measurable snowfalls rarely occur (Stuck 1980:1-2).

FLORA AND FAUNA

Three types of ecosystems occur in the project area vicinity: upland mesic hardwood communities; estuarine ecosystems; and freshwater palustrine ecosystems. The first two of these are particularly relevant to the project area. Upland forest communities contain significant amounts of mockernut and pignut hickories. Other areas contain loblolly, longleaf, and shortleaf pines. Estuarine ecosystems, including deep-water tidal habitats and adjacent tidal wetlands. These areas constituted important resources for prehistoric and historic people because they contain a high biomass (Thompson 1972:9). The palustrine ecosystem includes swamps, bays, savannas, and creeks where salinity is less than 0.5 ppt. Typical trees found in this environment include red maple, swamp tupelo, sweet gum, red bay, cypress, and holly (Sandifer et al. 1980: 295).

Data on regional paleoenvironments suggests that around 5000 BP pine increased relative to oak in upland and wetland areas, a trend that continues to the present. Increased pollen from water lily around this time also suggests expansion of marshy habitats. Rises in pollen from other mesic trees and swamp species by 2500 BP support inferences that estuarine habitats in the outer coastal plain were expanding and becoming more stable (Brooks et al. 1989b). An environment similar to the one existing at the time of European contact was probably in place by then.

In addition to providing plant resources for prehistoric and historic human populations, these habitats contained a rich variety of animals that would have been important to prehistoric and historic economies. Important mammals now or formerly present in the region include white-tailed deer, opossum, rabbit, raccoon, and squirrel. Bird species include turkey, grouse, ducks, and geese. A variety of amphibians and reptiles also were or remain present in the region, while the waterways and marshes were rich sources of fish and shellfish.

III. CULTURAL AND HISTORIC CONTEXTS

PALEOINDIAN PERIOD

The Paleoindian Period, roughly 12,000 to 8000 BC, marks the earliest human occupation of the Coastal Plain. Diagnostic artifacts of this period consist of distinctive fluted lanceolate project points. Common point types found in South Carolina include Suwanee, Cumberland, Clovis, and Quad. Associated elements of the Paleoindian toolkit include scrapers, graders, burins, and other items suggestive of the acquisition and processing of game. Archaeological evidence suggests that Paleoindian people organized themselves into small mobile social units whose subsistence practices emphasized hunting, collection of wild plants, and fishing (Spencer and Jennings 1977). Paleoindian sites in the Coastal Plain are rare, and concentrate mostly in large river drainages or creeks with large floodplains. These distributions may reflect a preference for sandy locations that overlooked river valleys in the past (Hendryx et al. 1997: 23).

ARCHAIC PERIOD

The Paleoindian period was followed by the Early Archaic (approximately 8000 to 6000 BC), which represents a shift from big game hunting to more comprehensive subsistence strategies of intensive hunting and gathering. Hardaway-Dalton, Palmer and Kirk projectile point types distinguish the Early Archaic. Evidence suggests that social units of this period consisted of small family groups living within particular river valleys and subsisting on relatively evenly distributed resources. Annual congregations of these small groups probably took place in the fall when plentiful food supplies became available (Anderson and Hanson 1988).

The Middle Archaic, 6000 to 4000 BC, encompassed a period of warmer climate and increasing sea level rise, although subsistence and settlement strategies of this period exhibit continuities with the preceding era. Diagnostic projectile points of the Middle Archaic include Stanly, Morrow Mountain, and Guilford (Miller et al. 1982; Fish 1976; Garrow & Associates 1984:45).

The Late Archaic, approximately 4000 to 1000 BC, coincides with a period of cooler and moister climate than the preceding era. Roughly modern forest conditions developed and sea level rise stabilized at about modern levels, contributing to the emergence of rich coastal environments (Bense 1994:85). Large shell middens comprise a distinctive site type of this period and suggest the possibility of permanent villages or at least frequent and lengthy reoccupation of coastal sites (Garrow & Associates 1984:47; Russo 1996:187-188; Stoltman 1974). Smaller inland sites that probably reflect procurement camps indicate the continued use of non-coastal/marine resources (Russo 1996:187). The Late Archaic is separated into pre-ceramic and ceramic periods, the division occurring around 2500 BC. Savannah River Stemmed points associated with soapstone vessels typify the preceramic Late Archaic, while fiber-tempered ceramics, primarily Stallings Island, are diagnostic of the transition from the late Late Archaic to Early Woodland.

WOODLAND PERIOD

The Early Woodland, 1500 to 300 BC, is distinguished from the preceding Late Archaic period by changes in pottery and lithic artifact styles. The period also exhibits a trend toward subsistence patterns different from those identified for the Late Archaic and the first definite appearance of villages in the Coastal Plain. Increased use of pottery and bell shaped storage pits suggest enhanced food storage capabilities and thus greater potential for sedentary settlement. Early Woodland ceramics are tempered with sand rather than the fiber used for Late Archaic Stallings pottery. Diagnostic Early Woodland pottery types include Thom's Creek, found principally in the interior Coastal Plain, and Refuge, occurring mainly in coastal zones. Projectile point types of this period are smaller versions of the Late Archaic broad-bladed varieties. The period is also marked by a reliance on local raw materials for flaked-stone tool manufacture (Bense 1994:128).

Settlement patterns associated with the Thoms Creek phase reflect the use of a variety of environmental zones throughout the Coastal Plain. Sites are often found in upland areas, suggesting that riverine and estuarine resources were not as important as those found inland. However, the period is also associated with large shell rings that appear to reflect large, intensive and lengthy occupations and that suggest a subsistence base focused partly on the exploitation of shellfish (Trinkley 1990a:9-11). The Refuge Phase may represent a variant of the Thom's Creek ceramic tradition centered in coastal areas (Trinkley 1976; DePratter 1979; Garrow & Associates 1984:49) or a transition period between Thom's Creek and the succeeding Deptford Phase. Sites are small and mostly located away from potential shell-fishing locations suggesting new settlement and subsistence strategies, possibly caused environmental changes to shellfish beds or access to them (Trinkley 1990a:12).

Dating from 400 BC to AD 500, the Middle Woodland period is distinguished from the Early Woodland chiefly by the appearance of Deptford pottery. Deptford pottery is fine to coarse sand-tempered with checked-stamped, cord marked, simple stamped, complicated stamped, and geometric stamped surface treatments. Vessel forms are mostly cylindrical with conoidal bases (Trinkley 1990a:13). Diagnostic projectile points include triangular varieties such as Yadkin and McFarland, as well as small-stemmed types.

Sites of the period are more numerous than before and occur in new environmental zones (Trinkley 1990b:161-162). There is evidence from this period of large residential base camps located at the Fall Zone along major river valleys, with smaller, possible seasonal residential sites situated along tributaries. dispersal. Subsistence data from regional sites suggest that during the Deptford Phase people exploited diverse wild plants and animals, although food acquisition activities may have focused on specific resources such as shellfish, deer, or mast, depending on the season or site location (Trinkley 1990a:14-15).

In the project region, the Late Woodland, AD 500 to 900, is associated with the Wilmington Phase, characterized by pottery incorporating crushed sherd or clay temper and surface treatments resembling those of the Deptford Phase. General aspects of the culture also show continuity with the preceding era (Trinkley 1990a:17, 20, 1990b:17). Subsistence remained focused on the collection of wild resources and site types included relatively large residential sites surrounded by

smaller satellite camps (Bense 1994:148-149). Sand burial mounds and ossuaries also occur during the Middle Woodland period, although their cultural significance or meaning is not well understood (Trinkley 1990a:19).

Viewed as the pinnacle of prehistoric culture in the southeast, the Mississippian period dates from AD 1000 to 1550. The period is noted for the development of elaborate political and religious systems and the construction of large, permanent villages. Agriculture comprised the main focus of subsistence, primary crops being corn, beans, and squash. Large settlements lay on floodplains of major rivers with smaller settlements in upland locations. Small triangular point types and burnished and complicated stamped ceramics are typical of Mississippian material culture.

In the coastal region, the St. Catherines Phase, indicated by clay-tempered pots with fine cord marked, burnished, or net impressed surface treatments represents the Late Woodland/Mississippian transition. The use of sand burial mounds persists into this period. Settlement-subsistence systems are not clearly defined for this phase.

Mississippian cultures of the Coastal Plain are not as well understood as those of interior areas (Garrow & Associates 1984:52). The Early Mississippian period in the project region is associated with the Savannah Phase (A.D. 1000-1300), which is viewed as an indigenous culture that developed from local Late Woodland cultures. Material culture associated with the Savannah Phase includes complicated stamped pottery, complex social organization, and agriculture (Trinkley 1990b:18). Late in the Savannah Phase, local societies established civic/ceremonial centers and palisaded villages in major river valleys (Hendryx et al. 1997:27). Following the Savannah Phase, the Irene Phase (1300-1550) represents the last aboriginal culture to arise in the region prior to European contact. While Irene cultural traits resemble inland Lamar and Pee Dee cultures, the settlement pattern, and presumably subsistence and other adaptations, focus on coastal marshes and tidal creeks (Hendryx et al. 1997:27).

Aboriginal cultures of the region at the time the first European explorers and settlers arrived are labeled the Altamaha Phase, which has been associated with the historic Gule and Yamacsee Indians. Characteristic pottery of this period is heavily grit-tempered and mostly exhibits complicated stamped motifs in rectilinear patterns that are poorly applied. Check stamping occurs as a minority ware. Other types are plain, burnished plain, line block and red filmed. Vessel forms include examples copied from European originals such as plates and pitchers (Cable et al. 1994a:32; Trinkley 1990b). In some cases, these wares co-occur with European artifacts such as Delft, Westerwald, Staffordshire slipware, and Chinese porcelain (Green 2000).

The historic Yamasee Indians were found on the South Carolina coast from 1685 through 1716, apparently representing an amalgamation of several different groups. Altamaha pottery may have developed into historic Yamasee ceramics characterized by rectilinear stamped and grit tempered types (Green 1992; McKivergan 1991; DePratter 1994). In 1684 and 1685 the Yamasee occupied several towns on St. Helena Island but in 1686 hostilities with the Spanish in St. Augustine pushed them north to the Ashepoo and Combahee Rivers. They returned to the upper reaches of Port Royal Sound by 1707 at which time the Carolina government established a reserve for them between the Combahee and Savannah Rivers. Coastal islands within this area were excluded from the reserve, with the exception of Hall's Island in Port Royal Sound (DePratter 1994). By 1708, 10 Yamasee towns in this territory were inhabited by a total of 1500 to 2000 people.

This number had dropped, by 1715, to about 1200 people. This period appears to have been marked by continual abuses of the Native population by European traders, which led to the Yamasee War in 1715.

The war erupted suddenly on April 15, 1715 with an Indian massacre of white traders and their families who were present in the Native settlements. The attacks also involved Creeks, who killed the English traders in their villages the same day. Although the Yamasee could not oust the English settlers in the 1715 attacks, when South Carolinians sent a flag of truce to the Yamasee in 1720 the Port Royal area was in ruins and almost completely abandoned. In 1721 there were only 30 white and 42 black inhabitants in all of Saint Helena Parish (Rowland et al. 1996). Several disturbances ended a quiet period of about two years and began episodes of open warfare. The Yamasee War finally ended in 1728 when Colonel John Palmer raided an Indian refugee village in Saint Augustine. The Spanish could not protect them and so lost considerable prestige amongst the Yamasee. This Native group abandoned South Carolina and eventually disappeared altogether although they maintained a village near St. Augustine into the eighteenth century (Rowland et al. 1996:107-108). European settlement of the Beaufort area had been slow because of the threats from the Natives and Spanish, but the end of the Yamasee War and the establishment of the Georgia colony created a safe zone for Europeans.

HISTORY OF THE BEAUFORT AREA

English colonization on the Atlantic seaboard eventually led to the settlement of the South Carolina coast. As early as 1663 William Hilton explored the Port Royal area, previously settled and abandoned by the French and Spanish, on behalf of a group of Barbadian planters. His positive reports encouraged a party of Scottish dissenters to establish Stuart's Town on Port Royal Island in 1684. The Spanish wiped out the settlement two years later in retaliation for a Scottish-Yamasee Indian attack on Spain's Santa Catalina fort, the same action that first drove the Yamasee from the Port Royal (Rowland et al. 1996).

In the 1690s both the English and the Yamasee renewed their interest in settling the area (Holmgren 1959:42; Rowland et al. 1996). Beaufort, which evolved out of a gathering spot for military men, cattlemen, planters, merchants, naval stores producers, and Indian traders, received a town charter in 1711. The Yamasee War, beginning in 1715, hindered but did not eliminate the English settlers (Covington 1968:12) and in the aftermath of the war the Port Royal area became more secure, permitting expanded settlement and the development the plantation agricultural system.

Along with security came administration. Southern South Carolina was formed into Granville County in 1712, itself divided into four parishes: St. Helena, St. Luke, Prince William, and St. Peter. By 1769, Granville County was made into one judicial unit, known as Beaufort District, which roughly contained present Beaufort, Hampton, and Jasper counties. Beaufort District remained a political and judicial entity until after the Civil War. Hampton County was carved from it in 1878 and Jasper in 1912 (Adams et al. 1996:15). The parishes served as smaller administrative units until after the Civil War.

The agricultural staples of the colonial period were cattle and corn (grown on high ground), rice in the swamps, and indigo on the Sea Islands. In the decades before the American Revolution, rice

and long-staple cotton made the Beaufort District one of the wealthiest areas in the nation (Baumhofer 1949:2). An eighteenth-century planter elite increasingly dominated the colony's social, political, and economic life.

When rice was first introduced into the region it was grown in dry uplands, but was soon shifted to swamps. Conditions on the Sea Islands, however, did not support rice agriculture, allowing cotton to emerge as the main cash crop. By the late eighteenth century, long-staple "sea island cotton" was developed. With longer fibers than the "upland cotton" grown on the mainland, long-staple cotton was preferred for the finest laces and fabrics. The crop brought top dollar, but required flood controls almost as elaborate as those needed for rice (Harvey et al. 1998:11.13-14).

Slaves imported from Africa provided the labor to cultivate both rice and cotton. By the time slave importations were officially banned in the early nineteenth century, African slavery was well established throughout the state and had made a significant impact on local demographics. In 1820, almost 85 percent of Beaufort District's 32,199 people were African slaves or their descendants (Adams et al. 1996:16).

The remaining 15 percent of the population was white and mostly Anglo-American and only a fraction of this group actually owned land. The white planter class grew increasingly distinct both socially and politically. In 1860, St. Helena Parish contained 7,644 African-American slaves, 29 free people of color, and 1,062 free whites. All the land in the parish was owned by only 209 white people, and most of these owned the 145 plantations in the parish (Baumhofer 1949:5-6; McGuire 1985:134). These plantations averaged in cost between \$5,000 and \$15,000, contained between 300 and 1,000 acres, and were worked by an average of 50 slaves (McGuire 1985:3).

Social and economic elites led the region into the American Revolution and the Civil War. As the Revolution approached, many Lowcountry planters supported the American cause. While the British occupied Beaufort from 1779 to 1781, the war severely disrupted the regional economy, which recovered only slowly after the British withdrawal (Adams et al. 1996).

During the Antebellum period, leading citizens of Beaufort District, like Robert Barnwell Rhett and William J. Grayson (Rose 1964:xiii, 9-10), ardently supported slavery and secession even before Lincoln's election motivated South Carolina to leave the Union in December 1860. South Carolina joined a federation with six other "cotton" states that seceded in January and February of 1861 and four others that withdrew after Lincoln called for volunteers to repress the rebellion.

The war came quickly to the Sea Islands. In September of 1861, Beaufort residents expected an invasion and some began fleeing inland (Ellis 1966:82-83). As feared, a Federal force arrived in November and captured Forts Beauregard and Walker at the approach to Port Royal Sound. Federal troops found that many planters had escaped to Charleston or the mainland. Few slaves left, though, and many destroyed cotton gins and other property after their masters evacuated (McGuire 1985:26-27). Federal troops controlling St. Helena Parish and Hilton Head Island had the task of restoring order, especially after it became clear that the planters were not coming back.

This situation led Federal authorities to try radical solutions to bring back stability and get cotton back into production. It soon became clear that the plantation system and slavery had ended in St.

Helena Parish. What ensured that they could not be resurrected was land reform, achieved haphazardly through various wartime measures, the most prominent being the Direct Tax laws.

These laws (enacted August 5, 1861 and revised July 7, 1862) were instituted to raise money for the war effort. They established a direct property tax throughout the United States, including the south. Tax commissioners in occupied lands could assess property at 1860 rates and add a 50-percent disloyalty penalty. Landowners failing to pay forfeited their land to the government, which could sell it at public auction. Meant as an emergency measure, the law provided generous redemption clauses so original owners could redeem property years later. Anyone evicted by redemption received a refund of the sale price. The Direct Tax laws proved an effective means of both raising money and punishing backers of secession (McGuire 1985:19-23). While taxes could not be collected in most of South Carolina, the law could be enforced in St. Helena Parish.

Opportunities for land speculation and cotton lured northerners to occupied St. Helena Parish. Others, mostly New England abolitionists, came to assist social reform. Called the "Codfish Aristocracy" by their detractors, they were more commonly referred to as the "Gideonites." Their goal was to aid the black community change from slavery to freedom. Their work and interaction with the black community has been called the "Port Royal Experiment" (Foner 1988:52; McGuire 1985:40-41).

The Civil War raised the issue of how to integrate former slaves into a free society. This question was first addressed in St. Helena Parish. The Gideonites favored land redistribution and teaching the former slaves about "freeman labor." Government superintendents believed that some form of plantation system, even if temporary, was the best way to prepare former slaves for independent work with the added benefit of producing cotton. This plan called for freed slaves to work in cotton fields 300 days a year for at least 40 cents a day. Each adult would also receive a two-acre garden plot for personal use. Anyone refusing to enroll in the system would be charged a monthly fee for the use of houses and lands. The former slaves, however, saw cotton as a badge of slavery and most settled down to raise food crops. When the government-run plantation system faltered, there was a gradual shift from the idea of gang labor to that of separate family plots (McGuire 1985: 33-36, 50-52).

This shift impacted settlement and land use. Federal agents seized almost all of the plantations and sold some as complete units to Northern speculators. At the urging of the Gideonites, however, most were carved up and made available for purchase by former slaves. This process required considerable survey work because land records were under Confederate control and because it was easier in most cases simply to start over with a township and range system like the one used to open new land in the West. Surveys of St. Helena Parish were largely finished by early 1863. Out of 77,000 acres surveyed, the government claimed 60,000 with the idea of at least a partial set-aside for purchase by former slaves. Gideonites bought most of the remaining 14,000 acres (McGuire 1985:66-69). Land available to Freedmen was divided into 20-acre plots that could be claimed by building a small house and paying the government \$1.25 per acre (Baumhofer 1949:3; McGuire 1985:74-77). The Gideonites and others also urged Federal authorities to convert some of the larger plantations into 40 "school farms" to teach literacy and farming skills (McGuire 1985:36-39,68-69).

By 1865, St. Helena Parish was drastically transformed. Most of the plantation houses were abandoned and the landscape was dotted with the cabins of former slaves. Notably, the majority of parish landowners were black (McGuire 1985:2, 11-12).

Various developments spurred the economy after the war. An important venture was the Port Royal Railroad Company, created in 1869 to link Port Royal Harbor to Augusta. The same year the railroad began operations, 1874, the town of Port Royal was chartered. Beginning in the 1870s, phosphate became the principal export. The establishment of a coal dock and naval storehouse on Parris Island in 1889 provided a further economic boost (Harvey et al. 1998:30). Other important economic activities included truck farming, timber (Harvey et al. 1998:34-35), and a seafood industry. Cotton never fully recovered and was finally decimated by a hurricane in 1893. The region then became an economic backwater for many years.

The twentieth century brought new economic developments with the creation of the Parris Island Marine Corps Recruiting Depot in 1915 and Naval Air Station (now MCAS Beaufort) in 1943. Tourism also became important early in the century with the arrival of northern capitalists seeking to escape the industrialization of their native region. The new "Coastal Highway" (U.S. 17) also supported tourism. Completion of the Atlantic Intracoastal Waterway in 1940 provided an inland passage for pleasure boats as well as barges. This improvement along with the dredging a channel from the ocean to Port Royal in the 1940s, supplied Beaufort with a deep-draft shipping channel that greatly improved the county's commercial importance (Harvey et al. 1998:37-49).

Today the region hosts an active tourist trade centered on Hilton Head Island and the City of Beaufort and the area is becoming home to large numbers of retirees. Parris Island, MCAS Beaufort, and the Naval Hospital are also major employers. The county population was approximately 120,937 in 2000 (U.S. Census Bureau 2002).

PROJECT AREA HISTORY AND LAND USE

The project area occupies part of the Habersham Property along Broad River and Habersham Creek at the western margin of Port Royal Island. This property once formed part of the Barnwell family holdings. Sometime during the mid-eighteenth century, the property on the north side of Habersham Creek came into the possession of John Barnwell. Barnwell and his wife, Martha Chaplin, had ten children, the youngest being Pheobe Sarah Barnwell, who married Archibald Campbell in 1780. One of their children, Collin Campbell, an attorney, appears to have inherited the Habersham Creek property by 1820 (Dickinson and Wayne 1996; Habersham 2003).

During the Civil War the property was seized for unpaid taxes, and the main house might have been burned around this time. The Campbells did not redeem the plantation after the war and the property was purchased by H.J. Judd and F.A. Dudley in several parcels. Dudley ultimately acquired the entire property, which he then sold to Sam Dudley prior to 1904. That year, F.W. Scheper bought the property, which became known as Cherokee Farm. Dr. W.R. Eve purchased the land in 1905 and it remained in his family's possession until 1987 (Dickinson and Wayne 1996; Habersham 2003).

Historic maps provide an overview of land ownership and possible land use. A 1778 British army map of the area shows two structures on the north bank of Habersham Creek. The structure to the

west, closer to the Broad River is labeled "Campbell's." This structure lies on an area that appears to overlook Corn Island, and is outside the project area. The second structure lies directly north of Habersham Creek. The only partially legible label appears to read "Ganard's" (map reproduced in Adams and Swanson 1999:25). The 1825 Mills map of the area also shows the "Campbell" structure, but more clearly places it northwest of the project area in a position overlooking Broad River. No other structures are shown along Habersham Creek in the vicinity of the survey area (Mills 1825) (Figure 2a). By the Civil War, the project area had become associated with the Habersham family, as a map of this period shows. The map illustrates a structure labeled "Habersham" on the point overlooking the confluence of Habersham Creek and Broad River and south of the Campbell plantation house (map reproduced in Cable et al. 1994:16). Law and Kirk's map of 1873, however, shows this structure further to the east and possibly in the survey area (Law and Kirk 1873) (Figure 2b). Finally, the 1939 Beaufort County Highway map does not show any structures in the project area, suggesting that by this time the survey area was used for agricultural or other non-residential purposes (Cable et al. 1994:21).

PRIOR ARCHAEOLOGICAL INVESTIGATIONS

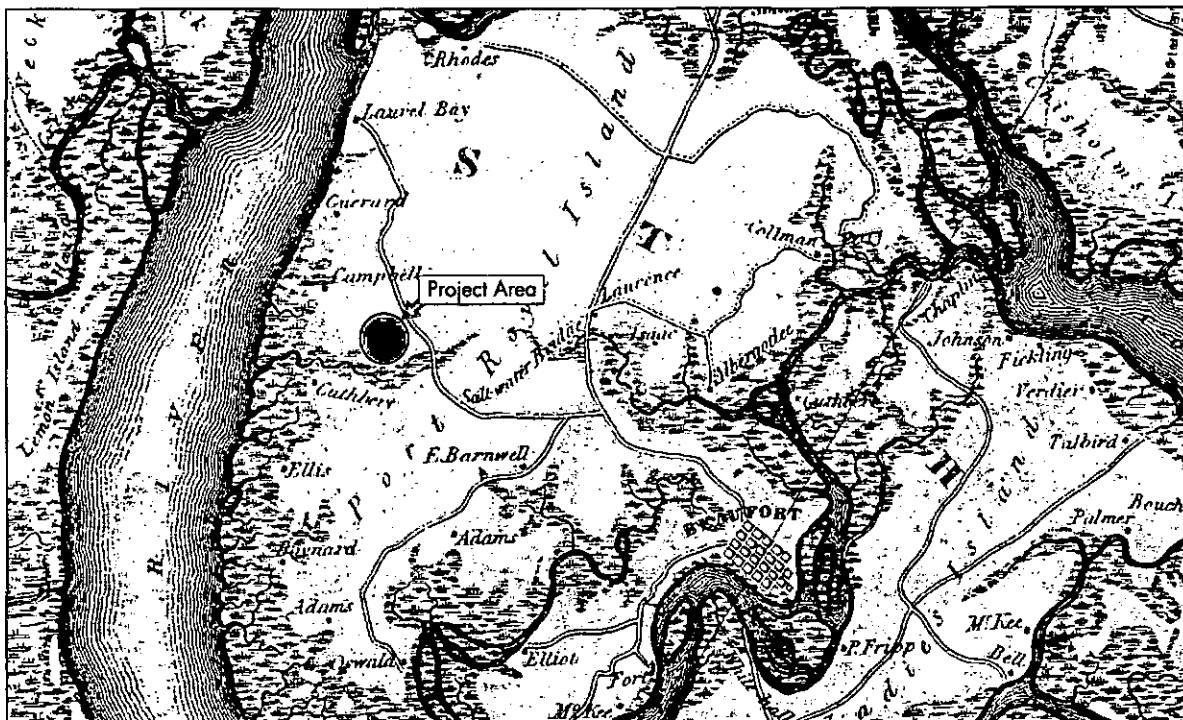
Portions of the Habersham property were surveyed prior to earlier development of the property. This work, completed by Southarc (Dickinson and Wayne 1996) resulted in the identification of seven sites in areas overlooking Broad River west of the present survey area. Three sites were recommended eligible for the NRHP: the Campbell plantation (38BU1282), an eighteenth- to nineteenth-century plantation house ruin and archaeological deposits that also contained prehistoric deposits; 38BU1283, a prehistoric artifact scatter and twentieth-century farm; and 38BU1284, shell middens dating to the prehistoric Stallings Island and Deptford periods. Four of the sites (38BU1285, 38BU1286, 38BU1287, and 38BU1288/253) each represented a prehistoric shell and artifact scatter or shell midden and these were recommended not eligible for the NRHP. Phase II investigations at two sites, 38BU1283 (Bailey 2001) and 38BU1284 (Dickinson and Wayne 1997) found that both sites lacked the integrity and archaeological deposits necessary to provide significant new data to archaeological research.

The prior work provides information necessary to evaluate the archaeological potential of the present project area. Locations of the sites identified by Southarc indicate a strong correlation between prehistoric sites and the terrace edges overlooking Broad River and lower Habersham Creek. Site types include shell middens, shell scatters, and/or artifact scatters dating to nearly every prehistoric cultural phase or period from the Late Archaic to the Mississippian eras. Historic sites dating from the eighteenth- to twentieth centuries show similar distributions, and often overlap the prehistoric components (Dickinson and Wayne 1996, 1997).

This review of site locations suggests that the present project area has a high potential for prehistoric sites, particularly in positions that overlook Habersham Creek. Prehistoric site types can be expected to include shell and artifact scatters dating to any prehistoric period from the Late Archaic to Mississippian.

The preceding reviews of recorded sites and historic maps suggest that project area has a moderate potential for historic sites. Any such sites might reflect occupations or activity areas related to eighteenth- or nineteenth-century plantations or twentieth-century farming.

Figure 2
Historic Maps of the Project Area



A. Mills Map of 1825.



B. Law and Kirk's Map of 1873.

IV. METHODS AND RESULTS

The Phase I survey was designed to identify cultural resources in the project area and obtain preliminary information on site size, chronology, function, and integrity, where possible. Fieldwork for this survey entailed systematic shovel testing. The fieldwork was followed by laboratory processing and laboratory analysis to characterize site age and function. The survey resulted in the identification of five archaeological sites (38BU2119, 38BU2120, 38BU2121, 38BU2122, and 38BU2123). This chapter describes the methods employed for these tasks and then the results of the survey.

METHODS

Archaeological fieldwork involved systematic shovel testing in areas that appeared well drained and relatively undisturbed or only moderately disturbed. Survey areas exhibiting poor drainage or extensive disturbance were excluded from subsurface survey. Shovel tests measured 30-cm in diameter and were placed at 30-m intervals. Where cultural materials were recovered, NSA excavated additional shovel tests ("radials") at 15-m intervals in cardinal directions from the initial find spot to obtain preliminary information on site size and density. Shovel test designations were made with reference to transect and number along a specific transect. All survey transects received a designation from an alphabetic sequence beginning with "A" and ending with "U," the designations being assigned in the order each transect was surveyed. Shovel tests received numeric designations beginning with "1" on each transect, the numbers being assigned as shovel tests were excavated. Thus, the first shovel test on Transect "A" was "A-1," the first on Transect "B" was "B-1," etc. Radial shovel tests were referenced by the distance and direction from the initial positive shovel test. Radial shovel testing continued until two consecutive negative tests were encountered or until a clear geographic boundary was reached.

Shovel test excavation proceeded by natural stratigraphy until culturally sterile soils were encountered. Soils were screened through 1/4-inch mesh hardware cloth for systematic artifact recovery. Artifacts were bagged separately according to their unique provenience. Shovel test profiles were described using standard terms for texture and color. Shovel test locations were placed on project maps that also illustrated locations of surface artifacts, landscape features, general vegetation, topography, streams, and other relevant information.

Test unit excavation for the evaluation study proceeded by both natural stratigraphy and arbitrary levels. The uppermost strata, typically consisting of plowzone, were excavated as single natural layers, designated Level 1 for each unit. Below this stratum excavation proceeded by arbitrary 10-cm (0.3-ft) levels until two culturally sterile levels were encountered. Soils were screened through 1/4-inch hardware cloth and recovered artifacts were bagged separately according to provenience. Notes on each test unit were maintained on standardized forms. Following the completion of a unit, a measured drawing was prepared of one profile and the same profile was photographed.

Laboratory processes included cleaning, identifying, analyzing, cataloging, and preparing artifacts for curation. Prehistoric lithics were analyzed by raw material type and stage of reduction (e.g. primary, secondary, and tertiary). All the artifacts recovered during this study consisted of prehistoric ceramics. These were described by temper and surface treatment, and if possible, were assigned to specific types. Historic artifacts were classified by item and described by material or manufacturing technique, form, decorative motif, beginning and end dates of manufacture (if known). The objective of the analysis was to characterize the chronology and functions of the sites identified.

RESULTS

Fieldwork for this survey took place between August 17 and 19, 2004, with artifact processing taking place immediately afterward. Additional fieldwork for the evaluation study was conducted between September 14 and 17, 2004. The survey involved the excavation of 237 shovel tests, including radials, and resulted in the identification of five archaeological sites, consisting of two prehistoric sites, one historic site, and two sites with both prehistoric and historic components (Figure 3). The evaluation study focused on three sites (38BU2120, 38BU2121, and 38BU2123) and involved excavation of additional shovel tests and test units at each. The following sections relate the conditions in the project area and the general survey results followed by individual site descriptions.

The project area encompasses two general sections. The larger section, identified on project plans as the "Sunrise Tract," consists of a roughly triangular parcel, measuring about 16.28 ha (40.23 ac), that includes terraces and uplands on the north side of Habersham Creek. The second general area, measuring about 5.67 ha (14.0 ac), consists of a narrow access easement running along the east side of existing Still Shadow Road between the northern margin of the Sunrise Tract and SC Highway 40.

The project area encompasses level uplands and terraces of Habersham Creek. The area exhibits little overall relief, although low rises are present in several locations. Also, a deep and wide erosional ravine lies at the southwestern margin of the survey area, the bottom of which is open to Habersham Creek. A smaller erosional cut is present to the east. Sharp relief also exists along the survey area's southern margin where the terrace drops off abruptly to Habersham Creek. Northeast of this area the terrace edges are less sheer. The project area is well drained overall, with the exception of the bottom of the large erosional ravine and the southern portion of the access easement, which crosses swampy tributaries of Habersham Creek.

The project area contains formerly cultivated areas that have mostly been left for natural succession. Although many mature trees are present, much of the project area contains younger trees and shrubs with varying degrees of understory. A large portion of the eastern half of the triangular survey area is open, but contains grassy meadows and young pine and cedar trees. Furthermore, the southernmost part of this area has been partially graded and used to store excavated spoil from other parts of the Habersham property as well as felled trees, chipped wood debris, and other bulk material.

The northernmost part of this survey area section contains the Habersham cemetery. This feature measures about 60x60m (200x200ft) and is demarcated by a post and wire fence at its east and

south sides. Still Shadow Road bounds the north side of the cemetery. The site contains around 30 marked and unmarked graves. Grave markers included stone and molded cement examples. Dates on the headstones ranged from 1918 to 2001. A possible family plot in the northern part of the cemetery has been maintained and indicates that the site remains in use. The remainder of the burial ground is in woods. The cemetery did not display any attributes to suggest it possesses unique or outstanding qualities that would make it eligible for the NRHP.

No historic structures were identified adjacent to or within the viewshed of the project area. The majority of structures identified in areas adjacent to project area were mobile homes. Permanent structures included only houses that appeared less than 50 years old and these do not constitute significant cultural resources.

Shovel testing throughout the project area yielded consistent results with respect to soil profiles. Typically, shovel tests exposed plowzone soils atop truncated C-horizon soils that conformed with the Seabrooke and Wando soil series. Representative shovel test profiles included dark brown (10YR3/3) to dark grayish brown (10YR4/2) silty sand that represented the Ap horizon. This stratum generally measured between 25 and 40cm (0.8-1.3ft) thick. It was atop truncated subsoil that consisted of light gray (10YR7/2) to light brownish yellowish (10YR6/4) sand. This material generally extended to the base of excavation, which reached depths of 75-80cm (2.5ft) below surface. The only variations to this general profile occurred in locations where grading had disturbed the soils in the area of the spoil piles, or where poorly drained conditions were present. In these latter locations, although soils were not usually wet, the soils in these areas were very dark gray (10YR3/1) or black (10YR2/1) silty sand indicative of swampy conditions or poorly drained conditions.

The survey resulted in the identification of five archaeological sites and three isolated finds. These are described below.

SITE 38BU2119

Site 38BU2119 consists of a historic artifact scatter located on a terrace overlooking Habersham Creek in the southeastern portion of the survey area. The site lies in a cleared and graded portion of the survey area and is adjacent to a 60-m (200-ft) diameter spoil pile. Portions of the site, however, lay on discrete terrace segments inside a tree line adjacent to the swamp. Shovel testing and surface collection suggested that the site measures 105x75m (350x250ft).

Examination of this site included shovel testing at 30-m intervals supplemented with surface inspection, although no artifacts were collected from the surface. Shovel testing yielded a concentration of five positive shovel tests at the bluff and terrace edge (Figure 3). The surface survey indicated a scatter of historic artifacts in the area between the spoil pile and the terrace edge. Notably, the spoil pile, which consisted of excavated soil from another part of the Habersham development, also contained historic artifacts.

Positive shovel tests exhibited profiles consistent with the description above. The uppermost strata varied in thickness from 15 to 40cm (0.5-1.3ft), however, suggesting that some grading and filling might have taken place here. All the artifacts recovered from the site came from the uppermost strata and included 16 items (Table 1).

Figure 3: Plan of the Survey Area and Shovel Testing

Figure 3
Plan of Survey Area and Shovel Tests



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Table 1: Site 38BU2119 Artifact Inventory

Provenience Information				Artifact Description	
Transect	Shovel Test #	Stratum	QTY	Artifact	Date Range
A	1	A	1	whiteware-blue transfer print	1820-1915
A	2		1	ironstone-plain	1840-present
B	1		1	glass-green-bottle-general	
B	1		1	brick-general	
B	6		1	earthenware-	
B	7		1	hardware-iron-indeterminate ring	
C	1	A	1	glass-green-bottle-general	
C	1	A	1	Colonoware	
C	1	A	1	pearlware-plain	1775-1840
C	1	A	1	pearlware-handpainted underglaze-blue	1775-1840
C	2	A	3	brick-general	
C	2	A	1	whiteware-plain	1815-present
C	2	A	1	white saltglaze stoneware	1720-1805
C	2	A	1	salt glazed stoneware-gray body-Rhenish-type	
Total Artifacts:			16		

The assemblage suggests a late eighteenth or early-nineteenth century collection, while the presence of colonoware ceramics could be indicative of materials relating to a slave occupation. While the artifacts from this site seem to have a tight date range, suggesting a relatively brief period of deposition, the overall disturbance in this part of the survey area precluded making inferences about the actual date and function of this site. The problem is complicated by the presence of historic artifacts on the spoil pile, which appeared to be of the same period as the materials from the shovel tests. What this situation implied was that the artifacts recovered at the site, most of which came from near-surface contexts, are likely secondary deposits associated with the spoil pile. It should be further noted that the spoil pile had been reworked and mounded with heavy machinery, which would spread artifacts across the site area.

Given the evidence for disturbance and the difficulty in distinguishing secondary/modern deposits from any historical deposits, Site 38BU2119 appears to have poor integrity and a limited potential for cultural materials that could be clearly associated with a historic occupation, if any existed here. The site therefore lacks qualities of significance and NSA recommends no further archaeological study or management.

SITE 38BU2120

Site 38BU2120 lies in the southwestern portion of the survey area on a rise that looks over Habersham Creek to the south and a large erosional cut to the west (Figures 3 and 4). The site consists primarily of a historic artifact scatter but also contains remains of prehistoric occupations.

Archaeological work completed at this site included systematic shovel testing within a 15-m (50-ft) grid and two test units measuring 2x1 m (6.6x3.3ft) each.

The shovel testing indicated that the site consists of a historic artifact scatter measuring 150x100m (490x300ft) and including much of the area between ravines on the east and west. The site also seems bounded by an east-west running dirt road to the north. Although the site lies near the bluff edge overlooking Habersham Creek, historic artifacts did not extend as far as the bluff, suggesting a possible association with the dirt road. Internal distributions of artifacts indicated that the densest part of the site lay to the west in the vicinity of the large erosional ravine and spread eastward to the vicinity of a north-south running dirt road. East of the road, the site contained only sparse artifact distributions. Also to the west, shovel tests often produced dense oyster shell deposits even if other artifacts were not present. Surface inspection of the western part of the site indicated that shell deposits are present at and near the surface, suggesting widespread disposal of this material here.

A single shovel test (N-2) at the southern portion of the site yielded four prehistoric flake fragments. Notable about this find spot was that the artifacts came from the C horizon at a depth of about 50cm below the surface. Radials around this shovel test yielded no further prehistoric artifacts, suggesting that the prehistoric deposits are intermittent.

Two test units were placed at the site to examine the historic component. TU 1 was located in the vicinity of a radial shovel test 15m north and west of Shovel Test O-4. TU 2 was placed about 25m west of TU 1 near a judgmental shovel test. This area exhibited shell deposits at the ground surface and the judgmental shovel test and test unit were put here to examine these.

Test units at 38BU2120 exhibited apparently undisturbed soil profiles. The profile of TU 2 shows an example of the soils at this site (Figure 5). The south profile of this unit included a shallow layer of very dark grayish brown silty sand that comprised an AO horizon atop a stratum composed of very dark grayish brown silty sand with dense oyster shell and historic artifacts. This layer is interpreted as a shell-midden deposit mixed with the historic surface of the site. It capped layers of dark brown sand and brown sand that comprised transitional AC horizons. Finally, the C horizon consisted of pale brown sand. TU 1 exhibited a similar profile but lacked the dense layer of shell debris.

Archaeological investigations at 38BU2120 yielded both prehistoric (n=44) and historic artifacts (n=356). A number of indeterminate artifacts, consisting mostly of bone and shell fragments, are also likely associated with the historic occupations.

Prehistoric materials make up a minor portion of the total artifact assemblage (Table 2). The 44 items placed in this category may be over-estimated, as 25 small ceramic fragments are present that could not be identified as to temper or surface decoration. These could represent fragments of a historic earthenware, Colonoware, which make up a considerable portion of the total assemblage. Removing these 25 sherds from the prehistoric count leaves five sherds and 14 lithic flakes. The sherds are all tempered with fine sand, suggesting an Early Archaic Thoms Creek component. Lithic material types include varieties of coastal plain chert as well as a single specimen of Allendale chert, suggesting an origin some distance from the project area. The small size of the prehistoric assemblage does not suggest any interpretations about the prehistoric

Figure 4
Plan of Site 38BU2120

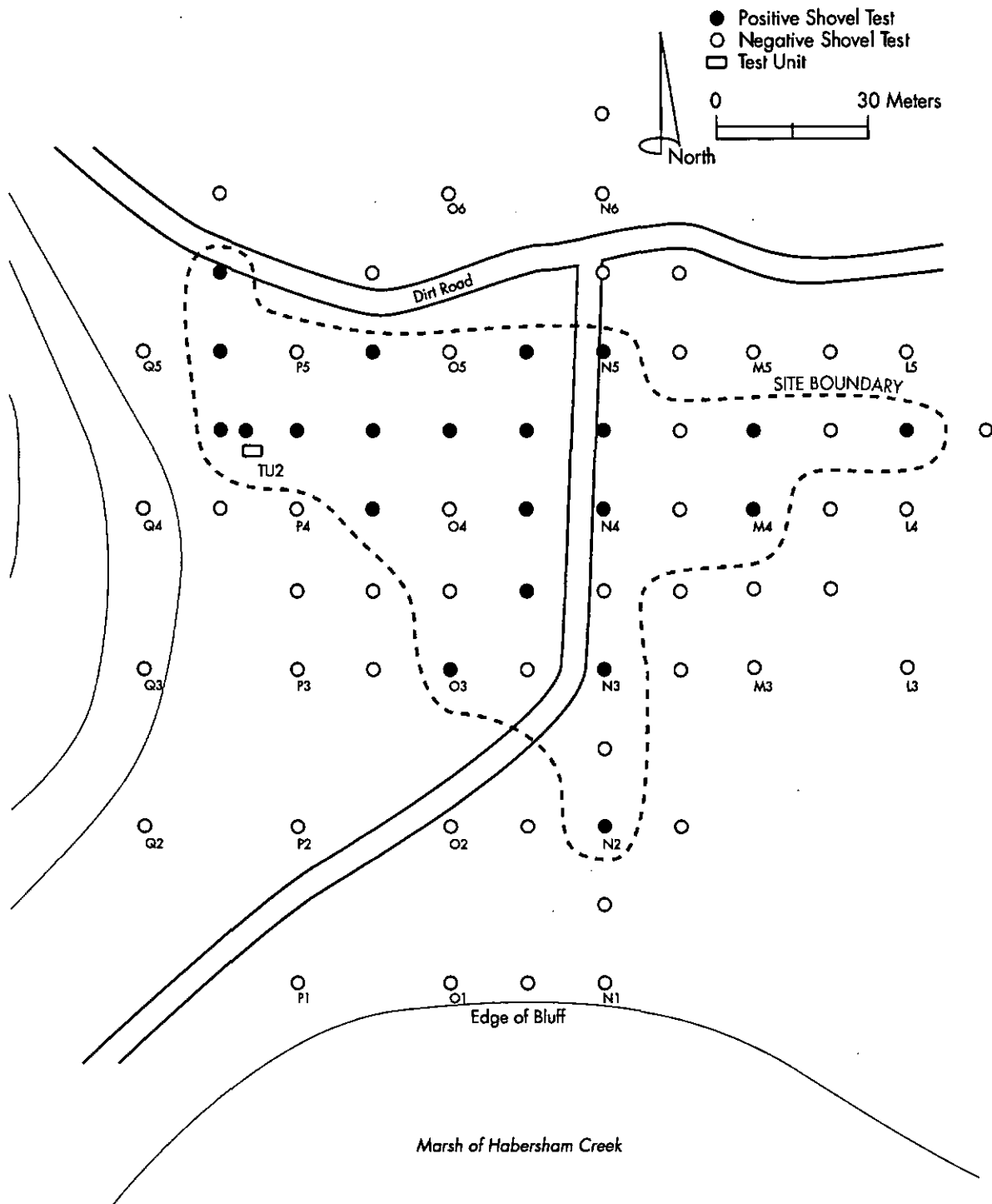
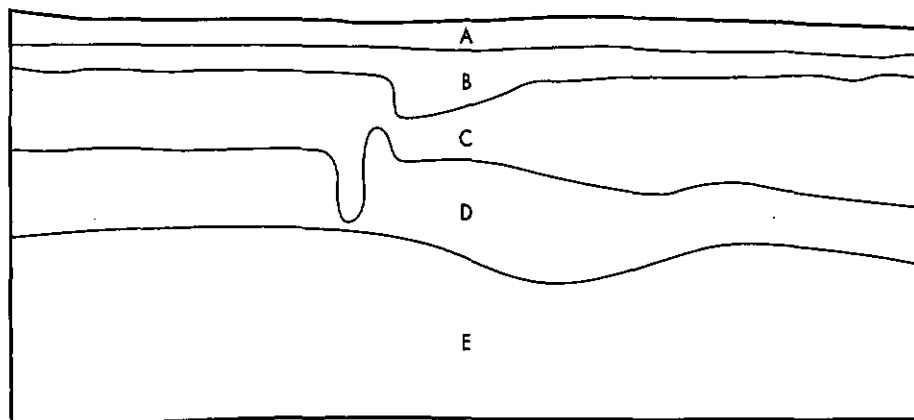


Figure 5
Site 38BU2120, Test Unit 2, South Profile



- A 10YR3/2, Very Dark Grayish Brown Silty Sand.
- B 10YR3/2, Very Dark Grayish Brown Silty Sand with Dense Oyster Shell.
- C 10YR3/3, Dark Brown Sand.
- D 10YR4/3, Brown Sand.
- E 10YR6/3, Pale Brown Sand.

0 30cm

activities at the site except for general late-stage lithic reduction. It does, however, imply that prehistoric use of this site was infrequent and transient. It should be noted that this location should constitute an attractive location for prehistoric settlement. Some prehistoric materials may have been lost due to erosion, as the sheer bluff at the south margin of the site shows evidence of being scoured by the creek. This process might have removed parts of the landform that contained more substantial prehistoric archaeological deposits.

Table 2: Site 38BU2120 Prehistoric Artifact Inventory

Artifact	Qty
Body Sherd	5
Sherdlet	25
Flake fragment	4
Flake secondary	1
Interior Flake	1
Thinning Flake	8
Total	44

The historic artifact assemblage from 38BU2120 reflects the primary occupation of this site. The 356 artifacts were sorted into the architectural, clothing, kitchen, miscellaneous, personal, and tobacco artifact groups, with the kitchen group making up nearly 68 percent of the entire historic assemblage (Table 3). This artifact group is composed primarily of ceramics, with bottle glass fragments and bone also present. The bone, it should be noted, consists of species such as pig and cow that could not have been present until after European colonization. A larger sample of bone from this site could not be identified as to species and so was categorized as indeterminate with respect to historic or prehistoric occupation. The oyster shell assemblage is also underrepresented in this assemblage because these materials were not systematically collected due to their bulk. TU 2, for instance, produced approximately 19 liters (5 gal) of oyster shell.

The bottle glass in the kitchen group includes dark green fragments of the type commonly referred to as "wine" or "spirit" bottles. A number of additional bottle fragments were placed in the miscellaneous category because they could not be identified as to function.

The ceramic assemblage from this site is rather large and provides information about the site's occupation period and possible inhabitants. Over 75 percent of the kitchen group consists of ceramics, specific types including European-made refined earthenwares and stonewares, domestic earthenwares (Redware, slipware), and Colonoware, which was probably made and used by African-American slaves. The refined earthenwares include a variety of types with early dates, such as creamware and pearlware, or types such as whiteware, which has an early beginning date but that is still manufactured to the present day. These suggest the site was occupied by around the turn of the nineteenth century, and this supposition receives support from 99 dateable ceramics that provided a mean ceramic date (MCD) of 1848.9. This date is probably skewed toward the present by a large number of sherds classified as CC-ware, which have a lengthy date range. The absence of ironstone ceramics in this assemblage, introduced around 1840, suggests the site was not occupied for a significant period after that date.

Table 3: Historic Artifacts, Site 38BU2120

Artifact Group	Artifact Description	Date Range	Total
Architectural	Brick, Handmade		6
	Brick-general		8
	Flat Glass		5
	Mortar, Cement, Etc.		4
	Nail, Cut	1805	11
	Nail, Handwrought Rosehead	Pre 1805	3
	Nail, Unidentified		3
	Nail, wrought	pre 1805	1
	Tabby		4
Architectural Total			45
Clothing	Buttons, Metal		1
	Clothing Metal		18
Clothing Total			19
Kitchen	Bone		30
	Bone-polished and burned		1
	Bone-swine tooth		2
	Bottle Glass, Olive Green Spirit		14
	CC Ware, Dipped		3
	CC Ware, Dipped Ware Tan, Rust, Brown, Olive, Ocher, Gray	1790-1840	4
	CC Ware, Edgeware, Unidentified		2
	CC Ware, Plain	1830-1990	26
	CC Ware, Scalloped Rim, Impressed Curved	1802-1832	1
	CC Ware, Unscaloped Impressed Rim	1841-1857	1
	Colonoware		71
	Creamware, Dipped		2
	Creamware, Dipped Ware, Blue And Simple Banded	1790-1900	2
	Creamware, Plain (light)	1775-1830	3
	Creamware, Polychrome Painted (Brown, Mustard, Olive)	1795-1830	1
	Creamware-plain	1762-1820	1
	Earthenware-red body		5
	Glass, Tableware		1
	Pearlware, Dipped		1
	Pearlware, Dipped Ware Tan, Rust, Brown, Olive, Ocher, Gray	1790-1840	3
	Pearlware, Dipped Ware, Blue And Simple Banded	1790-1900	4
	Pearlware, Edge decorated		1
	Pearlware, Painted		1
	Pearlware, painted		1
	Pearlware, Plain	1780-1830	22

	Pearlware, Polychrome Painted (Brown, Mustard, Olive)	1795-1830	1
	Pearlware, scalloped Rim, Impressed straight	1809-1831	7
	Pearlware, Unidentified Transfer Print		1
	Pearlware, Scalloped Rim, Impressed Curved	1802-1832	1
	Pearlware-plain	1775-1840	2
	Porcelain, plain		1
	Redware, Clear Glazed		2
	Redware, refined, black glaze		1
	Redware-refined w/clear glaze-engine turned		1
	Stoneware, Unidentified Domestic		1
	Whiteware-annular	1820-1900	1
	Whiteware-blue shell edge	1810-1845	2
	Whiteware-blue transfer print	1820-1915	1
	Whiteware-indeterminate blue decoration	1815-present	1
	Whiteware-plain	1815-present	6
	Yellow Ware, Plain	1830-1940	3
Kitchen Total			242
Miscellaneous	Glass green, general		1
	Glass Misc. Objects		10
	Glass, bottle, clear		5
	Glass, bottle, green		2
	Glass, indeterminate		1
	Glass-bottle, aqua		3
	Hardware-iron-strip/strap		1
	Metal, Miscellaneous		23
	Metal, Unidentified, Activities		1
Miscellaneous Total			41
Personal	Bottles, Pharmaceutical		3
Personal Total			2
Tobacco	Tobacco Pipe bowl		2
	Tobacco Pipe Stem		5
Tobacco Total			7
Grand Total			356

The ceramics collection also contains a high number (71) of Colonoware sherds, which are associated with African-American slaves during the late eighteenth and early nineteenth century. This material occurs frequently on plantation sites through the early the nineteenth century but is less common on sites dating to the middle of the century (Ferguson 1992:107). The main plantation dwelling associated with this property (represented by Site 38BU1282) is located on Broad River over 1.6km (1.mi) to the west of 38BU2120. The identification of the plantation house elsewhere combined with the presence of Colonoware at 38BU2120 suggests that the site reflects a slave occupation associated with the Campbell Plantation during the late eighteenth or first part of the nineteenth century.

Other artifacts in the assemblage include materials related to architecture. The most common materials in this group are cut and wrought nails, both of which are diagnostic of early nineteenth-century structures. Again, the absence of later materials, such as wire nails (post 1850) support an interpretation that the site dates to the early nineteenth century. Fragments of shell-mortar or tabby, a building material that went out of use in the early nineteenth century, is a further suggestion of an early date. The limited quantity of this material, as well as that of brick, implies that any buildings at the site were wood.

The remainder of the historic artifact assemblage is mostly miscellaneous items that cannot be attributed to any particular activities. Less common materials are assigned to the clothing, personal, and tobacco pipe groups and indicate generalized activities associated with human residential activities.

In sum, the artifact assemblage points to a probable slave habitation dating to the late eighteenth or early nineteenth century. A lack of late artifacts suggests this location was abandoned by the middle of the nineteenth century and there is no evidence for a subsequent occupation.

Also of note is the oyster shell, which, as noted, was very dense in the western portion of this site. The origins of this shell are uncertain. While historic African-American slave shell middens have been identified along South Carolina's coast, shell middens are most commonly found in association with prehistoric sites. The artifacts associated with this midden are predominantly historic, including Colonoware, which suggest the shell may be associated with the historic slave occupation. However, prehistoric shell middens generally contain relatively few non-subsistence artifacts, so it is also possible that this is the remains of a prehistoric shell midden where historic trash has also been disposed.

Site 38BU2120 Summary and Conclusion

To conclude, Site 38BU2120 contains evidence of both prehistoric and historic occupations. The prehistoric component consists of ephemeral and intermittent artifact deposits which may be associated with the shell midden. These materials may reflect the remnants of a larger site that has been eroded by Habersham Creek.

The historic component reflects a slave occupation associated with the Campbell plantation. The site appears to have been first inhabited by slaves around the turn of the nineteenth century and then abandoned by the mid-1800s. The shell found on the site may be associated with this slave occupation as well. Although slave sites are not unusual in the site region, there are unresolved research issues concerning slave life in the Sea Islands (summarized by Natalie Adams [Botwick et al. 2003]). Especially important is the possibility that this site was occupied mainly by slaves imported directly from Africa (Rowland et al. 1996:348). The African-American component of the site thus has research value. Unfortunately, this historic occupation cannot be horizontally or vertically separated from the shell midden and prehistoric occupation of the site. This severely limits the site's research potential, since it would not be able to conclusively association subsistence remains, as well as some earthenware ceramics, with one or the other occupation. Based on this assessment, 38BU2120 is thus recommended not eligible for the NRHP. No further study or management of this site should be required.

SITE 38BU2121

Site 38BU2121 is a multicomponent prehistoric and historic site on a low rise overlooking Habersham Creek (Figures 3 and 6). The site primarily occupies the southwestern portion of the low rise. The edge of the terrace here is rather abrupt, suggesting that the creek truncated the landform (the terrace and the low rise) and that eastern portions of the site have been lost through erosion.

Surviving parts of the site extend roughly from the bluff edge to a series of recent debris piles associated with the Habersham development. This area measures 135x45m (450x150ft), which covers part of the rise and its west flank. The western portions of this site run together with disturbed areas and artifacts there are of uncertain origin. A modern animal pen lies just north of the site and modern sheet metal roof pieces are inside the northern boundaries of the site but it was not determined if these reflected a structure here or refuse disposal. Overall artifact densities were low, but included both prehistoric and historic materials. No clear horizontal separation of these periods was apparent. Further, shovel testing did not produce any materials from below the plowzone to suggest that these components were stratigraphically separate.

Archaeological investigations at this site included shovel testing on a 1.5-m grid followed by the excavation of two 2x1-m test units. The test units were placed next to radial shovel tests 1.5m south of Shovel Tests B-7 and D-3 that had yielded relatively high numbers of artifacts as well as larger artifact fragments, suggesting primary deposits might be present.

Soils at the site have been disturbed by plowing. Both test units revealed plowzones of dark grayish brown silty sand above C-horizon soils of light yellowish brown or pale brown sand (Figure 7). These strata were distinguished by clear break, indicating a relatively modern date for the plowzone. The presence in the plowzone of plastic geotextile of the type used as weed barriers further attested to the recent date of the last plowing episodes.

TU 1 contained a feature in its southeastern corner that consisted of a straight-sided pit containing cement fragments, which have a twentieth-century date. The feature, which was interpreted as a refuse disposal pit, was truncated by the plowzone.

Site 38BU2121 yielded both prehistoric and historic artifacts. The prehistoric artifact assemblage is small and consists mostly of pottery (Table 4). The two lithic artifacts in the collection are debitage of locally available Hawthorne chert. The 55 ceramic sherds include 27 sherdlets (49% of all pottery), which are not clearly identifiable as either prehistoric or historic. The rest of the pottery contains sand temper, with fine and medium-coarse sand being most common (Table 5). Five of these sherds were identified as Middle Woodland Deptford types while a sixth sherd was classified as Early Woodland Thoms Creek.

Figure 6
Plan of Site 38BU2121

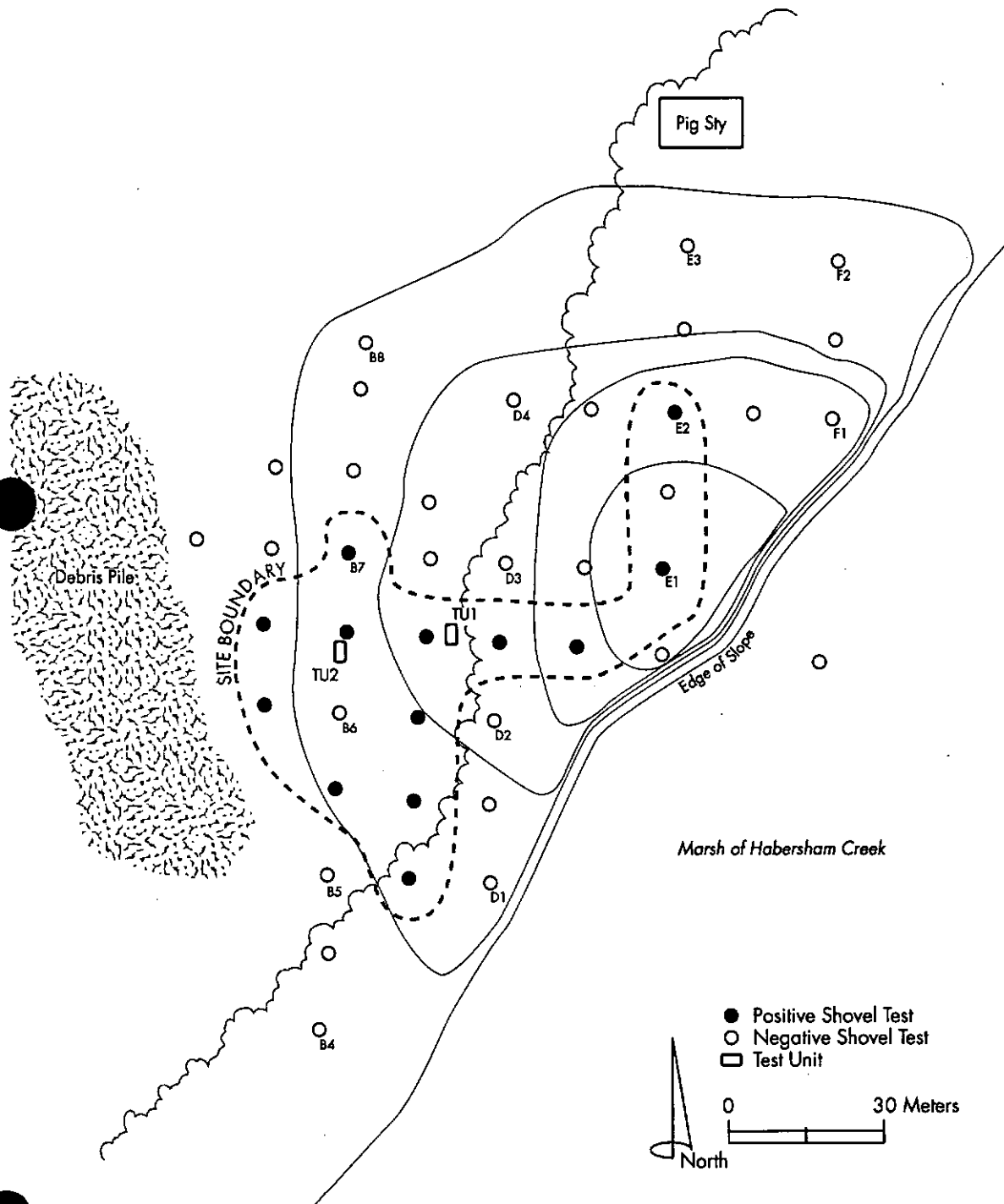
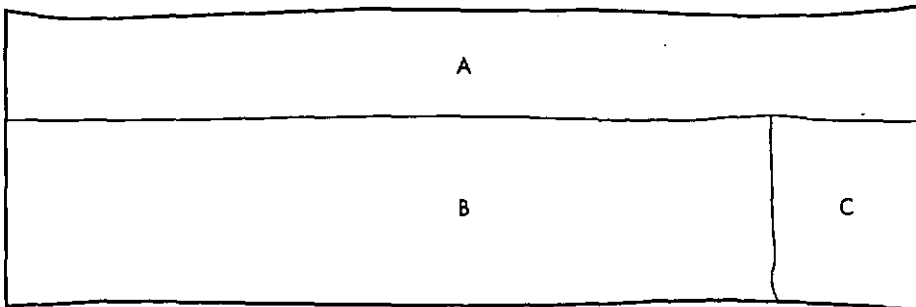
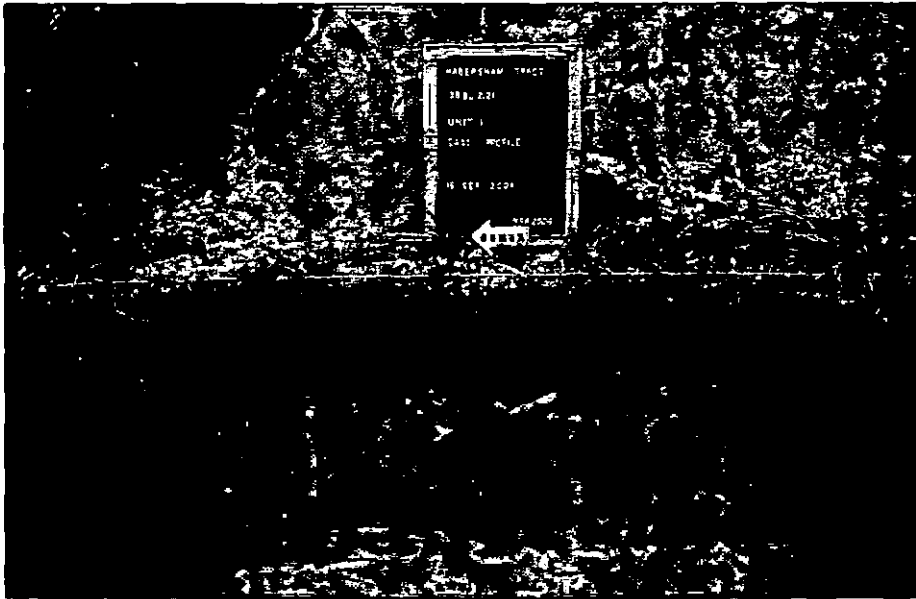


Figure 7
Site 38BU2121, Test Unit 1, East Profile



0 30cm

- A 10YR3/2, Very Dark Grayish Brown Silty Sand, Plowzone.
- B 10YR7/4, Very Pale Brown Sand, Grades Down to 10YR7/2, Light Gray Sand.
- C Mottled 10YR3/2, Very Dark Grayish Brown Silty Sand and 10YR7/2, Light Gray Sand with Cement Fragments; Modern Pit.

Table 4: Prehistoric Artifact Inventory, Site 38BU2121

Artifact Description	Total
Body Sherd	24
Flake fragment	1
Rim Sherd	1
Sherdlet	30
Thinning Flake	1
Grand Total	57

Table 5: Summary of Prehistoric Pottery, Site 38BU2121

Artifact	Temper	Total
Body Sherd	Coarse Sand	1
	Fine Sand	14
	Coarse sand/grit	2
	Grit	1
	Medium Sand	6
Rim Sherd	Fine Sand	1
Sherdlet	sand	2
	sand/coarse sand	1
	indeterminate	27
Total		55

The historic artifact assemblage includes 373 items that were placed in the activities, architecture, furnishing, kitchen, miscellaneous, and tobacco artifact categories (Table 6). Kitchen-related artifacts are the most numerous, making up close to 48 percent of the assemblage. Ceramics make up nearly 80 percent of the kitchen assemblage and include a range of types common during the late eighteenth- and early nineteenth centuries such as delft, creamware, and pearlware. Coarse earthenwares are also present and include a relatively high number ($n=58$) of Colonoware sherds as well as redware and slipware. Notably, the assemblage lacks whiteware, which would be expected at a site occupied after the 1820s. The MCD for 81 dateable sherds is 1797.3, which suggests that the site represents an early occupation. The presence of Colonoware in rather high numbers (nearly 40% of the ceramics) suggests the presence of African-American slaves.

The balance of the kitchen assemblage includes 22 fragments of glass, including 16 bottle fragments identified as green spirit bottles, and four pieces of indeterminate tableware. Two fragments of glass canning jar lid liners are present and these date to after 1869, suggesting a later use of the site. Fifteen pieces of bone in the assemblage were assigned to historic occupations because they represented pig and domestic cattle.

Table 6: Site 38BU2121, Historic Artifact Inventory

Artifact group	Artifact Description	Date Range	Total
Activities	Fishing Weight, Lead		1
	Wire, Barbed	Post-1867	1
Activities Total			2
Architecture	Brick, Handmade		6
	Brick-general		18
	Flat Glass		36
	Nail, Cut	Post-1805	8
	Nail, Handwrought Rosehead		3
	Nail, L-Head, Fragment		4
	Nail, Rosehead		3
	Nail, Unidentified		2
	Nail, Wire	Post-1865	2
	Plumbing Hardware (Faucets- Etc.)		1
	Tabby		17
	Tack		1
Architecture Total			101
Furnishings	Glass, Lamp Body		3
Furnishings Total			3
Kitchen	Black Basalt	1750-1846	6
	Bone		15
	Bottle Glass, Olive Green Spirit		15
	Bottle Glass, Olive Green, Case		1
	Colonoware		56
	Creamware, Dipped		2
	Creamware, Plain (light)	1775-1830	28
	Creamware, Polychrome Painted (Brown, Mustard, Olive)	1795-1830	1
	Delft, Blue & White	1700-1800	3
	Glass (Milk) Canning Seal	Post-1869	2
	Glass, Tableware		4
	Pearlware, Blue Painted Chinoiserie	1775-1810	2
	Pearlware, Painted		4
	Pearlware, Plain	1780-1830	19
	Pearlware, Polychrome Painted (Brown, Mustard, Olive)	1795-1830	1
	Pearlware, Scalloped Rim, Impressed Curved	1802-1832	1
	Pearlware, Scalloped Rim, Impressed Straight	1809-1831	6
	Porcelain, English	1740-1795	1
	Porcelain, Hard Paste English	1768-1795	2
	Porcelain, Unidentified		1

Artifact group	Artifact Description	Date Range	Total
	Redware, Clear Glazed		1
	Slipware, Buff Bodied		1
	Slipware, Combed Clear Glaze	1670-1795	2
	Slipware, Plain Clear Glaze	1670-1795	2
	Slipware, Trailed, Clear Glaze	1670-1795	1
	Stoneware, Unidentified Domestic		1
Kitchen Total			178
Miscellaneous	Bottle Glass, Clear		16
	Bottle Glass, Amber Machine Made		8
	Bottle Glass, Aqua		2
	Bottle Glass, Clear Machine Made		9
	Bottle Glass, Embossed Letters	Post-1750	1
	Bottle Glass, Green Machine Made		5
	Bottle Glass, Unidentified (Burned)		2
	Bottle Glass, Green		1
	Glass, Unidentifiable		5
	Metal Object, Unidentified		2
	Metal, Iron, Strap		1
	Metal, Miscellaneous		22
	Tack, wrought		1
	Unidentifiable Iron/Steel		3
	Wire, Non-Electrical		3
Miscellaneous Total			81
Tobacco	Tobacco Pipe Bowl		3
	Tobacco Pipe Stem		2
	Tobacco Pipe, Stem/Bowl		3
Tobacco Total			8
Total			373

Architecture-group artifacts make up 27 percent of the historic artifact inventory. This group consists mainly of fragments of flat glass, bricks, and tabby mortar. Of these items, tabby is the most diagnostic, being a material that was common in the region until the early nineteenth century. The prevalence of cut and handwrought nails is also consistent with this time period. Later materials in this group, such as wire nails and plumbing fixtures, probably reflect later use of the site or refuse dumping.

The Miscellaneous artifact group contains items that cannot be identified or clearly placed in one of the other categories. In this assemblage, it contains a moderate quantity of bottle glass that was undiagnostic as to date or function. Much of this material, however, resembled modern machine-made varieties in color and quality and likely reflects twentieth-century dumping at the site. The remainder of the miscellaneous group artifacts does not suggest any particular time period or activities.

Looking at the other artifact groups, the activities group contains items expected in a former agricultural field (barbed wire) next to a creek (fishing tackle). The tobacco pipe fragments could relate to the historic occupation of this site, although they do not indicate particular chronological associations. Finally, the furnishing group contains fragments of lamp glass that might reflect an occupation or refuse dumping.

Site 38BU2121 Summary and Conclusion

Site 38BU2121 contains the remains of prehistoric and historic occupations. The prehistoric component of this site consists of relatively low-density remains associated with Early and Middle Woodland occupations. A low number of artifacts and lack of historic features prohibits drawing conclusions regarding site function. The historic components of this site appear to relate to an eighteenth- or very early nineteenth-century slave occupation, most likely associated with the Campbell plantation. As noted above, the main plantation dwelling (38BU1282) is located elsewhere on the property, making it more likely that 38BU2121 reflects an outlying settlement. A lack of artifacts dating to the mid-nineteenth century, such as whiteware and ironstone ceramics, suggests that this site was abandoned during the early 1800s.

The site was reused during the twentieth-century, however, for agricultural purposes and probably dumping of structural and other refuse. Evidence for this consists of a pig corral located near the northern portion of the site and piles of sheet metal roofing and other debris located within the site area. Artifacts include modern bottle fragments and other items mixed in the plowzone, while a feature consisted of a pit filled with modern cement fragments. These indicate that the site was utilized during the twentieth century and this use had the potential to disturb the earlier deposits. More recently, the site area has been used for dumping and storage of spoil and other debris generated by the housing development.

While 38BU2121 appears to contain a tightly dated slave settlement, the site is disturbed by post occupation agricultural activities and refuse disposal. The site contains a deep plowzone in which historic artifacts are mixed with modern materials. Also, there is evidence of modern disturbances below the plowzone. These factors detract from the site's archaeological research potential and therefore, NSA recommends this site not eligible for the NRHP.

SITE 38BU2122

Site 38BU2122 is a prehistoric artifact scatter in the northeastern part of the survey area (Figure 3). The site setting consists of a shallow swale between two rises. The site lay in a plowed field with 50-75 percent surface visibility and the site was identified by surface survey rather than shovel testing. Systematic shovel testing in the areas adjacent to the field did not produce any artifacts. Surface survey indicated the site measured roughly 45x20m (150x75ft) and revealed two prehistoric artifacts that were noted in the field but not collected. These consisted of one prehistoric pottery sherd and one flake. Given the location of these materials in a low, natural catchment area, it is possible that they washed out of another location such as Site 38BU2121 or Site 38BU2123 (discussed below).

Site 38BU2122 is a very low-density site that might reflect displaced cultural deposits. These conditions suggest that the site lacks archaeological research potential and no further investigations are recommended for it.

SITE 38BU2123

Site 38BU2123 is at the northeastern portion of the survey area. The site is associated with a low, linear rise between Habersham Creek on the south and east and an ephemeral drainage on the north (Figures 3 and 8). Shovel testing revealed a low-density prehistoric artifact scatter across this landform measuring about 120x75m (400x250ft), but the distributions were intermittent. The northern edge of the site was not conclusively identified because it lay beyond the project area boundary, but the site probably extends to a shallow ephemeral drainage that forms the north side of the rise. The eastern and southern boundaries of the site were identified by a combination of negative shovel tests and natural contours. Negative shovel tests suggested the site's western boundaries.

Archaeological work at 38BU2123 included shovel testing on a 15-m grid in areas where artifacts were identified as well as the excavation of two 2x1-m test units. Test units placed in locations associated with initial positive shovel tests at the northwestern corner of the site.

Consecutive positive shovel tests were most prevalent in the northern part of the site, especially in areas overlooking the ephemeral drainage. Although shovel tests on higher elevations in this part of the site indicated a generally low-density artifact scatter, tests in the lower areas near the ephemeral drainage encountered dense deposits of oyster shell with prehistoric artifacts. This area is interpreted as remnants of a prehistoric shell midden. The midden is in a wooded section of the site adjacent to the property line, which is marked with a barbed-wire fence. A second fence line runs about 15m (50-ft) south of the property line and the shell midden occupies the area between these fences. The spatial dimensions of this feature could not be conclusively determined for this evaluation, but they likely extend north of the property line and as far east as Habersham Creek marsh.

Soils at the site are exemplified by the profile of TU2 (Figure 9). The soil profiles had been truncated by plowing, indicated by a plowzone of very dark grayish brown sand, which capped C-horizon soils of light yellowish brown sand that graded to light gray sand. The relatively recent date of the last plowing episodes was indicated by the presence of plastic weed barrier mat fragments.

In the woods north of the site, shovel test profiles exposed very dark grayish brown (10YR3/2) silty sand to depths between 30 and 40cm (1.0-1.3ft). This stratum contained dense deposits of oyster shell and occasionally prehistoric artifacts. It was above yellowish brown (10YR5/4) sand that graded to pale brown (10YR6/3) sand. These profiles could not be conclusively identified as plowed and the depth of the uppermost stratum might be a reflection of the thickness of the shell deposits.

Testing at this site produced mostly prehistoric artifacts, including both lithic and ceramic items (Table 7). More than two-thirds of the assemblage consists of pottery, which includes several different temper types (Table 8). Most prevalent are fiber-tempered sherds, which represent a

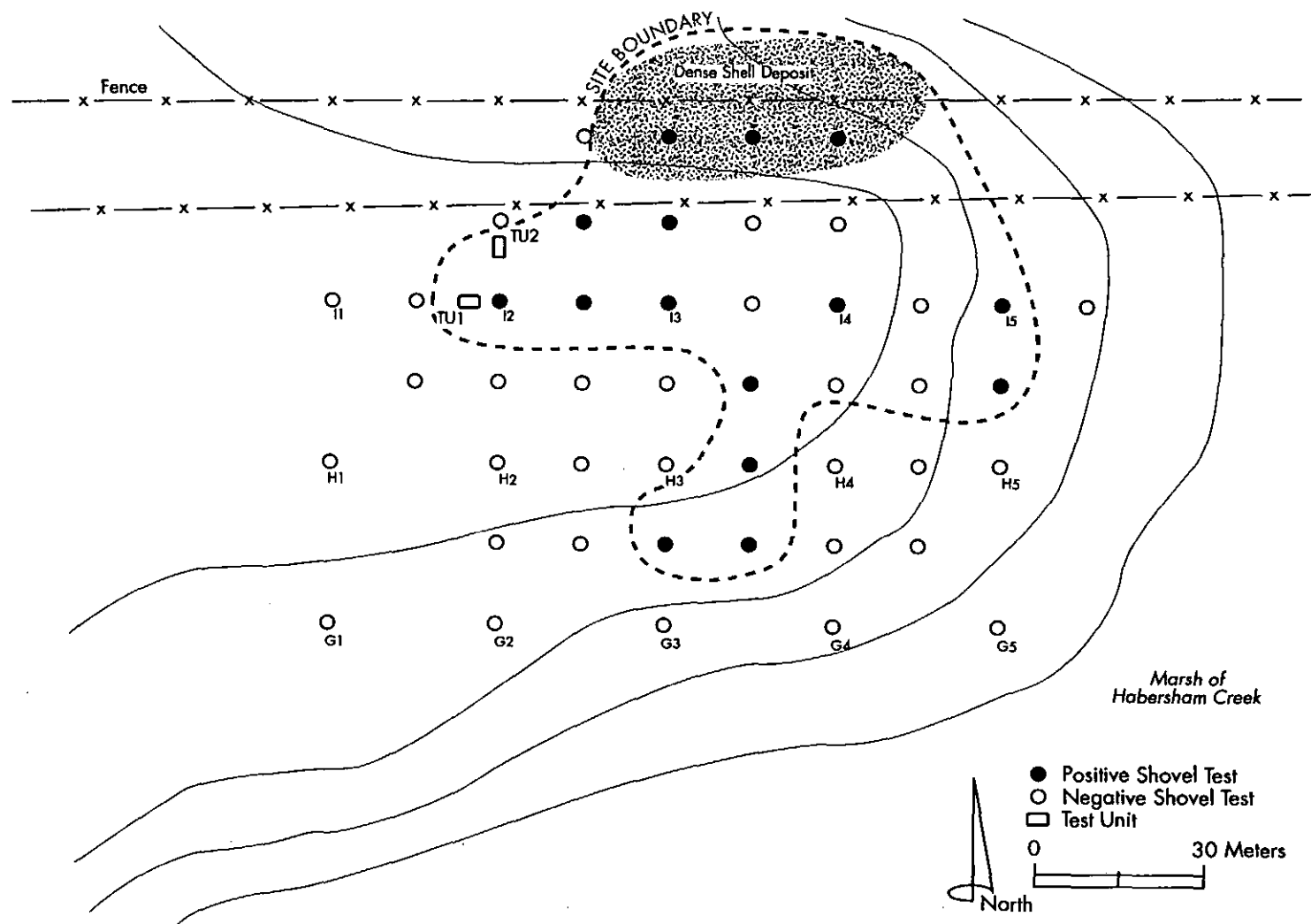
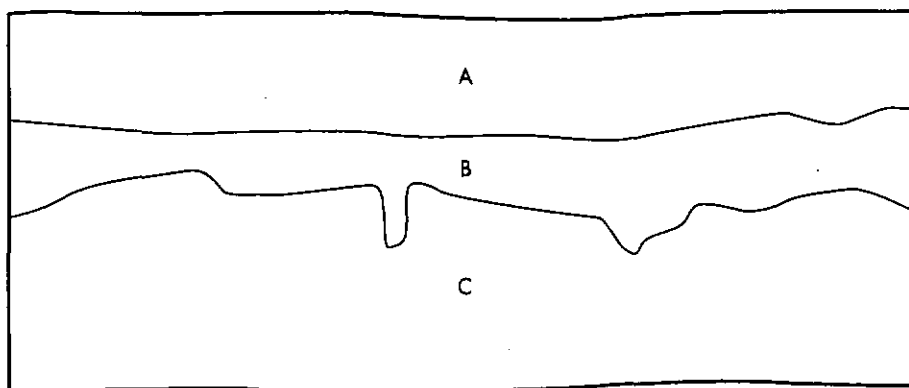
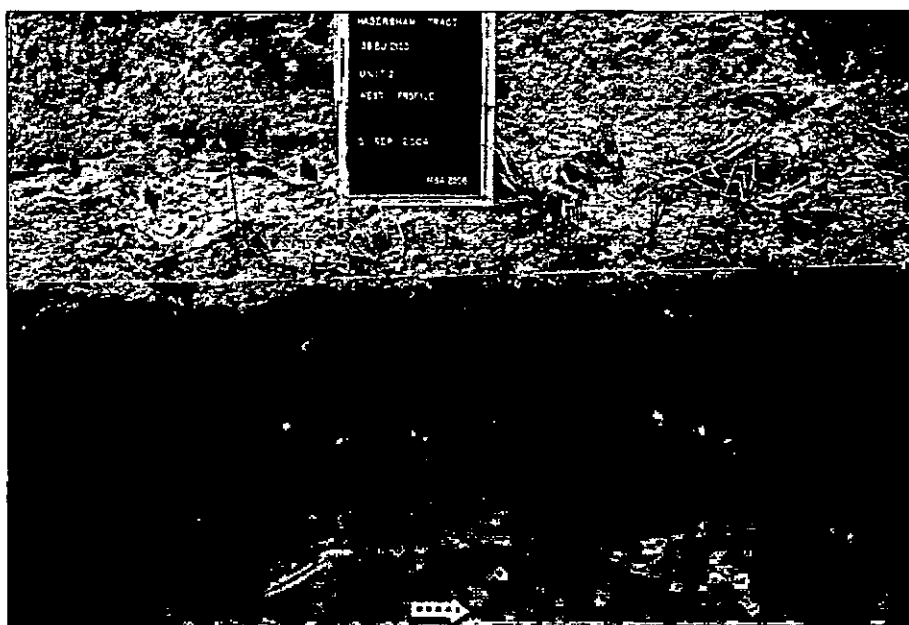


Figure 8
Plan of Site 38BU2123

Figure 9
Site 38BU2123, Test Unit 2, West Profile



- A 10YR3/2, Very Dark Grayish Brown Silty Sand; Plowzone.
B 10YR6/4, Light Yellowish Brown Sand.
C 10YR7/2, Light Gray Sand.

0 30cm

Late Archaic Stallings component. Less common in the assemblage are sherds tempered with fine sand and medium-coarse sand, which are categorized as Early Woodland Thoms Creek and Middle Woodland Deptford sherds, respectively. A single grog-tempered sherd reflects a Late Woodland Wilmington component. No other cultural periods were identified. The shell midden produced a number of pottery fragments, but only one Stallings and one Wilmington sherd could be identified as to type. These two items do not clearly indicate the period(s) during which the shell midden was deposited.

Table 7: Site 38BU2123 Artifact Inventory

Artifact Description	Total
Body Sherd	33
Rim Sherd	2
Sherdlet	33
Flake Fragment	1
Retouched PP/K Savannah River	1
Secondary Flake	4
Shatter	1
Tertiary Flake	1
Thinning Flake	24
Grand Total	100

Table 8: Summary of Prehistoric Ceramics, Site 38BU2123

Artifact	Temper									Total
	Fiber	Fine Sand	Grog	Medium Sand	clay/grog	Coarse Sand	Fine Sand	Medium Sand	Sand	
Body Sherd	10	5	1	1	1	1	8	5	1	33
Rim Sherd							2			2
Sherdlet									3 30	33
Total	10	5	1	1	1	1	10	5	4 30	68

The lithic artifact assemblage from 38BU2123 contains only 32 items, most of which are thinning flakes produced during the end stages of the lithic reduction sequence (Table 9). A number of other flake types are present, but the relatively high incidence of later-stage reduction debris suggests that no tool manufacture took place at the site and the assemblage probably reflects mostly activities related to tool sharpening and repair. A single diagnostic lithic tool in the assemblage consists of a Savannah River point of Manchester chert, which relates to the Late Archaic or possibly Early Woodland component. Lithics in the assemblage reflect a wide variety of raw material sources, although all are varieties commonly available in the Coastal Plain.

Table 9: Summary of Lithic Artifacts, Site 38BU2123

Artifact	Raw Material							Total
	Brown Fossiliferous Chert	Brown Isotropic Chert	Coastal Blue Chert	Coastal Plain Chert	Hawthorne Chert	Manchester Chert	White Fossiliferous Chert	
Flake Fragment				1				1
Projectile Point/Knife: Savannah River						1		1
Secondary Flake	1			2	1			4
Shatter				1				1
Tertiary Flake		1						1
Thinning Flake		2	1	13	5		1	24
Total	1	3	1	17	6	1	1	32

The testing at 38BU2123 also yielded a small collection of 13 historic artifacts that include mostly nondescript glass, brick, and metal fragments. A glass fragment identified as from an oil lamp and a tobacco pipe bowl fragment suggest historic activities here, but the very low numbers of historic materials are more suggestive of casual discard than of an occupation. A few fragments of indeterminate materials were also recovered, including a fragment of low-fired pottery that could be either prehistoric or historic, and a bone fragment that came from a shovel test in the oyster shell midden and probably reflects the prehistoric occupations.

All of the historic artifacts recovered from the site came from the plowzone. The prehistoric artifacts exhibited more dispersal through the profile, but nearly 75 percent of all artifacts came from the plowzone (Level 1) and an additional 20 percent came from the first 10cm level immediately below the plowzone (Table 10). This distribution would be expected in a situation where the artifacts had been deposited on or near the present grade and moved downward through the profile via various natural or cultural processes. The vertical distributions of prehistoric artifacts therefore do not suggest the presence of buried prehistoric surfaces or stratigraphic separation of artifacts related to different time periods.

Site 38BU2123, Summary and Conclusion

Site 38BU2123 consists of a low-density prehistoric artifact scatter and a shell midden containing evidence of multiple prehistoric components. The site can be viewed as containing two principal areas: the shell midden, which is concentrated near the ephemeral drainage at the north side of the site, and the low ridge and its flanks, which make up the rest of the site. The shell midden deposits appear relatively undisturbed, although they yielded possible evidence of mixed components. It is unclear based on the investigations thus far if these different components can be separated. This

part of the site lies in a wooded zone near the existing property line. NSA understands that this area will be maintained as part of a buffer between the property line and development areas.

Table 10: Vertical Distributions of Prehistoric Artifacts, Site 38BU2123

Artifact Description	Level				Total
	1	2	3	No record	
Body Sherd	29	4			33
Flake Fragment				1	1
Retouched PP/K Savannah River		1			1
Rim Sherd		1	1		2
Secondary Flake	2	2			4
Shatter		1			1
Sherdlet	30	3			33
Tertiary Flake			1		1
Thinning Flake	13	8	2	1	24
Grand Total	74	20	4	2	100

The ridge crest and flanks contain additional evidence of several prehistoric components. This area lies in an old field and the majority of the prehistoric materials have been mixed, with some historic artifacts, in the plowzone. Moreover, the site did not yield evidence of stratified deposits or buried surfaces. These two circumstances, combined with the overall low artifact densities, suggest that this portion of the site lacks sufficient data to make a significant contribution to regional archaeological research.

In summary, Site 38BU2123 appears to contain partial integrity, limited to its northernmost section where the shell midden deposits lie. The remainder of the site has been disturbed as a result of historic and modern plowing. Although the midden deposits might provide information about prehistoric subsistence and settlement types, the level of disturbance south of the midden detracts from the site's potential research contribution because the living areas associated with the midden cannot be clearly observed. These results suggest that 38BU2123 has a limited archaeological significance. Thus, the site is potentially eligible for the NRHP for its research potential, but the portions of the site that contribute to its significance are only those in the woods at the north margin of the site. These wooded areas are slated to remain in a buffer zone that will not be developed. The remainder of the site does not contribute to this potential significance and does not warrant further preservation.

Should development plans change to include clearing and/or any ground disturbance in the woods at the north side of the site, additional archaeological investigations may be necessary. Such work would include excavation of archaeological deposits in the areas of direct impact to preserve their research potential.

ISOLATED FINDS

The survey produced three isolated finds. The first of these consists of a single cut nail from Shovel Test C-5, located in the graded spoil storage area. This item came from a deep plowzone along

with patently modern artifacts (plastic). This item thus came from a disturbed context and did not constitute a significant cultural resource.

An isolated find from Shovel Test N-7 consisted of a single prehistoric flake fragment of coastal plain chert recovered from below the plowzone at a depth of about 50cm (1.6ft) below ground surface. Although this item is was near Site 38BU2120, radial shovel tests in cardinal directions yielded no further artifacts, suggesting that this item is an isolated occurrence.

Finally, Shovel Test R-1, located at the bluff edge overlooking Habersham Creek yielded a single clay tobacco pipe fragment, impressed with the mark "KEYSTONE//PHILADA." This shovel test lay on a discrete landform that appeared to be a remnant of a larger terrace that had been eroded by the creek. Shovel testing on this landform, radial shovel tests of the initial find, and inspection of the eroded terrace edges produced no further artifacts.

V. EVALUATIONS AND RECOMMENDATIONS

This Phase I archaeological survey and evaluation project covered an approximately 54-acre parcel in the Habersham Development in Beaufort County. The project included a systematic survey of tracts slated for residential development and evaluations of sites that appeared to be eligible for the NRHP after the identification survey. This chapter provides evaluations of the newly identified archaeological sites, and makes recommendations for additional investigations.

This archaeological survey resulted in the identification of five archaeological sites. Two of the sites consist of prehistoric artifact scatters, one is a historic artifact scatter, and two contain evidence for both prehistoric and historic occupations. Table 5 summarizes the results of the survey and the recommendations.

Table 11: Summary of Phase I results and recommendations

SITE	DESCRIPTION	CONDITION	RECOMMENDATION
38BU2119	Historic artifact scatter	Disturbed by grading, spoil and construction debris storage.	Not eligible; no further work
38BU2120	Shell midden of unknown association, slave occupation with prehistoric component	Tight late 18 th -early 19 th century time and limited disturbance; prehistoric component appears diffuse. No horizontal or vertical association of prehistoric and historic deposits.	Not eligible; no further work
38BU2121	Woodland artifact scatter and possible slave occupation	Minor prehistoric component; circa 1800 slave occupation with 20 th C disturbance; poor research potential.	Not eligible; no further work
38BU2122	Prehistoric artifact scatter	Low-density site in surface context; possibly displaced from another location.	Not eligible; no further work
38BU2123	Late Archaic to Late Woodland artifact scatter; shell midden	Low-density site with shell midden deposit outside of construction area.	Possibly NRHP eligible, but will not be impacted. Preserve site areas in buffer zone.

Based on this archaeological study, Site 38BU2120 represents a shell midden with prehistoric components as well as a late eighteenth- to nineteenth-century slave settlement associated with Campbell Plantation. There is no separation, horizontally or vertically, between the prehistoric and historic artifacts and the cultural association of the shell itself is uncertain. Therefore, the site is recommended not eligible for nomination to the NRHP. No further archaeological study or management is recommended.

Site 38BU2121 contains both prehistoric and historic components. The prehistoric component reflects Early and Middle Woodland occupations, but the remains of these site visits are of too low density to provide information about site activities. The historic component reflects a slave settlement dating to circa 1800. The site was used during the twentieth century for agricultural

and other purposes, and these later activities have disturbed the prehistoric and historic components. Because of this disturbance, 38BU2121 has a limited research potential and is recommended not eligible for nomination to the NRHP. Consequently, no further archaeological study or preservation is recommended for this site.

Site 38BU2123, a multiple component prehistoric site, contains well-preserved remains of a prehistoric shell midden as well as disturbed areas. By virtue of the shell midden, this site has a potential to provide information about regional prehistoric subsistence activities. However, conditions and integrity at the site vary and these conditions influence the degree of impact that the proposed development would have on this site. The shell midden lies in the woods along the Habersham property line, while areas within the proposed development area are in an old field that has been plowed. Archaeological deposits in the old field are mixed in plowzone soils and the site did not yield any evidence for buried prehistoric surfaces or stratified deposits. Therefore, while the site is recommended eligible for the NRHP on the basis of the shell midden, the parts of the site in the field do not contribute to this eligibility because they are disturbed. NSA understands that the wooded areas on the north side of this site will be retained as a buffer along the development's property line. Therefore, the proposed project will have no effect on 38BU2123 and no further preservation work is recommended. However, if these plans should change, and development or other disturbance will be made along the property line, then excavation and analysis of archaeological deposits here would be recommended.

Sites 38BU2119 and 38BU2122 appear to lack historic and archaeological significance. Site 38BU2119 is a historic artifact scatter, but the site area has been graded and disturbed and artifacts recovered from this site cannot be clearly distinguished from those in a spoil pile located adjacent to the site's boundaries. Site 38BU2122 consists of very low-density prehistoric artifact scatter in a natural catchment area between Sites 38BU2121 and 38BU2123. It is possible that these materials were displaced from one of these other sites. For these reasons, Sites 38BU2119 and 38BU2122 appear not eligible for the NRHP and no further investigations for them are recommended.

The Habersham cemetery, located at the northern edge of the main survey tract, contains grave markers dating between 1918 and 2001. Several unmarked graves are also present. The cemetery remains in use and is well marked by a fence and Still Shadow Road. The site does not appear to possess any unique or exemplary qualities that would make it eligible for listing on the NRHP. No further historic preservation work is recommended for the cemetery, although it is recommended that no construction take place within the graveyard. The cemetery should be avoided during construction to prevent disturbance, but no further historic preservation work is recommended for the site. The boundaries of the graveyard, and thus the area to avoid, will be delimited during a separate survey for the site. If any construction activities near the cemetery encounter unmarked graves or human remains, construction should stop and the Beaufort County Coroner's office should be contacted immediately for guidance as to the appropriate procedures for dealing with those remains.

Finally, inspection of areas adjacent to the survey area revealed no buildings or other structures that are 50 years old or older. Land use in the project area is predominantly residential and includes mobile homes and permanent dwellings that appear relatively recent. These structures do

not constitute significant cultural resources and the proposed development will have no effect on historic structures.

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APPENDIX A: ARTIFACT INVENTORY

Site 38BU2123

Historic and Indeterminate Artifacts

1

State Site #	Field Bag #	Unit	Transect	Shovel Test	radial coord	Level	Depth	Field Date	Recorder	Qty	Artifact Description	Notes
38BU2123	82		I	2	15mS/45mE	A		9/17/04	BYB	4	Bottle Glass, Clear	
38BU2123	82		I	2	15mS/45mE	A		9/17/04	BYB	1	brick-gen	
38BU2123	82		I	2	15mS/45mE	A		9/17/04	BYB	1	Flat Glass	
38BU2123	13		I	2		A		18-Aug	BYB	1	earthenware	
38BU2123	77		I	3	30m/30mE	A		9/15/04	BYB	1	brick-gen	Unidentified
38BU2123	77		I	3	30m/30mE	A		9/15/04	BYB	1	Bone	
38BU2123	55	1				1	26cmbd	9/14/04	KM JM	2	Metal, Miscellaneous Limestone, Unidentified	
38BU2123	55	1				1	26cmbd	9/14/04	KM JM	1 (0.6g)	Discarded	
38BU2123	51	2				1	32cmbd	9/15/04	MTM ILL	1	Glass, Lamp Body	
38BU2123	51	2				1	32cmbd	9/15/04	MTM ILL	1	Leather Object	
38BU2123	51	2				1	32cmbd	9/15/04	MTM ILL	1	Metal, Miscellaneous	
38BU2123	51	2				1	32cmbd	9/15/04	MTM ILL	1	Tobacco Pipe bowl	
38BU2123	51	2				1	32cmbd	9/15/04	MTM ILL	1	Daub	

APPENDIX B: ARCHAEOLOGICAL SITE FORMS

SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
SITE INVENTORY RECORD
(68-1 Rev. 85)

STATE: SC COUNTY: BEAUFORT SITE NUMBER: 38BU2119
Recorded By: Brad Botwick Affiliation: New South Associates, Inc. Date: 19 August 2004

A. GENERAL INFORMATION

1. Site name: Habersham 1 Project: Phase I Survey, Habersham Tract, Beaufort County, SC
2. USGS Quadrangle: Laurel Bay, SC Date: 1972 Scale: 7.5 or 15 minute (circle one)
3. UTM: Zone 17 Easting 522210 Northing 3587095
4. Other map reference: _____
5. Descriptive site type (see handbook):
Prehistoric _____ Historic historic scatter
6. Archaeological investigation (circle): Survey Testing _____ Excavation _____
7. Property owner: Habersham Land Company Phone number: 843-846-1000
8. Address: PO Box 365, Beaufort, SC 29901
9. Other site designations: _____
10. National Register of Historic Places status (circle one):
Potentially eligible _____ Probably not eligible Additional work _____
Office Use Only _____
Determined eligible _____ Determined not eligible _____
On NRHP _____ Date _____
11. Level of significance (circle): National _____ State _____ Local _____
12. Justification: The site is covered by a spoil pile that contains historic artifacts. Shovel tests yielded some artifacts, but these could not be clearly distinguished from graded and filled deposits.

B. ENVIRONMENT AND LOCATION

1. General physiographic province (circle):
Lower Coastal Plain Middle Coastal Plain Upper Coastal Plain
2. Landform location: River Terrace Piedmont Blue Ridge Mountains Site elevation (above MSL): 10-20 (in feet)
3. On site soil type: silty sand Soil classification: Wando fine sand (Wd)
4. Major river system (circle): Pee Dee Santee Ashley-Combahee-Edisto Savannah
5. Nearest river/stream: Habersham Creek
6. Current vegetation (circle): Pine/coniferous _____ Hardwood _____ Mixed pine/hardwood _____
Old field Grass/pasture _____ Agricultural/crops _____ Wetlands/freshwater _____
Wetlands/saltwater _____ Other _____ Comments: _____
7. Description of groundcover (circle): Absent _____ Light _____ Moderate Heavy _____

C. SITE CHARACTERISTICS

1. Estimated site dimensions: 107 meters by 60 meters
2. Site depth: 30 cm.
3. Cultural features (type and number): _____

4. Presence of (circle): midden _____ floral remains _____ faunal remains _____ shell _____ charcoal _____
5. Human skeletal remains (circle): _____ present _____ preservation (circle): _____ good _____

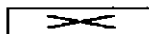
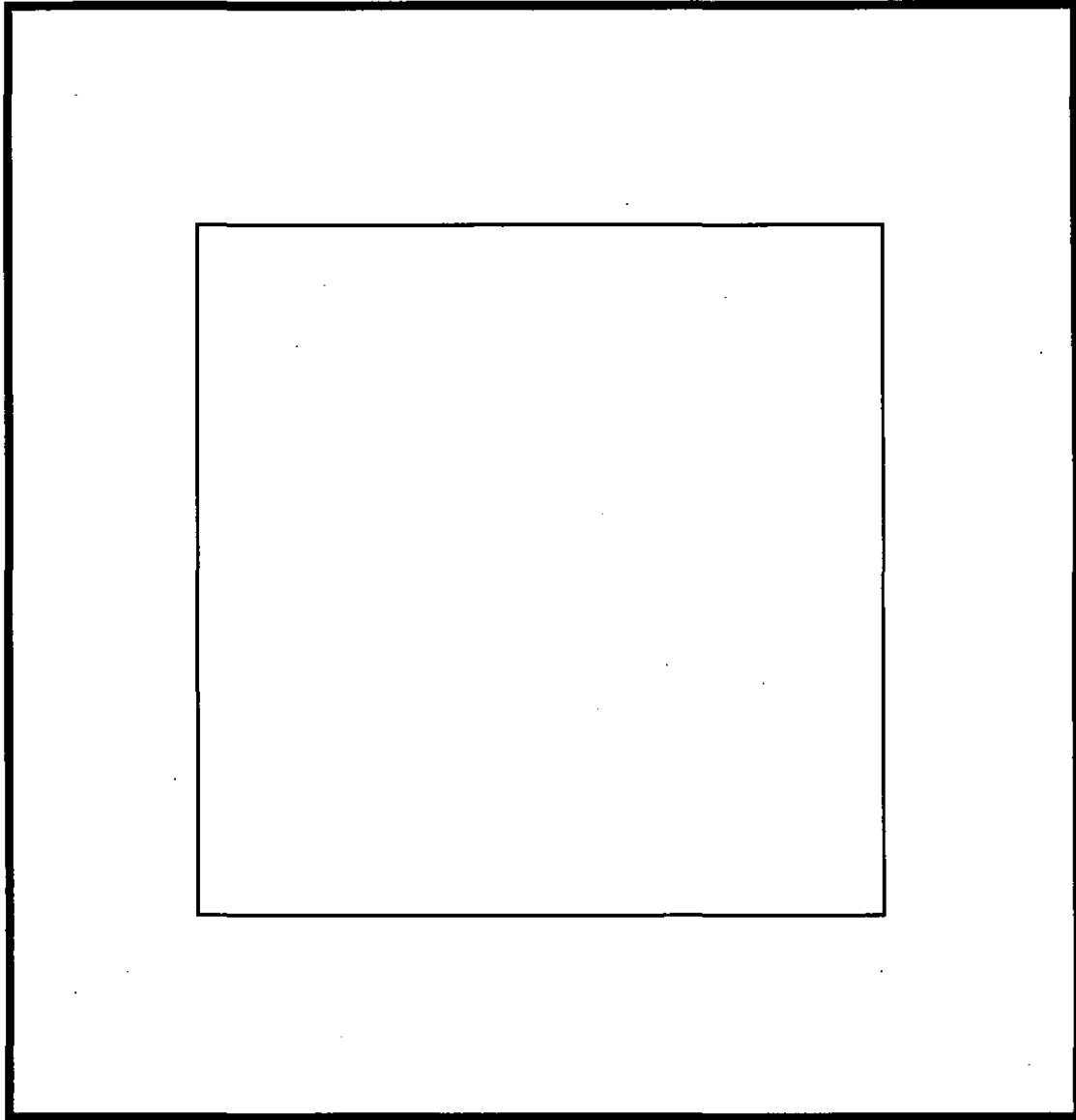
General site description: absent poor
This site consists of a historic artifact scatter on a bluff overlooking Habersham Creek. The site has been graded by heavy machinery and used to store excavation spoil from other locations and the spoil pile contains historic artifacts. The artifacts from shovel tests were in the uppermost soils and cannot be clearly separated from the spoil.

(Use in conjunction with handbook)

Site Number: 38BU2119

Page 2

Site Map



Scale

The following information should be provided on the site map: site boundaries, nearby topographic features, associated streams, modern cultural features, different land use types in site area, collection loci, test excavation loci, archaeological features and means of access (include north arrow and scale).

MAP KEY:

Verbal description of location: The site is located on the Habersham Property off of SC 40 in Beaufort County. It currently occupies part of an open field and forested area accessed by unimproved roads through the housing development.

D. ARCHAEOLOGICAL COMPONENTS

- ☐ Paleo Indian
- ☐ Early Archaic
- ☐ Middle Archaic
- ☐ Late Archaic
- ☐ Early Woodland

_____ Middle Woodland
 _____ Late Woodland
 _____ Mississippian
 _____ Unknown prehistoric
 _____ 16th Century

☐ 17th Century
☐ 18th Century
☒ 19th Century
☐ 20th Century
☐ Unknown historic

E. DATA RECOVERED

List materials recovered:

Total number of artifacts: 17

See attached inventory

(Attach additional artifact inventory sheets if needed)

F. DATA RECOVERY METHODS

1. Ground surface visibility (circle one):	0%	1-25%	26-50%	51-75%	76-100%
--	----	-------	--------	--------	---------

2. Number of person hours spent collecting (total hours X total people): _____

3. Description of surface collection methods (circle):

Type: ☒ grid collection
☐ grab collection
☐ controlled sampling
☐ other (specify): _____

Extent: complete
selective
no collection made

4. Description of testing methods (circle):

Systematic

Type shovel tests

Nonsystematic

Test units:

Number Size/max. depth
8 30cm/75 cm.
 _____ cm.
 _____ cm.

5. Description of excavation units:

Number

Size/max. depth

Comments:

cm.
cm.
cm.
cm.

G. MANAGEMENT INFORMATION

1. Present land use (circle):

Agricultural
Forest
Fallow
Residential, low density

Residential, high density
Commercial
Industrial
Other (specify) spoil/construction refuse
storage

MANAGEMENT INFORMATION (Cont.)

2. Present condition/integrity of site (circle):

Intact

Damaged

Extent

of

damage

light

moderate

heavy

Nature

of

damage

erosion

cultivation

logging

construction/development

vandalism

inundation

other (specify)

3. Potential impacts and threats to site (circle):

Potential threat:

none

low

moderate

high

Nature of threat:

erosion

cultivation

logging

construction/development

vandalism

inundation

other (specify)

direct impact zone

indirect impact zone

outside impact zoneindeterminate

4. Recommendations for further work (circle):

survey

testing

excavation

archival

none

other: _____

Comments: _____

5. References (circle): Historic/archival documentation

Yes

No

Not Known

Archaeological documentation

Yes

No

Not Known

Report: Phase I Archaeological Survey of Habersham Property, Beaufort County, South Carolina, by New South Associates, Inc., Stone Mountain, GA (in preparation)

6. Additional management information/comments:

7. Location of existing collections: temporarily with New South Associates

8. Location of photographs: _____

9. Location of special samples: _____

Type of special samples: _____

Signature of observer: _____ Date: _____

Subsequent visits:

Observer _____ Date: _____

Observer _____ Date: _____

Observer _____ Date: _____

SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
SITE INVENTORY RECORD
(68-1 Rev. 85)

STATE: SC COUNTY: BEAUFORT SITE NUMBER: 38BU2120
Recorded By: Brad Botwick Affiliation: New South Associates, Inc. Date: 19 August 2004

A. GENERAL INFORMATION

1. Site name: Habersham 2 Project: Phase I Survey, Habersham Tract, Beaufort County, SC
2. USGS Quadrangle: Laurel Bay, SC Date: 1972 Scale: 7.5 or 15 minute (circle one)
3. UTM: Zone 17 Easting 522116 Northing 3587090
4. Other map reference: _____
5. Descriptive site type (see handbook):
Prehistoric _____ Historic historic scatter
6. Archaeological investigation (circle): Survey Testing _____ Excavation _____
7. Property owner: Habersham Land Company Phone number: 843-846-1000
8. Address: PO Box 365, Beaufort, SC 29901
9. Other site designations: _____
10. National Register of Historic Places status (circle one):
Potentially eligible Probably not eligible Additional work _____
Office Use Only _____
Determined eligible Date _____ Determined not eligible Date _____
On NRHP

11. Level of significance (circle): National _____ State _____ Local _____
12. Justification: This site consists of a 19th-century moderately dense artifact scatter that includes colonoware, and relatively good preservation of organic remains. The site might represent a slave occupation associated with the Campbell Plantation on Habersham Creek and could provide information associated with slaves and slavery during the antebellum period.

B. ENVIRONMENT AND LOCATION

1. General physiographic province (circle):
Lower Coastal Plain Middle Coastal Plain Upper Coastal Plain
Piedmont Blue Ridge Mountains
2. Landform location: River Terrace Site elevation (above MSL): 20 (in feet)
3. On site soil type: silty sand Soil classification: Wando fine sand (Wd)
4. Major river system (circle): Pee Dee Santee Ashley-Combahee-Edisto Savannah
5. Nearest river/stream: Habersham Creek
6. Current vegetation (circle): Pine/coniferous Hardwood Mixed pine/hardwood
Old field Grass/pasture Agricultural/crops Wetlands/freshwater
Wetlands/saltwater Other Comments: _____
7. Description of groundcover (circle): Absent Light Moderate Heavy

C. SITE CHARACTERISTICS

1. Estimated site dimensions: 107 meters by 75 meters
2. Site depth: 50 cm.
3. Cultural features (type and number): _____

4. Presence of (circle): midden floral remains faunal remains shell charcoal
5. Human skeletal remains (circle): present preservation (circle): good

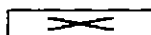
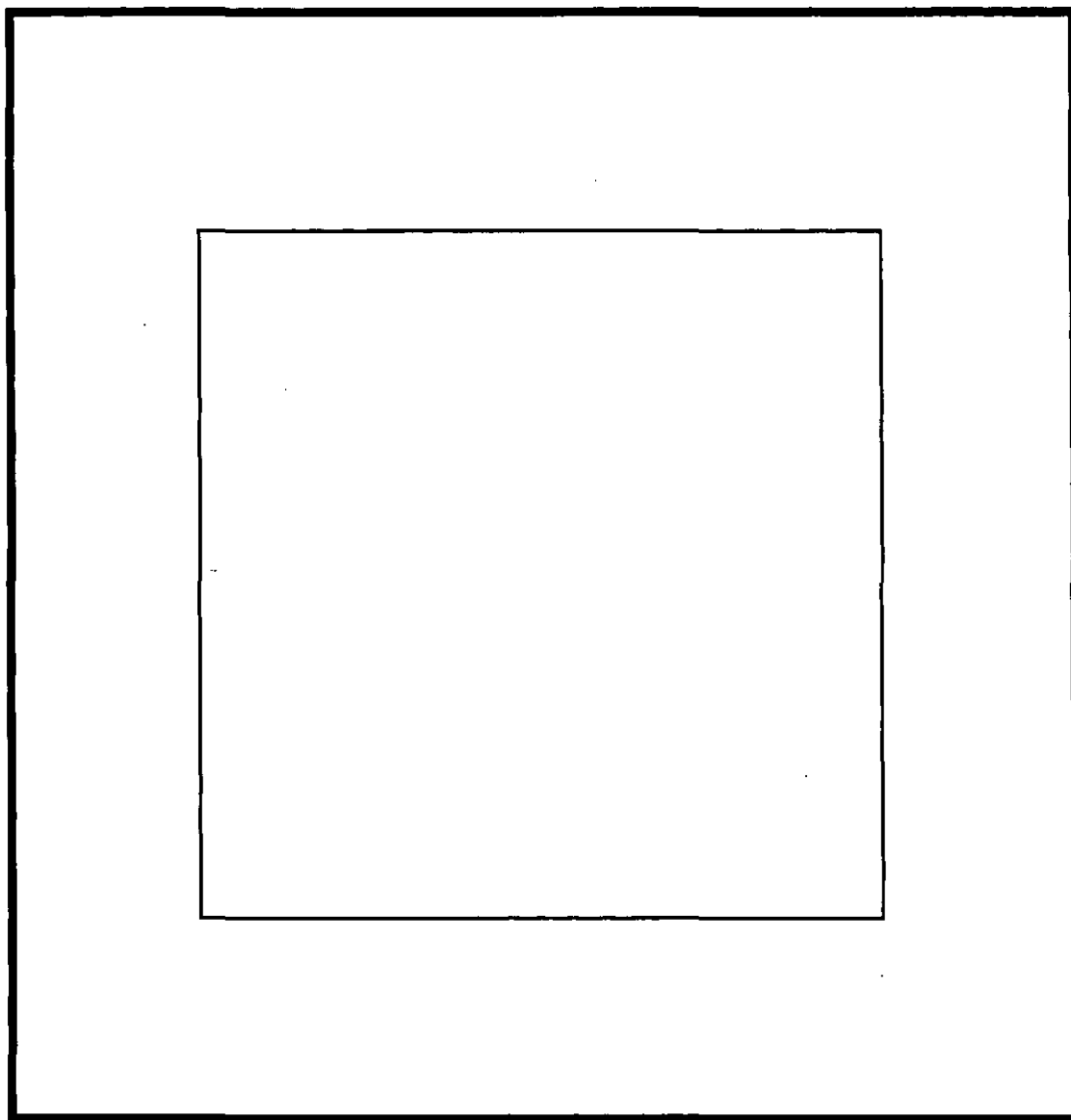
6. General site description: absent poor
This site consists of a historic artifact scatter on a bluff overlooking Habersham Creek. The site occupies a rise on the terrace. It has been plowed in the past, but not otherwise disturbed. All artifacts came from the plowzone, but suggest a relatively tight early to mid-19th century date range. They also include colonoware, which could indicate a slave occupation. A small number of prehistoric artifacts appear to represent isolated materials.

(Use in conjunction with handbook)

Site Number: 38BU2120

Page 2

Site Map



Scale

The following information should be provided on the site map: site boundaries, nearby topographic features, associated streams, modern cultural features, different land use types in site area, collection loci, test excavation loci, archaeological features and means of access (include north arrow and scale).

MAP KEY:

Verbal description of location: The site is located on the Habersham Property off of SC 40 in Beaufort County. It currently occupies part of an open field and forested area accessed by unimproved roads through the housing development.

D. ARCHAEOLOGICAL COMPONENTS

☐ Paleo Indian
☐ Early Archaic
☐ Middle Archaic
☐ Late Archaic
☐ Early Woodland

☐ Middle Woodland
☐ Late Woodland
☐ Mississippian
☒ Unknown prehistoric
☐ 16th Century

☐ 17th Century
☐ 18th Century
☒ 19th Century
☐ 20th Century
☐ Unknown historic

E. DATA RECOVERED

List materials recovered:

Total number of artifacts: 56See attached inventory

(Attach additional artifact inventory sheets if needed)

F. DATA RECOVERY METHODS

1. Ground surface visibility (circle one): 0% 1-25% 26-50% 51-75% 76-100%

2. Number of person hours spent collecting (total hours X total people): _____

3. Description of surface collection methods (circle):

Type: grid collection
grab collection
controlled sampling
other (specify): _____

Extent: complete
selective
no collection made

4. Description of testing methods (circle):

SystematicType shovel tests

Nonsystematic

Test units:

Number	Size/max. depth	
<u>33</u>	<u>30cm/90</u>	cm.
_____	_____	cm.
_____	_____	cm.

5. Description of excavation units:

Number

Size/max. depth

Comments:

_____	_____	cm.
_____	_____	cm.
_____	_____	cm.
_____	_____	cm.

G. MANAGEMENT INFORMATION

1. Present land use (circle):

Agricultural
Forest
Fallow

Residential, high density
Commercial
Industrial
Residential, low density
Other (specify) _____

MANAGEMENT INFORMATION (Cont.)

2. Present condition/integrity of site (circle):

Intact

DamagedExtent
of
damagelight

moderate

heavy

Nature
of
damageerosion
cultivation
logging

construction/development

vandalism
inundation
other (specify)

3. Potential impacts and threats to site (circle):

Potential threat:

none

low

moderate

high

Nature of threat:

erosion

cultivation

logging

construction/

development

vandalism

inundation

other (specify)

direct impact zone
indirect impact zone
outside impact zone
indeterminate

4. Recommendations for further work (circle):

survey

testing

excavation

archival

none

other: _____

Comments: _____

5. References (circle):

Historic/archival documentation

Yes

No

Not Known

Archaeological documentation

Yes

No

Not Known

Report: Phase I Archaeological Survey of Habersham Property, Beaufort County, South Carolina, by New South Associates, Inc., Stone Mountain, GA (in preparation)

6. Additional management information/comments:

7. Location of existing collections: temporarily with New South Associates

8. Location of photographs: _____

9. Location of special samples: _____

Type of special samples: _____

Signature of observer: _____ Date: _____

Subsequent visits:

Observer _____ Date: _____

Observer _____ Date: _____

Observer _____ Date: _____

SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
SITE INVENTORY RECORD
(68-1 Rev. 85)

STATE: SC COUNTY: BEAUFORT SITE NUMBER: 38BU2121
Recorded By: Brad Botwick Affiliation: New South Associates, Inc. Date: 19 August 2004

A. GENERAL INFORMATION

1. Site name: Habersham 3 Project: Phase I Survey, Habersham Tract, Beaufort County, SC
2. USGS Quadrangle: Laurel Bay, SC Date: 1972 Scale: 7.5 or 15 minute (circle one)
3. UTM: Zone 17 Easting 522289 Northing 3587232
4. Other map reference: _____
5. Descriptive site type (see handbook):
Prehistoric pottery scatter Historic historic scatter
6. Archaeological investigation (circle): Survey Testing _____ Excavation _____
7. Property owner: Habersham Land Company Phone number: 843-846-1000
8. Address: PO Box 365, Beaufort, SC 29901
9. Other site designations: _____
10. National Register of Historic Places status (circle one):
Potentially eligible Probably not eligible Additional work _____
Office Use Only _____
Determined eligible Date _____ Determined not eligible Date _____
On NRHP

11. Level of significance (circle): National _____ State _____ Local _____
12. Justification: This site consists of an artifact scatter containing prehistoric pottery and 19th-century materials that include colonoware. The prehistoric component is small but might provide information about prehistoric use of secondary drainages in the region. The historic component might represent a slave occupation associated with the Campbell Plantation on Habersham Creek and could provide information associated with slaves and slavery during the antebellum period.

B. ENVIRONMENT AND LOCATION

1. General physiographic province (circle):
Lower Coastal Plain Middle Coastal Plain Upper Coastal Plain
Piedmont Blue Ridge Mountains
2. Landform location: River Terrace Site elevation (above MSL): 20-25 (in feet)
3. On site soil type: silty sand Soil classification: Wando fine sand (Wd)
4. Major river system (circle): Pee Dee Santee Ashley-Combahee-Edisto Savannah
5. Nearest river/stream: Habersham Creek
6. Current vegetation (circle): Pine/coniferous Hardwood Mixed pine/hardwood
Old field Grass/pasture Agricultural/crops Wetlands/freshwater
Wetlands/saltwater Other Comments: _____
7. Description of groundcover (circle): Absent Light Moderate Heavy

C. SITE CHARACTERISTICS

1. Estimated site dimensions: 120 meters by 45 meters
2. Site depth: 50 cm.
3. Cultural features (type and number): _____

4. Presence of (circle): midden floral remains faunal remains shell charcoal
5. Human skeletal remains (circle): present preservation (circle): good

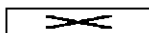
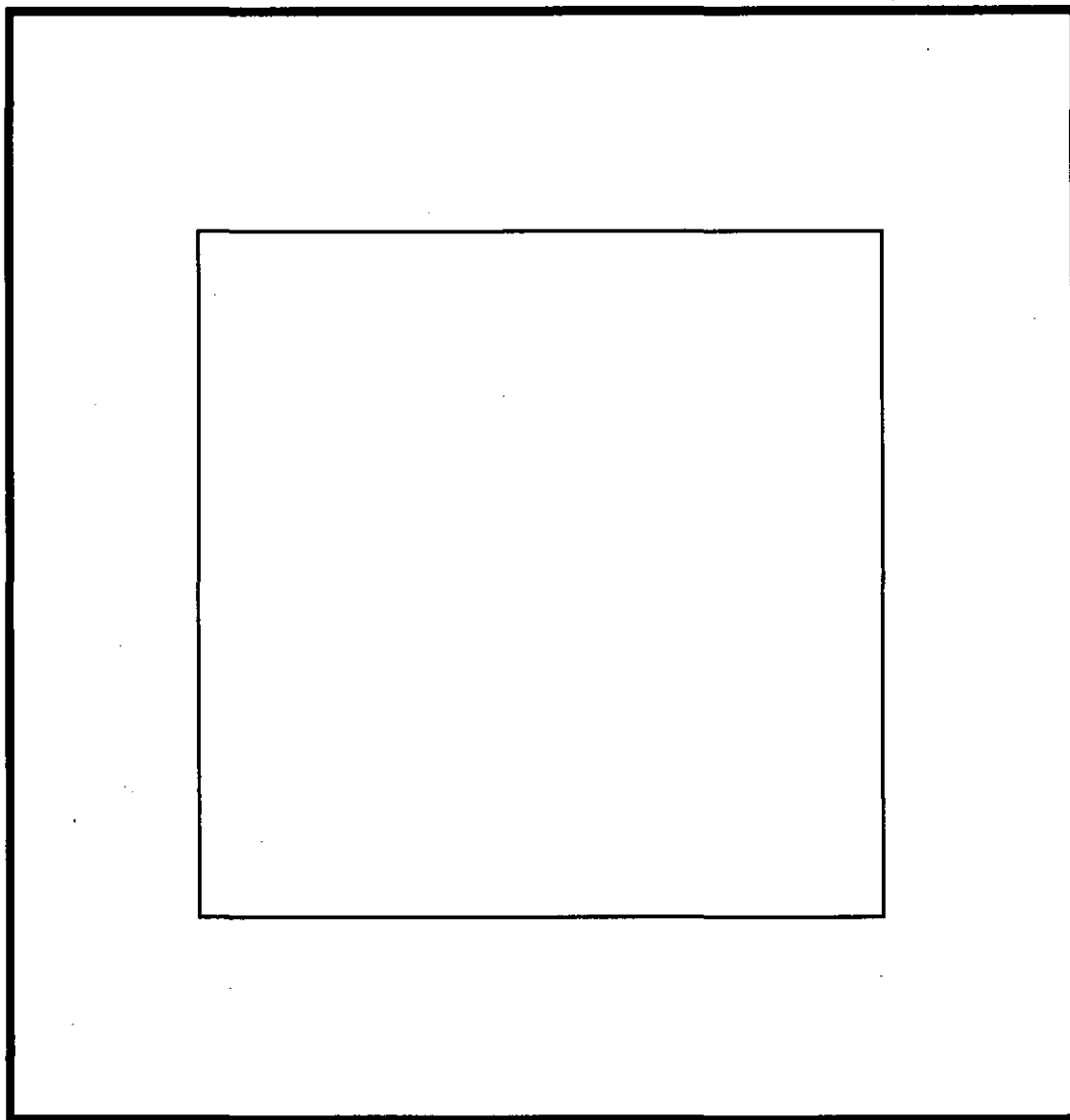
6. General site description: This site occupies a low rise on the bluff adjacent to Habersham Creek. It has been plowed in the past, but not otherwise disturbed. Artifacts are sparse and all artifacts came from the plowzone. Historic artifacts have a general nineteenth century date range but the presence of colonoware suggests a possible slave occupation. The prehistoric artifacts do not point to particular activities. The site also contains more recent (late 19th-20th century) refuse associated with use as a pasture and a pig corral.

(Use in conjunction with handbook)

Site Number: 38BU2121

Page 2

Site Map



Scale

The following information should be provided on the site map: site boundaries, nearby topographic features, associated streams, modern cultural features, different land use types in site area, collection loci, test excavation loci, archaeological features and means of access (include north arrow and scale).

MAP KEY:

Verbal description of location: The site is located on the Habersham Property off of SC 40 in Beaufort County. It currently occupies part of an open field and forested area accessed by unimproved roads through the housing development.

D. ARCHAEOLOGICAL COMPONENTS

☐ Paleo Indian
☐ Early Archaic
☐ Middle Archaic
☐ Late Archaic
☐ Early Woodland

☐ Middle Woodland
☐ Late Woodland
☐ Mississippian
☒ Unknown prehistoric
☐ 16th Century

☐ 17th Century
☐ 18th Century
☒ 19th Century
☐ 20th Century
☐ Unknown historic

E. DATA RECOVERED

List materials recovered:

Total number of artifacts: 18See attached inventory

(Attach additional artifact inventory sheets if needed)

F. DATA RECOVERY METHODS

1. Ground surface visibility (circle one): 0% 1-25% 26-50% 51-75% 76-100%

2. Number of person hours spent collecting (total hours X total people): _____

3. Description of surface collection methods (circle):

Type: grid collection
 grab collection
 controlled sampling
 other (specify): _____

Extent: complete
 selective
 no collection made

4. Description of testing methods (circle):

SystematicType shovel tests

Test units:

Number Size/max. depth
16 30cm/75 cm.
 _____ cm.
 _____ cm.

5. Description of excavation units:

Number Size/max. depth

Comments:

_____ cm.
 _____ cm.
 _____ cm.
 _____ cm.

G. MANAGEMENT INFORMATION

1. Present land use (circle):

Agricultural
Forest
 Fallow

Residential, high density
 Commercial
 Industrial
 Residential, low density
Other (specify) old field

MANAGEMENT INFORMATION (Cont.)

2. Present condition/integrity of site (circle):

Intact

Damaged

Extent
of
damage

light

moderate

heavy

Nature
of
damage

erosion

cultivation

logging

construction/development

vandalism

inundation

other (specify)

3. Potential impacts and threats to site (circle):

Potential threat:

none

low

moderate

high

Nature of threat:

erosion

cultivation

logging

construction/

development

vandalism

inundation

other (specify)

direct impact zone

indirect impact zone

outside impact zone

indeterminate

4. Recommendations for further work (circle):

survey

testing

excavation

archival

none

other:

Comments:

5. References (circle):

Historic/archival documentation

Yes

No

Not Known

Archaeological documentation

Yes

No

Not Known

Report: Phase I Archaeological Survey of Habersham Property, Beaufort County, South Carolina, by New South Associates, Inc., Stone Mountain, GA (in preparation)

6. Additional management information/comments:

7. Location of existing collections: temporarily with New South Associates

8. Location of photographs:

9. Location of special samples:

Type of special samples:

Signature of observer:

Date:

Subsequent visits:

Observer

Date:

Observer

Date:

Observer

Date:

SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
SITE INVENTORY RECORD
(68-1 Rev. 85)

STATE: SC COUNTY: BEAUFORT SITE NUMBER: 38BU2122
Recorded By: Brad Botwick Affiliation: New South Associates, Inc. Date: 19 August 2004

A. GENERAL INFORMATION

1. Site name: Habersham 4 Project: Phase I Survey, Habersham Tract, Beaufort County, SC
2. USGS Quadrangle: Laurel Bay, SC Date: 1972 Scale: 7.5 or 15 minute (circle one)
3. UTM: Zone 17 Easting 522361 Northing 3587540
4. Other map reference: _____
5. Descriptive site type (see handbook):
Prehistoric pottery scatter Historic _____
6. Archaeological investigation (circle): Survey Testing _____ Excavation _____
7. Property owner: Habersham Land Company Phone number: 843-846-1000
8. Address: PO Box 365, Beaufort, SC 29901
9. Other site designations: _____
10. National Register of Historic Places status (circle one):
Potentially eligible Probably not eligible Additional work _____

----- Office Use Only -----
Determined eligible On NRHP Date _____ Determined not eligible Date _____

11. Level of significance (circle): National _____ State _____ Local _____
12. Justification: This site consists of a sparse scatter of prehistoric artifacts noted in a plowed field. Because of its small size and sparse density, the site seems to have a limited potential to provide data for the study of prehistoric use of secondary drainages in the region.

B. ENVIRONMENT AND LOCATION

1. General physiographic province (circle):
Lower Coastal Plain Piedmont Middle Coastal Plain Blue Ridge Mountains Upper Coastal Plain
2. Landform location: River Terrace Site elevation (above MSL): 20 (in feet)
3. On site soil type: silty sand Soil classification: Wando fine sand (Wd)
4. Major river system (circle): Pee Dee Santee Ashley-Combahee-Edisto Savannah
5. Nearest river/stream: Habersham Creek
6. Current vegetation (circle): Pine/coniferous _____ Hardwood _____ Mixed pine/hardwood _____
Old field Grass/pasture Agricultural/cropland Wetlands/freshwater
Wetlands/saltwater Other _____
7. Description of groundcover (circle): Absent Light Moderate Heavy

C. SITE CHARACTERISTICS

1. Estimated site dimensions: 30 meters by 30 meters
2. Site depth: _____ cm.
3. Cultural features (type and number): _____

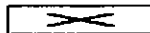
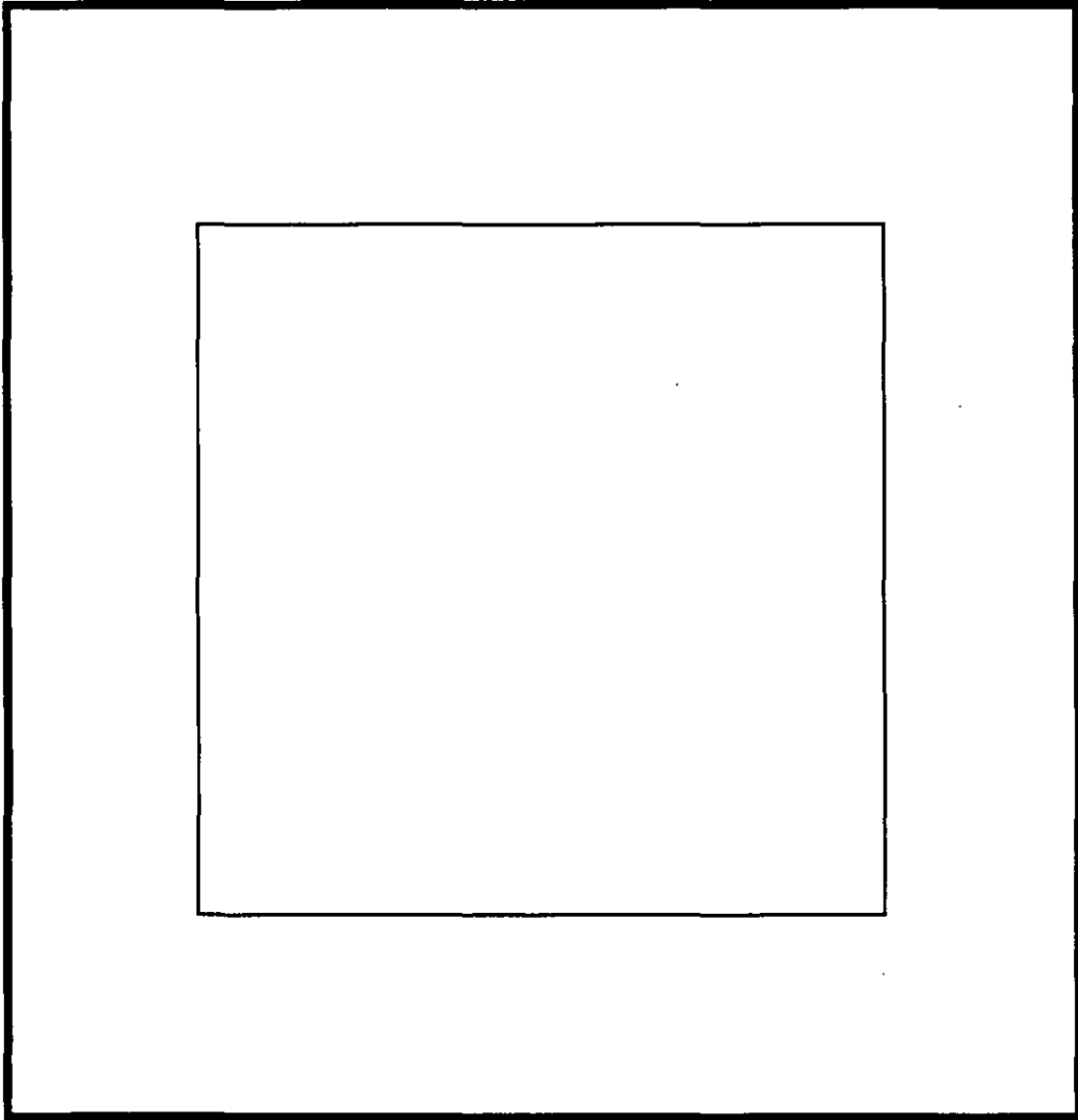
4. Presence of (circle): midden floral remains faunal remains shell charcoal
5. Human skeletal remains (circle): _____ present _____ preservation (circle): good

6. General site description: absent poor
This site occupies a bluff overlooking Habersham Creek. The site's position is in a shallow swale between two rises that contain sites and this site might represent materials derived from slopewash rather than a primary deposit.

Site Number: 38BU2122

Page 2

Site Map



Scale

The following information should be provided on the site map: site boundaries, nearby topographic features, associated streams, modern cultural features, different land use types in site area, collection loci, test excavation loci, archaeological features and means of access (include north arrow and scale).

MAP KEY:

Verbal description of location: The site is located on the Habersham Property off of SC 40 in Beaufort County. It currently occupies part of an open field and forested area accessed by unimproved roads through the housing development.

D. ARCHAEOLOGICAL COMPONENTS

☐ Paleo Indian	☐ Middle Woodland	☐ 17th Century
☐ Early Archaic	☐ Late Woodland	☐ 18th Century
☐ Middle Archaic	☐ Mississippian	☐ 19th Century
☐ Late Archaic	☒ Unknown prehistoric	☐ 20th Century
☐ Early Woodland	☐ 16th Century	☐ Unknown historic

E. DATA RECOVERED

List materials recovered:

Total number of artifacts: _____

No artifacts collected.

(Attach additional artifact inventory sheets if needed)

F. DATA RECOVERY METHODS

1. Ground surface visibility (circle one): 0% 1-25% 26-50% 51-75% 76-100%

2. Number of person hours spent collecting (total hours X total people): 3

3. Description of surface collection methods (circle):

Type: grid collection
grab collection
controlled sampling
other (specify): _____

Extent: complete
selective
no collection made

4. Description of testing methods (circle):

Systematic Type _____
Nonsystematic

Test units:
Number Size/max. depth

_____ cm.
_____ cm.
_____ cm.

5. Description of excavation units:

Number Size/max. depth

Comments:

_____ cm.
_____ cm.
_____ cm.
_____ cm.

G. MANAGEMENT INFORMATION

1. Present land use (circle):

Agricultural
Forest
Fallow

Residential, high density
Commercial
Industrial
Residential, low density
Other (specify) old field

MANAGEMENT INFORMATION (Cont.)

2. Present condition/integrity of site (circle):

Intact

Damaged

Extent
of
damage

light

moderate
heavy

Nature
of
damage

erosion

cultivation
logging

construction/development

vandalism
inundation
other (specify)

3. Potential impacts and threats to site (circle):

Potential threat:

none
low
moderate
high

Nature of threat:

erosion
cultivation
logging
construction/development
vandalism
inundation
other (specify)

direct impact zone
indirect impact zone
outside impact zone
indeterminate

4. Recommendations for further work (circle):

survey

testing

excavation

archival

none

other: _____

Comments: _____

5. References (circle):

Historic/archival documentation

Yes

No

Not Known

Archaeological documentation

Yes

No

Not Known

Report: Phase I Archaeological Survey of Habersham Property, Beaufort County, South Carolina, by New South Associates, Inc., Stone Mountain, GA (in preparation)

6. Additional management information/comments:

7. Location of existing collections: temporarily with New South Associates

8. Location of photographs: _____

9. Location of special samples: _____

Type of special samples: _____

Signature of observer: _____ Date: _____

Subsequent visits:

Observer _____ Date: _____

Observer _____ Date: _____

Observer _____ Date: _____

SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA
SITE INVENTORY RECORD
(68-1 Rev. 85)

STATE: SC COUNTY: BEAUFORT SITE NUMBER: 38BU2123
Recorded By: Brad Botwick Affiliation: New South Associates, Inc. Date: 19 August 2004

A. GENERAL INFORMATION

1. Site name: Habersham 5 Project: Phase I Survey, Habersham Tract, Beaufort County, SC
2. USGS Quadrangle: Laurel Bay, SC Date: 1972 Scale: 7.5 or 15 minute (circle one)
3. UTM: Zone 17 Easting 522475 Northing 3587639
4. Other map reference: _____
5. Descriptive site type (see handbook):
Prehistoric pottery scatter Historic _____
6. Archaeological investigation (circle): Survey Testing _____ Excavation _____
7. Property owner: Habersham Land Company Phone number: 843-846-1000
8. Address: PO Box 365, Beaufort, SC 29901
9. Other site designations: _____
10. National Register of Historic Places status (circle one):
Potentially eligible Probably not eligible Additional work

Determined eligible Office Use Only Determined not eligible Date _____
On NRHP Date _____

11. Level of significance (circle): National State Local
12. Justification: This site consists of an artifact scatter containing prehistoric pottery. The prehistoric component is small but might provide information about prehistoric use of secondary drainages in the region.

B. ENVIRONMENT AND LOCATION

1. General physiographic province (circle):
Lower Coastal Plain Piedmont Middle Coastal Plain Blue Ridge Mountains Upper Coastal Plain
2. Landform location: River Terrace Site elevation (above MSL): 20-22 (in feet)
3. On site soil type: silty sand Soil classification: Wando fine sand (Wd)
4. Major river system (circle): Pee Dee Santee Ashley-Combahee-Edisto Savannah
5. Nearest river/stream: Habersham Creek
6. Current vegetation (circle): Old field Pine/coniferous Hardwood Mixed pine/hardwood
Wetlands/saltwater Grass/pasture Agricultural/crops Wetlands/freshwater
Other Comments: _____
7. Description of groundcover (circle): Absent Light Moderate Heavy

C. SITE CHARACTERISTICS

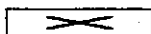
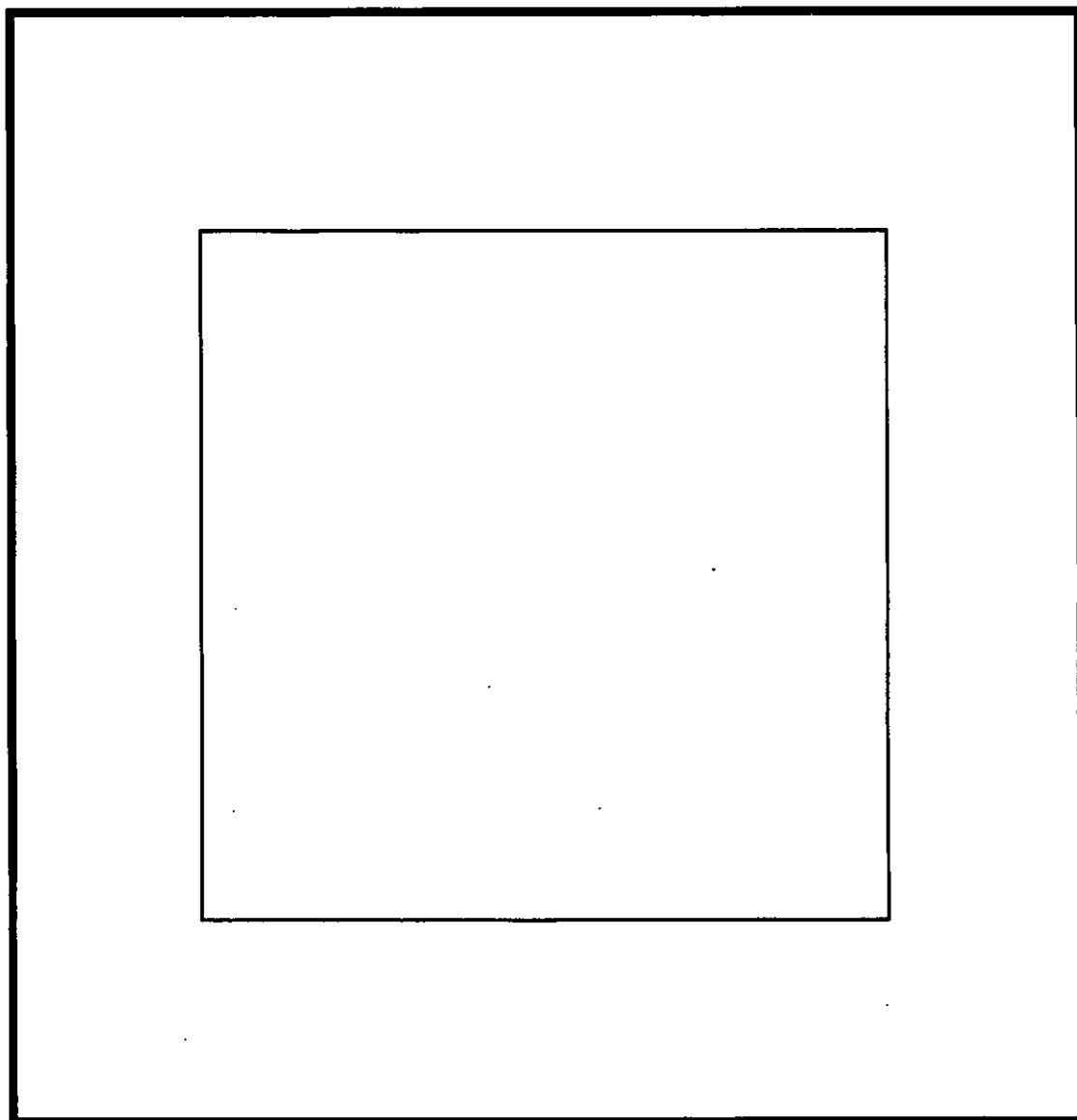
1. Estimated site dimensions: 120 meters by 45 meters
2. Site depth: 50 cm.
3. Cultural features (type and number):

4. Presence of (circle): midden floral remains faunal remains shell charcoal
5. Human skeletal remains (circle): absent present preservation (circle): good

6. General site description: This site occupies a low rise and terrace of Habersham Creek. It has been plowed in the past, but not otherwise disturbed. Artifacts are sparse and all artifacts came from the plowzone. The site appears to lie off the crest of the rise and mostly on a gentle slope facing the creek (to the east). The prehistoric artifacts do not point to particular activities.

(Use in conjunction with handbook)

Site Map



Scale

The following information should be provided on the site map: site boundaries, nearby topographic features, associated streams, modern cultural features, different land use types in site area, collection loci, test excavation loci, archaeological features and means of access (include north arrow and scale).

MAP KEY:

Verbal description of location: The site is located on the Habersham Property off of SC 40 in Beaufort County. It currently occupies part of an open field and forested area accessed by unimproved roads through the housing development.

☐ Paleo Indian	☐ Middle Woodland	☐ 17th Century
☐ Early Archaic	☐ Late Woodland	☐ 18th Century
☐ Middle Archaic	☐ Mississippian	☐ 19th Century
☐ Late Archaic	☒ Unknown prehistoric	☐ 20th Century
☐ Early Woodland	☐ 16th Century	☐ Unknown historic

List materials recovered: See attached inventory Total number of artifacts: 11

[illegible]

F. DATA RECOVERY METHODS

3. Description of surface collection methods (circle):

Extent: complete
selective
no collection made

- Systematic**

Type shovel tests

Test units:

Number Size/max. depth

16 30cm/65 cm.

cm.

- Number

Size/max. depth

Comments:

			cm.	
			cm.	
			cm.	
			cm.	

1. Present land use (circle):

- Residential, high density
Commercial
Industrial

Residential, low density
Other (specify) old field

MANAGEMENT INFORMATION (Cont.)

2. Present condition/integrity of site (circle):

Intact

DamagedExtent
of
damagelight

moderate

heavy

Nature
of
damage

erosion

cultivation

logging

construction/development

vandalism

inundation

other (specify)

3. Potential impacts and threats to site (circle):

Potential threat:

none

low

moderate

high

Nature of threat:

erosion

cultivation

logging

construction/

development

vandalism

inundation

other (specify)

direct impact zone

indirect impact zone

outside impact zone

indeterminate

4. Recommendations for further work (circle):

survey

testing

excavation

archival

none

other: _____

Comments: _____

5. References (circle):

Historic/archival documentation

Yes

No

Not Known

Archaeological documentation

Yes

No

Not Known

Report: Phase I Archaeological Survey of Habersham Property, Beaufort County, South Carolina, by New South Associates, Inc., Stone Mountain, GA (in preparation)

6. Additional management information/comments:

7. Location of existing collections: temporarily with New South Associates

8. Location of photographs: _____

9. Location of special samples: _____

Type of special samples: _____

Signature of observer: _____ Date: _____

Subsequent visits:

Observer _____ Date: _____

Observer _____ Date: _____

Observer _____ Date: _____



cultural resources survey



prehistoric & historic archaeology



historic research • preservation planning



architectural history • urban studies

NEW SOUTH ASSOCIATES

Archaeologists • Historians • Architectural Historians

November 23, 2004

George Johnson
Habersham
22 Market
Beaufort, S.C. 29906

Re: Archaeological Boundary Identification, Habersham Cemetery,
Beaufort County, South Carolina

Dear Mr. Johnson:

New South Associates, Inc. (NSA) has conducted archaeological fieldwork to identify the boundaries of the Habersham Cemetery in the northern part of the Sunrise Tract at Habersham. The cemetery contains marked graves dating between 1910 and 2001 as well as depressions in the ground surface that might represent unmarked burials. The purpose of this archaeological survey was to determine if additional unmarked burials lie in areas outside the area of the known burials. (Known burials included ones that were indicated with grave markers or identified through probing.) This letter report describes the work conducted for this survey and the results.

The method used for this survey involved systematic testing with a tube-type soil sampler. The sampler provides information on soil color and texture and should reveal the presence of disturbed soils in a backfilled grave as distinct from the predominantly light brown subsoil at the site. Areas to be surveyed included the areas south, east, and west of the known cemetery boundaries. The northern boundary was indicated by the presence of a flagged wetland. An initial walkover was made to identify and mark the outer-most visible graves. The margins of this area were then tested for additional graves by inserting the soil sampler every two feet along transects spaced two feet apart. Transects continued outward until a 50-foot grave-free area was established around the burial area. Samples encountering distinct dark or mottled soil were followed-up with additional probing to determine the approximate size and orientation of the subsurface feature.

Because we understand that Habersham will have the boundary and buffer zone mapped by professional surveyors, we did not prepare a map of the cemetery.

6150 East Ponce de Leon Avenue, Stone Mountain, Georgia 30083 • (770) 498-4155 Fax (770) 498-3809
1534 Leesburg Road, Columbia, South Carolina 29209 • (803) 647-5983 Fax (803) 647-5987
P.O. Box 481, Mebane, North Carolina 27302 • (919) 563-4708 Fax (919) 563-1829
4316 Northwest 58th Avenue, Gainesville, Florida 32653 • Voice/Fax (352) 371-9050
<http://www.newsouthassoc.com>

New South conducted the survey on November 19 and 22, 2004. The cemetery contains a concentration of marked graves in its northeastern portion. Occasional marked graves, consisting of isolated individual burials or small groups of burials, are to the west. The southern margins of the marked graveyard seemed to be indicated by discarded funerary debris (i.e., remnants of wreaths, flower arrangements, flowerpots, and stands). At the cemetery's western margin there were a dirt road, modern trash, and push piles. The northern boundary was indicated by a distinct slope to a wetland and push piles. Because of these conditions, no probing was conducted to the north.

Probing east, south, and west of the marked graves revealed grayish brown sand topsoil above pale brown sand subsoil. No anomalies were encountered that could be identified as unmarked graves. Several surface depressions were also probed specifically to determine if they comprised slumped burials, but these generally did not exhibit the disturbed soils that would be characteristic of a refilled grave. The surface depressions probably represent tree falls, while the soil anomalies identified by probing most likely also reflected natural disturbance.

The survey suggested that the existing fence on the east/northeast side of the site accurately reflects the cemetery boundary. The southern and western cemetery margins lie inside the woods.

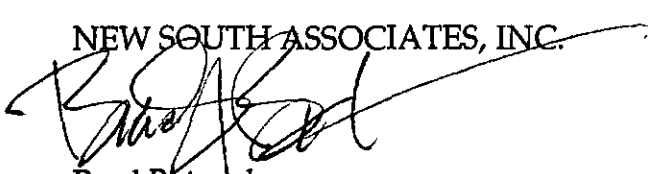
The edges of the cemetery, as suggested by the visual inspection and probing were marked with white/red-dot flagging tape. The limits of the survey area (50-feet from the outer-most visible burials) were marked using white/red-dot flagging tape in combination with blaze orange flagging tape.

This survey suggested that the marked burials accurately represent the maximum extent of the cemetery. Therefore, construction in areas adjacent to the delineated edge of the cemetery has a low potential to disturb unmarked graves. We recommend that if unmarked burials or human remains are exposed during construction, then all activity should be stopped and the gravesite protected from further disturbance. Because burials at this site are relatively recent, the Beaufort County Coroner's office (843-525-7656) should be contacted immediately for guidance as to the appropriate procedures for dealing with the remains.

If you have any questions concerning this survey or have additional questions, please do not hesitate to call me at 803-647-5983.

Sincerely,

NEW SOUTH ASSOCIATES, INC.



Brad Botwick
Archaeologist

K

ABOUT THIS DOCUMENT

The code is derived from the building traditions exemplified in the South Carolina neighborhoods of Beaufort, Georgetown, and Summerville. The provisions of this document create coherent neighborhoods, pedestrian friendly streets and public spaces; distinctive house types, allowing personalized private gardens and interior spaces, allowing flexibility to meet market conditions.

GENERAL INSTRUCTIONS

The provision of this regulating document shall govern as drafted.
This code consists of two documents:
The Regulating Plan, the Urban Regulations (this document).
•All building and landscape designs shall be submitted to the supervising architect for conformity to the code.
•Exceptions to these provisions may be granted on the basis of architectural merit, site conditions, or hardship, provided such exceptions are consistent with the intent of the code.
•Dimensions are rounded to the nearest foot.

DEFINITIONS

Corner side: the facade on a building, having frontage on two thoroughfares, that is not the main entrance to the building.
Frontage: those portions of a lot boundary line which coincide with the principal thoroughfare, R-O-W, or public space.
Facade: the perimeter of a building set parallel to a frontage line.
All yard: a building type which has open yard along the entire building perimeter.
Rear yard: a building type which has open yard to the rear only.
Build to Line: a line drawn on the regulating plan or stated as a distance from the frontage line along which a facade must be placed, a designated percentage of the lot width.
Side yard: a building type which has open yard to one side only.
Height: the measure from grade to the eave line of the building.
Double frontage: buildings showing a front facade and rear facade to a right-of-way.
Single Family Dwelling: A detached residential structure located on a lot of record.
Duplex: An attached single family structure containing 2 dwelling units located on a singly deeded lot.
Multi Family Dwelling: three or more attached single family structures located on a lot of record.
Mixed Use: a single structure containing commercial and residential uses.
Accessory Structure: a structure subordinate to

the principle structure in square footage on a lot of record. Accessory Structures to single family dwellings are permitted the following uses; parking, gazebo, poolhouse, equipment storage, artist studio, suana, workshop, rental cottage, conservatory.
Floor: habitable level within a structure.
Arccade: structural extension of upper floor over public right of way, creating a covered pedestrian sidewalk.
Home Occupational Use: any use conducted for gain entirely within, and clearly incidental to a primary residence. At no time shall such a use exceed 25% of the floor area of a primary residence.

ALLOWED USES

Neighborhood Center
All permitted uses and conditional uses as designated in sections 4.10.1 and 4.10.2 of the DSO dated July, 1996.
Neighborhood Center (Island Commercial)
Boat storage, B&B, rental cottages, restaurant/bar, club lodge, community building, pool, activity center, general store, real estate office, civic & institutional facilities & above ground fueling tank if permitted under state guide lines.
All Districts
Single family, duplexes, institutional, civic uses.

SIGNS

Signs shall be made of painted wood or enameled metal.
Signs shall be no bigger than 18" vertical nor exceed 12 sqft.
Signs shall be front lit. Temporary signs such as real estate sales signs shall be approved on a case by case basis by the developers.

URBAN PROVISIONS

Principal Building and Yard
•Sloops, balconies, porches, and bay windows may encroach within front and corner side setbacks.
•Double frontage buildings shall have the required front setback along both frontages unless otherwise designated on the Regulating Plan.
•Buildings shall show no more than 2, 4, or 6, projecting corners to frontage.
•Buildings at vista terminations as shown on the Regulating Map, shall align frontage facade elements with the axis.
•Front loaded garage doors shall be recessed from the primary building facade a minimum of 20'.
•Attached buildings on corner lots may move front setback forward or backward a maximum of 6'.

•Houses fronting primary Boulevards shall have 1800 S.F. min. heated living space and have a min. of 1-1/2 stories.
•Houses fronting or backing marshfront parks or edges shall have 2000 S.F. min. heated living space and have a min. of 1-1/2 stories.
•Fences, garden walls, and hedges may be built on property lines or as a continuation of building walls.
Principal Building Height
•Height shall be measured from grade elevation to eave line a maximum of 35'.
•Residential ground floors shall have a minimum height of 9'. Commercial ground floors shall have a minimum height of 12'.
•Structures such as, but not limited to, Observation Towers shall be allowed to reach an accessible height of 60 feet if all of the following conditions are met:
1. Structure is constructed on other than residential lot.
2. Structure with a footprint of 250 square feet or less.
3. Structure that is uninhabitable.
4. Structure meets conditions for construction stated by Beaufort County building codes and local fire officials.
Church steeples and other architectural features shall be allowed to reach a height of 100 feet from finished grade.
Accessory Structure
•Accessory Structure shall have a maximum of 625 habitable square feet.
•Maximum building height shall be 22', measured to eave.
•Lodging and home occupational uses are permitted within an accessory structure if the activity is that of the property owner and the property owner is in residence in the primary dwelling. Accessory units cannot be rented to businesses.
•Only one habitable accessory structure with a kitchen permitted per residential lot. The criteria are:
1. Each accessory structure shall count as 0.2 units per unit against the multi-family total.
2. Limit to 25% of the total single family density.
Parking
•Parking shall be 2 per principle dwelling unit; 1 per apartment unit; and 1 per every 400 square feet of commercial use.
•Required parking shall include on street parking along the frontage.
•Front loaded driveways are permitted on lots with widths of 50' or greater. Driveways shall be 10' in width and may include pervious medians.

MORE URBAN

NEIGHBORHOOD CENTER

This is a social, mixed use hub within walking distance of surrounding neighborhoods.
•Housing is in more dense rearyard and sideyard buildings, often combining upper floor residential with ground floor commercial.
•Commercial uses are in rearyard storefront buildings.
•Thoroughfares typically are streets and avenues with parallel parking on both sides. All buildings are served by alleys.
Open space is organized into parks and squares.

BUILDING TYPES

Commercial	Bungalow Ct.
Shophouse	Single House
Single Apartment	Apartment House
Double Decker	T-Double

SPECIFICATIONS

•The lot width shall be a minimum of 66'.
•The lot depth shall be a minimum of 48'.
•Buildings shall be placed on their lots with a front setback between 0 and 8', and no side setbacks. Rear setbacks shall be a minimum of 36'.
•Outbuilding rear setback shall be a minimum of 3'.
•The placement of the building facade at the front setback shall be mandatory.
•Building frontage along the right-of-way shall be a minimum of 80%. This includes walls and gates which shall be built along the frontage line.
•Porch and arcade depth shall be a minimum of 8'. Balconies shall be a minimum of 4' in depth.
•Arcades shall extend along 80% of a facade. Porches shall extend along a minimum of 20% of a facade.
•Maximum height shall be 3.5 floors.
•The first floor shall be elevated above the sidewalk a minimum of 18". However, commercial use floors shall be near sidewalk grade.
•Ground and second floor uses shall be commercial or residential.
•Third and fourth floor uses shall be residential. (Civic buildings shall be exempt)

MORE RURAL

NEIGHBORHOOD GENERAL

This is the most widespread urban fabric, with a mixture of housing type and limited non-residential uses.
•Housing is typically in rearyard, sideyard, and all yard buildings, with outbuildings at the rear.
•The thoroughfares are streets or roads with or without curb, and parallel parking.
•Open space is organized into parks and playgrounds.

BUILDING TYPES

Corner Porch	Porch House
Bungalow	Double Gallery
Cottage	Single House
Double L	T-House
Bungalow Court	

SPECIFICATIONS

•The lot width shall be a minimum 48'.
•The lot depth shall be a minimum of 100'.
•Buildings shall be placed on their lots with a front setback between 6' and 24', minimum side setbacks shall total 12', minimum rear setbacks of 24'.
•Outbuilding rear setback shall be a minimum of 3'.
•The placement of the building facade at the front setback shall be mandatory.
•Building frontage shall be between 50% and 80%. Garden walls, gates, and fences shall be built along the the perimeter of front and sideyard.
•Porch depth shall be a minimum of 8' in depth. Porches shall extend a minimum of 30% of facade.
•Maximum height shall be 2.5 floors.
•The first floor shall be raised a minimum of 29" above the sidewalk.
•Ground floor uses shall be residential or home occupational use.
•Upper floor uses shall be residential. (Civic building shall be exempt)

NEIGHBORHOOD EDGE

This is a rural residential fabric.
•Housing is exclusively in all yard or sideyard buildings.
•Non residential uses are limited to special recreational or civic uses, relating to adjacent forests or waterfront.
•The thoroughfares are roads with soft edges and no curbs. Periodic parking is accommodated on the roadside.
•The open space is organized into parkways.

BUILDING TYPES

Rural Rambler
Bungalow Ct
Marsh Mansion

SPECIFICATIONS

•The lot width shall be a minimum of 60'.
•The lot depth shall be a minimum of 100'.
•Buildings shall be placed on their lots with minimum front setbacks of 18', minimum side setbacks of 12' and minimum rear setback of 24'.
•Outbuilding rear setback shall be a minimum of 3'.
•The placement of the building facade at the front setback shall be mandatory.
•Building frontage shall extend along a minimum of 40% of a property.
•Garden walls, fences, and gates shall be built along the perimeter of front and sideyard.
•Porches shall be a minimum of 8 feet in depth, and shall extend along a minimum of 40% of a facade.
•Maximum height shall be 2.5 floors.
•The first floor shall be a minimum of 36" above grade.
•Ground floor uses shall be residential or home occupational.
•All other floors shall be residential. (Civic building shall be exempt).

~~Ordinance may be subject to relief as provided for by Section 2.3 of this Ordinance.~~

(A) Minimum lot size:

- (1) NPD-1: One acre (43,560 sq. ft.)
- (2) NPD-2: One-half acre (21,780 sq. ft.)
- (3) NPD-3: One-third acre (14,520 sq. ft.)
- (4) NPD-4: One-fourth acre (10,890 sq. ft.)

(B) Minimum front yard setback: Twenty-five (25') feet except where fronting on a major thoroughfare, then thirty-five (35') feet.

(C) Minimum side yard setback: Ten (10') feet.

(D) Minimum rear yard setback: Ten (10') feet.

(E) For perimeter setback and buffer standards related to subdivision development, see Section 5.2.9.

(F) Maximum building height: Thirty-five (35') feet above base flood elevation or finished grade, whichever is greater.

Section 4.10

NCD - Neighborhood Commercial District

Section 4.10.1

Permitted Uses

The following uses shall be permitted in the Neighborhood Commercial District:

(A) All uses permitted in the Neighborhood Preservation Districts. However, when such use is a residential use, the density of the Neighborhood Preservation District abutting or closest to the Neighborhood Commercial District shall be the standard. When two or more Neighborhood Preservation Districts are contiguous to the Neighborhood Preservation District, the Neighborhood Preservation District with the highest density shall prevail.

(B) Retail business involving the display and sale of merchandise inside stores only, provided, however, that agricultural products may be displayed and sold outside. Permitted retail businesses specifically include and may be similar to:

- (1) Antique store
- (2) Appliance, radio, television store
- (3) Art supply store
- (4) Book, magazine, newspaper shop
- (5) Candy store
- (6) Clothing store
- (7) Drug store or pharmacy

- (8) Florist shop
- (9) Fruit, nut and/or vegetable store
- (10) Gift or curio shop
- (11) Grocery store
- (12) Hardware store
- (13) Hobby and/or toy shop
- (14) Millinery or hat shop
- (15) Music store and/or record shop
- (16) Office supply and equipment store
- (17) Package liquor store
- (18) Photographic and camera supply and service store
- (19) Shoe store

(C) Business involving the rendering of a personal service or the repair and servicing of small equipment specifically including, but not limited to:

- (1) Appliance, radio, television repair shop
 - (2) Bank, savings and loan associations, personal loan agency and branches.
 - (3) Barber ship, beauty shop, or combination thereof.
 - (4) Bicycle repair and sales shop
 - (5) Dressmaker, seamstress, tailor
 - (6) Dry cleaning self-service and/or laundry self-service facility.
 - (7) Insurance agency
 - (8) Jewelry and watch repair shop
 - (9) Locksmith or gunsmith
 - (10) Medical, dental, or chiropractic office, clinic and/or laboratory.
 - (11) Office for government, business, professional, or general purposes.
 - (12) Photographic studio
 - (13) Real estate agency
 - (14) School offering instruction in art, music, dancing, drama, or similar cultural activity.
 - (15) Telegraph office
- (D) Radio and/or television station
- (E) Private or semiprivate club, lodge, union hall or social center.
- (F) Church
- (G) Off-street commercial parking lot
- (H) Publicly owned and operated building, facility or land. *Final House*

(I) A temporary office and/or storage building during a project involving construction but not to be used as a dwelling with the removal of same within 30 days upon project completion.

(J) Public utility facility including substation, switching station, telephone exchange, pump station, water tower or fire tower.

Section 4.10.2

Conditional Uses

The following uses shall be permitted on a conditional basis in any Neighborhood Commercial District:

(A) Auto accessory store provided there is no storage of wrecked automobiles or scrapped or salvaged auto parts on the premises.

(B) Automobile service station provided operations involving major repairs, body and fender work, and painting, are not conducted on the premises; provided all pumps are set back at least twenty-five (25') feet from the right-of-way line of all abutting streets; provided all pumps are set back at least fifty (50') feet from the right-of-way line along the major thoroughfares as identified in this Ordinance; and provided parking and/or services areas are separated from adjoining residential properties by a suitable planting screen, fence, or wall at least six (6') feet in height above finished grade.

(C) Bakery provided that goods baked on the premises are primarily sold at retail only.

(D) Contractor's office provided there is no storage of construction vehicles, equipment, or materials on the premises.

(E) Delicatessen, restaurant, soda fountain or other eating and/or drinking establishments provided no outside loud speaker systems are utilized; provided all lights or lighting arrangements used for purposes of advertising or night operations are directed away from adjoining or nearby residential properties and passing vehicular traffic by suitable planting screen, fence, or wall at least six (6') feet in height above finished grade.

(F) Dry cleaning or laundry pickup agency provided that any laundering, cleaning or pressing done on the premises involves only articles delivered to the premises by individual customers.

(G) Meat, fish, and/or poultry shop provided that no slaughtering be permitted.

(H) Pet shop, provided all animals are housed within the principal buildings so that no sound is perceptible beyond the premises.

(I) Building exceeding three thousand (3,000') square feet (pursuant to Section 4.10.3(C)) up to a maximum of twelve thousand (12,000') square feet provided it is used by agencies and organizations charged with the provision of essential public utilities or public safety services

specifically including telephone, electric, gas, water, sewer, police and fire protection, emergency preparedness and telecommunications, and emergency medical services; provided it is used solely for the actual provision of those services plus activities which directly support the on-site operation and which could be carried out elsewhere only with a significant loss of efficiency; and provided it is located on a parcel(s) at least ten (10) acres in size.

(J) Telecommunications Towers Conditional Use. Telecommunications (transmission and receiving) towers provided the site plan complies with the requirements of Section 5.2.9(F); provided towers under two hundred (200') feet are painted silver or gray or retain galvanized finish in order to camouflage against the sky (unless the Federal Aviation Administration imposes other requirements); and provided no strobe lights are used (unless required by the FAA).

~~Section 4.10.2 Other Requirements~~

Uses permitted in the Neighborhood Commercial District shall be required to conform to the following standards:

- (A) For front, side, and rear yard setback requirements, refer to Section 5.2.9.
- (B) Maximum building height: Thirty-five (35') feet above base flood elevation or finished grade, whichever is greater.
- (C) The maximum building size per parcel shall be three thousand (3,000') square feet for all uses with the exception of: residential dwelling units; churches and other places of worship; public and nonprofit schools and day care centers; clubs, lodges, union halls, social/community centers; public recreational facilities; conditional uses delineated in Section 4.10.2(I).
- (D) Additional requirements: Uses permitted in the Neighborhood Commercial Zoning District shall meet all standards set forth in Section 5.2.1(E) pertaining to off-street parking, loading, and other requirements.

~~Section 4.11 GCD - General Commercial District~~

~~Section 4.11.2 Permitted Uses~~

The following uses shall be permitted in any General Commercial District:

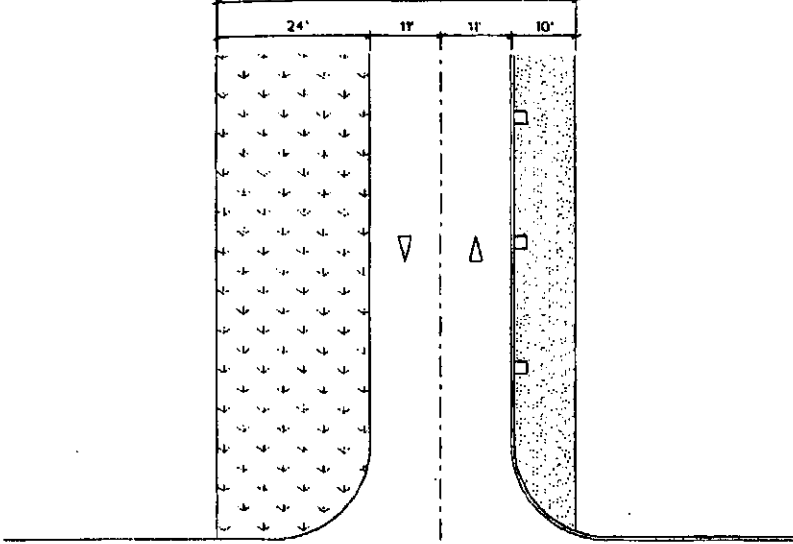
- (A) Any use permitted in any Development District, in compliance with the provisions of Section 5.2.9.
- (B) Retail, wholesale or storage business involving the sale of merchandise on the premises; except those uses which involve open yard storage.
- (C) Business involving the rendering of personal services other than an automobile laundry, or an automobile repair garage.

L

HABERSHAM AMENDED PUD
46.88 ACRE TRACT
BEAUFORT COUNTY, SOUTH CAROLINA
THOROUGHFARE STANDARDS

STREET
(S-6022)

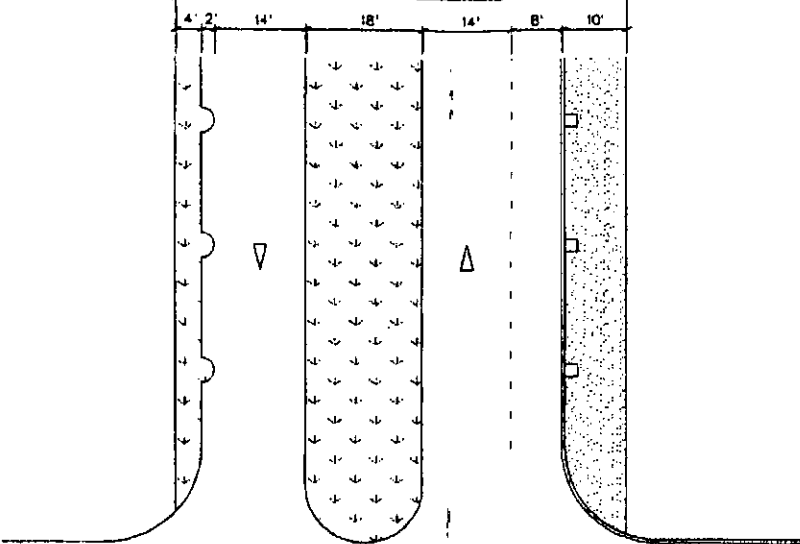
56' R.O.W



DESIGN SPEED 20 mph
MIN CENTERLINE RADIUS 89'
PAVEMENT WIDTH 22'
R.O.W. WIDTH 56'
CURB RADIUS RETURN 15'
PEDESTRIAN CROSSING TIME 5.8 sec
DRAINAGE Closed Section
AVERAGE DAILY TRAFFIC <1500
TREE PATTERN 30' o.c.

PARKWAY
(P-7028)

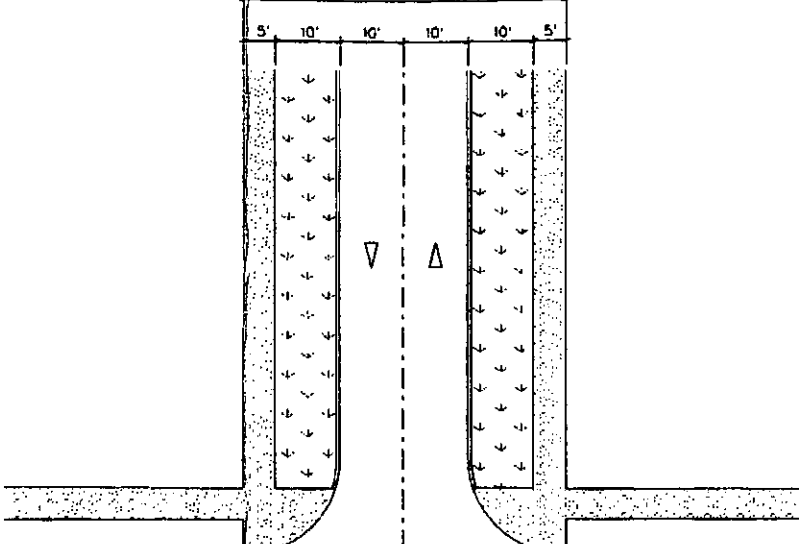
70' R.O.W



DESIGN SPEED 20 mph
MIN CENTERLINE RADIUS 89'
PAVEMENT WIDTH 38'
R.O.W. WIDTH 70'
CURB RADIUS RETURN 15'
PEDESTRIAN CROSSING TIME 11.6 sec
DRAINAGE Closed Section
AVERAGE DAILY TRAFFIC <2500
TREE PATTERN 30' o.c.

ROAD
(R-5020)

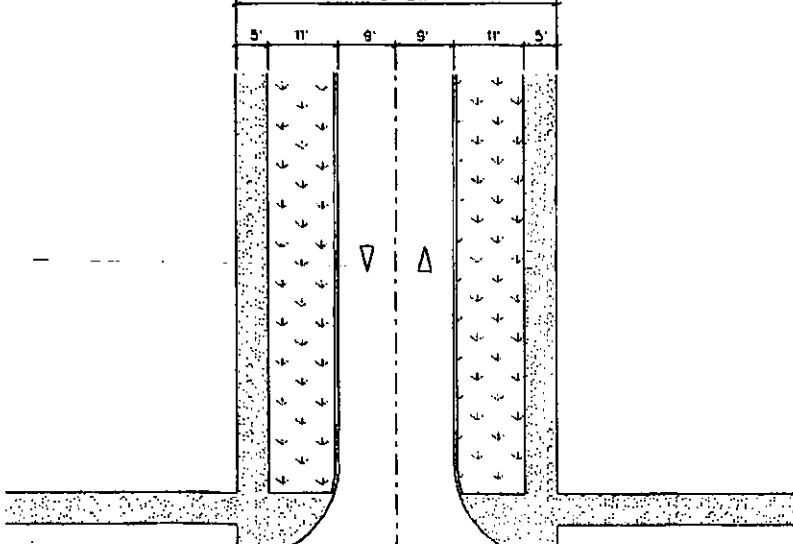
50' ROW



DESIGN SPEED 20 mph
MIN CENTERLINE RADIUS 89'
PAVEMENT WIDTH 20'
R.O.W. WIDTH 50'
CURB RADIUS RETURN 15'
PEDESTRIAN CROSSING TIME 5.9 sec
DRAINAGE Closed Section
AVERAGE DAILY TRAFFIC <1500
TREE PATTERN 30' o.c.

ROAD
(R-5018)

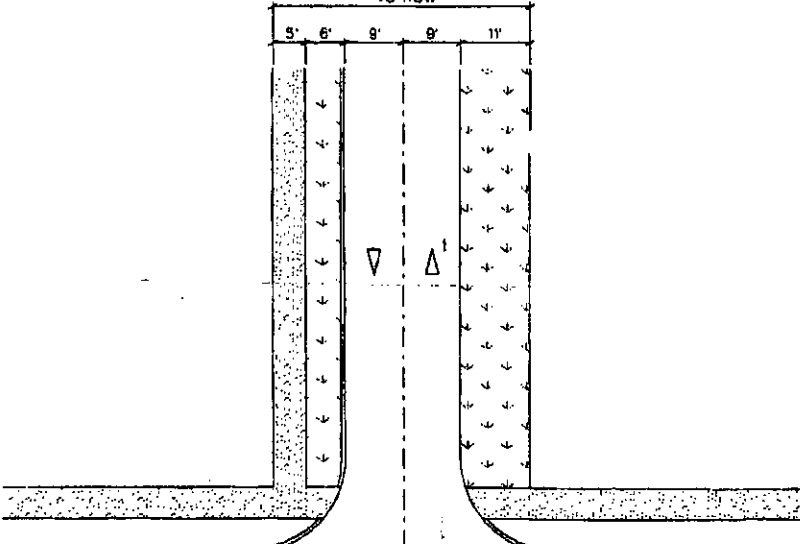
50' ROW



DESIGN SPEED 20 mph
MIN CENTERLINE RADIUS 89'
PAVEMENT WIDTH 20'
R.O.W. WIDTH 50'
CURB RADIUS RETURN 15'
PEDESTRIAN CROSSING TIME 5.3 sec
DRAINAGE Closed Section
AVERAGE DAILY TRAFFIC <1500
TREE PATTERN 30' o.c.

DRIVE
(D-4018)

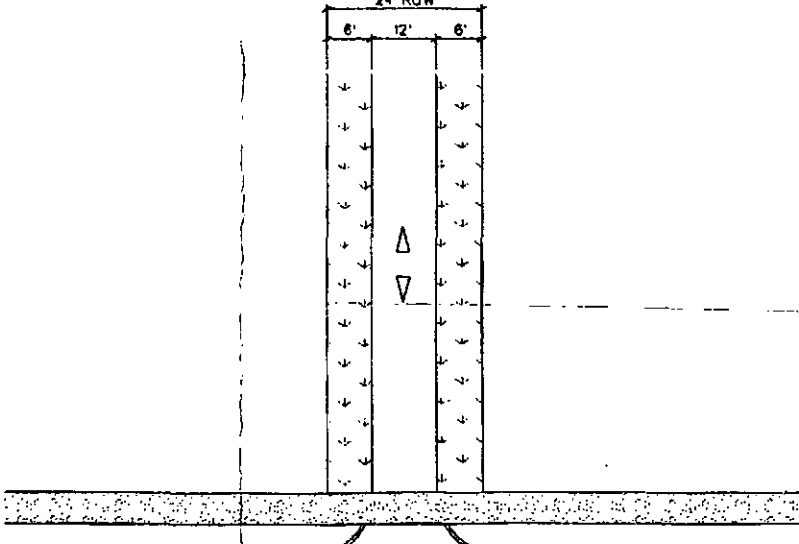
40' ROW



DESIGN SPEED 20 mph
MIN CENTERLINE RADIUS 89'
PAVEMENT WIDTH 18'
R.O.W. WIDTH 40'
CURB RADIUS RETURN 15'
PEDESTRIAN CROSSING TIME 5.3 sec
DRAINAGE Closed Section
AVERAGE DAILY TRAFFIC <1500
TREE PATTERN 30' o.c.

ALLEY
(A-2012)

24' ROW



DESIGN SPEED 10 mph
MIN CENTERLINE RADIUS 35'
PAVEMENT WIDTH 10'
R.O.W. WIDTH 24'
CURB RADIUS RETURN 12'
PEDESTRIAN CROSSING TIME N/A
DRAINAGE Open Section
AVERAGE DAILY TRAFFIC N/A
TREE PATTERN Irregular

M



November 3, 2004
Revised November 24, 2004

SRS Engineering, LLC
1226 Bull Street, Suite 301
Columbia, SC 29201
(803) 252-1599
(803) 252-1966 fax

Mr. William Winn
Director of Emergency Management
Beaufort County, South Carolina

**RE: Evacuation Impact Assessment
Habersham Expansion Project: Beaufort, SC**

Dear Mr. Winn:

SRS Engineering, LLC (SRS) has recently completed an assessment of the traffic impacts associated with the proposed Habersham Expansion Project in Beaufort County, South Carolina. Under the current development plan 170 residential units would be constructed on-site, consisting of 86 single-family homes and 84 condo/townhome units.

This development can be expected to generate a total of 1,690 two-way vehicular trips on a weekday daily basis, of which a total of 128 trips (32 entering, 96 exiting) can be expected during the AM peak-hour. During the PM peak-hour, 173 trips (109 entering, 64 exiting) can be expected.

It should be noted that this project will result in an additional access point for the existing Habersham PUD via a new connection to Joe Frazier Road at Still Shadow Drive. From an emergency management standpoint, the additional access would be a significant benefit to the area in the event of an evacuation.

The amount of traffic expected with this development is not expected to be a significant issue in the event of an evacuation. If you have any questions, please call me at 803-252-1799.

Regards,

SRS ENGINEERING, LLC


Mike Ridgeway, P.E.
Principal

November 22, 2004

Mr. George Johnson
Habersham Land Company
22 Market
Beaufort, SC 29906

SRS Engineering, LLC
1226 Bull Street, Suite 301
Columbia, SC 29201
(803) 252-1599
(803) 252-1966 fax

**RE: Traffic Impact and Access Study
Habersham Expansion Project: Beaufort, SC**

Dear Mr. Johnson:

As requested, SRS Engineering, LLC (SRS) has completed an assessment of the traffic impacts associated with the proposed Habersham Expansion Project in Beaufort, South Carolina. The following provides a summary of this study's findings:

PROJECT DESCRIPTION

The Habersham Expansion Project is a proposed expansion of the existing Habersham Planned-Unit-Development (PUD). Presently the site, which totals approximately 47 acres, is undeveloped. Under the current development plan 170 residential units would be constructed on-site, consisting of 86 single-family homes and 84 condo/townhome units. As scheduled, this project is planned to be constructed and fully operational/occupied by 2010.

As planned, primary direct access to/from the site will be provided by via the existing Habersham access drives to/from Cherokee Farms Road and a new Habersham access which would be provided to Still Shadow Drive. It should be noted that future plans are to re-align Cherokee Farms Road to intersect Joe Frazier Road further west, opposite the entrance to Burton Wells Park. The realignment of Cherokee Farms Road is critical to providing another outlet for Habersham, which is needed to reduce the impact on the Joe Frazier/Cherokee Farms intersection. This will allow for Still Shadow Drive to be improved and extended to intersect with Joe Frazier Road.

EXISTING CONDITIONS

Existing conditions for this report were taken from the traffic study prepared for the Cherokee Farms PUD prepared by Wilbur Smith Associates. The following five intersections serve as the project study area as directed by Beaufort County staff.

- Broad River Boulevard at Joe Frazier Road;
- Broad River Boulevard at Castle Rock Road;
- Joe Frazier Road at Cherokee Farms Road;
- Cherokee Farms Road at Habersham Entrance; and
- Joe Frazier Road at Still Shadow Drive.

Weekday morning (7:00-9:00 AM) and evening (4:00-6:00 PM) peak period turning movement specific manual counts were conducted at these locations for the Cherokee Farms report prepared by Wilbur Smith Associates. **Figures 1 and 2**, located in the appendix of this report, graphically depict the respective AM and PM peak-hour traffic volumes at the study area intersections. The summarized count sheets for each intersection are also included in the appendix.

FUTURE CONDITIONS

Traffic analyses for future conditions have been conducted for two separate scenarios: first, No-Build conditions, which include an annual normal growth in traffic, all pertinent background development traffic, and any pertinent planned roadway/intersection improvements; and secondly, Build conditions, which account for all No-Build conditions PLUS traffic generated by the proposed development.

No-Build Traffic Conditions

Annual Growth Rate

An annual growth rate of 3% per year was developed and approved by Beaufort County staff. This growth rate was based on growth documented at SCDOT count stations in the area. This annual growth rate, which would account for all unspecified traffic growth, was applied to the Existing peak-hour traffic volumes.

Background Development

In accordance with information provided by Beaufort County staff, two development projects exist which are currently approved and/or permitted and will cause an increase/change in traffic volume (in excess of normal traffic volume growth) within the study area. These projects are:

- Habersham PUD (not including Habersham Expansion Project); and
- Cherokee Farms PUD.

It should be noted that, based on discussions with County staff, the Burlington PUD has not been included as background traffic since a development plan has not been brought forward.

The anticipated 2010 No-Build AM and PM peak-hour traffic volumes, which reflect the annual growth rate, along with traffic related to the above-cited background development projects, are shown in **Figures 3 and 4**, which follow this report. It should be noted that the No-Build volumes for this report differ from the "Build" volumes for the Cherokee Farms study for the following reasons:

1. At the direction of County staff, the Covington Place PUD was not included as background for this report, but it was included in the Cherokee Farms report.
2. Background traffic for the Habersham PUD was distributed based on a slightly different arrival/departure pattern based on discussions with County staff.
3. Cherokee Farms PUD traffic was re-assigned based on the slightly different arrival/departure pattern utilized for Habersham PUD background traffic.

Planned Roadway Improvements

Discussions with County staff indicate that there are roadway/intersection improvement projects planned within the study area that will improve roadway/intersection capacity by the time the site is built out. These roadway/intersection improvement projects are as follows:

1. The intersection of Broad River Boulevard and Joe Frazier Road will be upgraded and signalized. Separate left-turn lanes will be constructed for the eastbound, westbound and southbound approaches. Protected/permissive phasing will be provided for the eastbound approach of Broad River Boulevard.
2. As part of the Cherokee Farms PUD project, Cherokee Farms Road will be re-aligned to intersect with Joe Frazier Road directly opposite the entrance to Burton Wells Park. Separate left-turn lanes are proposed for each approach. It is likely that this intersection will be placed under traffic signal control at some point in the future, but only when signal warrants are satisfied. As a result of the re-alignment of Cherokee Farms Road, Still Shadow Drive will be extended to intersect with Joe Frazier Road and Needles Road will be abandoned.

Each of the above-cited roadway/intersection improvements have been included in all future capacity analysis scenarios.

Site-Generated Traffic

Traffic volumes expected to be generated by the proposed Habersham Expansion Project residential development were forecasted using the Seventh Edition of the ITE *Trip Generation* manual, as published by the Institute of Transportation Engineers. Land-Use Code #210 (Single-family Residential) was used to estimate the specific site-generated traffic. Table 1 depicts the anticipated site-generated traffic.

Table 1
PROJECT TRIP-GENERATION SUMMARY¹
Habersham Expansion Project

Time Period	170 Residential Units
Weekday Daily	1,690
AM Peak-Hour	
Enter	32
Exit	96
Total	128
PM Peak-Hour	
Enter	109
Exit	64
Total	173

1. Source: ITE Trip Generation manual,
Seventh Edition; LUC 210

As shown, this development can be expected to generate a total of 1,690 two-way vehicular trips on a weekday daily basis, of which a total of 128 trips (32 entering, 96 exiting) can be expected during the AM peak-hour. During the PM peak-hour, 173 trips (109 entering, 64 exiting) can be expected.

It should be noted that the 170 residential units includes a mix of single-family residences and townhomes. At the direction of county staff, all units have been assumed to be single-family residences due to the size and expected trip generation characteristics of the proposed townhomes.

Distribution Pattern

The directional distribution of site-generated traffic shown in **Table 2** was based on discussions with County staff and an evaluation of existing and anticipated future travel patterns within the study area. This distribution pattern has been applied to the site-generated traffic volumes from Table 1 to develop the site-generated specific volumes for the study area intersections illustrated in **Figures 5 and 6**, which follow this report.

Table 2
TRIP DISTRIBUTION PATTERN
Habersham Expansion Project

Roadways	Direction To/From	Percent of Trips Enter/Exit
Broad River Blvd.	East	35
	West	35
Joe Frazier Road	North	10
Colonial Drive	South	10
Castle Rock Road	South	10
	Total	100

Build Traffic Conditions

The site-generated traffic volumes, as depicted in Figures 5 and 6, have been added to the respective 2010 No-Build traffic volumes (Figures 3 and 4). This results in the peak-hour Build traffic volumes, which are graphically depicted in **Figures 7 and 8**. These volumes were used as the basis to determine potential improvement measures necessary to mitigate traffic impacts caused by the project.

Table 3 has been developed to present a summary of existing and future traffic volumes for Joe Frazier Road south of Cherokee Farms Road.

Six Levels-of-Service are defined for each type of facility (signalized and unsignalized intersections). They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst.

Since the Level-of-Service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of Levels-of-Service depending on the time of day, day of week, or period of a year.

Analysis Results

As part of this traffic study, capacity analyses have been performed at each study area intersections under both Existing and Future (No-Build & Build) conditions. The results of these analyses are summarized in Table 3. Existing calculations were taken directly from the Cherokee Farms report.

Table 3
LEVEL-OF-SERVICE SUMMARY
Habersham Expansion Project

Study Area Intersections	Time Period	EXISTING			2010 NO-BUILD			2010 BUILD		
		V/C ^a	Delay ^b	LOS ^c	V/C	Delay	LOS	V/C	Delay	LOS
Broad River Boulevard at Joe Frazier Road ^d	AM		162.5	F	1.01	18.5	B	1.06	19.3	B
	PM		192.4	F	1.14	40.8	D	1.23	56.2	E
Broad River Boulevard at Castle Rock Road	AM		17.9	C		48.2	E		59.9	F
	PM		13.6	B		25.9	D		31.7	D
Joe Frazier Road at Cherokee Farms Road	AM		11.9	B		25.3	D		25.6	D
	PM		11.2	B		19.3	C		19.6	C
Joe Frazier Road at Still Shadow Drive	AM					24.1	C		39.3	E
	PM					15.2	C		17.9	C
Cherokee Farms Road at Habersham Entrance	AM		8.5	A		13.8	B		13.8	B
	PM		8.6	A		17.1	C		17.1	C

- a. Volume-to-Capacity ratio.
b. Delay in seconds-per-vehicle.
c. LOS = Level-of-Service.
d. Reflects signal control for control under 2010 No-Build and Build scenarios.

GENERAL NOTES:

1. For signalized intersections, Delay is representative of overall intersection.
2. For unsignalized intersections, Delay is representative of critical movement/approach.
3. Analysis of Existing Conditions was taken directly from Cherokee Farms Report prepared by Wilbur Smith Associates.

As shown in Table 3, each of the study area intersections operates acceptably under the Existing traffic volume conditions with the exception of the Broad River Boulevard at Joe Frazier Road intersection which operates unacceptably during both peak hours. This poor operation is caused by excessive side-street delays and the lack of a needed traffic signal which is currently being planned.

Under 2010 No-Build conditions, which include 1.) the addition of normal annual growth, 2.) traffic associated with the previously cited background development projects, and 3.) all cited roadway/intersection improvements, all study area intersections will operate acceptably with the exception of the Broad River Boulevard at Castle Rock Road intersection, which operates poorly during the AM peak hour. Traffic signalization at the Broad River Boulevard/Joe Frazier Road intersection improves operations overall however additional improvements are needed to ensure good operations for all movements.

Under 2010 Build conditions, which account for the inclusion of the projected site traffic, operations are similar to that of No-Build with the exception two intersections. The Broad River Boulevard at Joe Frazier Road intersection deteriorates from LOS D to LOS E during the PM peak hour. The Joe Frazier Road at Still Shadow Drive intersection deteriorates from LOS C to LOS E during the AM peak hour.

MITIGATION

The final phase of the analysis process is to identify mitigating measures which may either minimize the impact of the project on the transportation system or tend to alleviate poor service levels not caused by the project. Measures considered necessary to mitigate roadway system deficiencies are discussed below as they relate to the impacts of the proposed project.

Proposed Site Access

While an additional connection to the Habersham PUD has long been discussed, Habersham Expansion Project is the component that will make this additional access possible. Cherokee Farms Road will be realigned to intersect Joe Frazier Road further north directly opposite Burton Wells Park. This will allow for the existing and improved Still Shadow Drive to be extended to Joe Frazier Road. This will provide significant relief for the area by allowing a significant amount of existing and future Habersham traffic to access Joe Frazier Road without utilizing Cherokee Farms Road.

There is the potential for an Elementary School to be constructed along Still Shadow Drive, however plans are still preliminary. The tentative plan is for a four-lane divided boulevard cross-section for Still Shadow Drive. The developers of Habersham Expansion Project are planning to construct half (two lanes) of this boulevard as part of this project. The boulevard would be completed when/if the school is completed. It should be noted that the school has not been analyzed in this report since it has not been approved, however the school is thought to have positive impact on the area transportation network since much traffic will be kept internal without utilizing the more congested routes of Joe Frazier Road, Broad River Boulevard etc.

When the intersection of Joe Frazier Road at Still Shadow Drive is improved, a separate northbound left-turn lane should be constructed for Joe Frazier Road. Separate left and right-turn lanes are recommended for Still Shadow Drive.

Off-Site

Review of the intersection analyses indicates that the proposed project has a measurable impact on two of the study area intersections. The following paragraphs detail the impacts and discuss potential improvement measures.

Broad River Boulevard at Joe Frazier Road

While the level-of-service for this intersection is acceptable under No-Build conditions, the Volume-to-Capacity (V/C) ratio is greater than 1.0, indicating the intersection is exceeding capacity. The addition of site-specific traffic pushes the LOS to an unacceptable level during the PM peak hour.

It should be noted that when the report for Cherokee Farms was prepared, future geometry at the intersection was assumed based on what would be needed. This included separate right-turn lanes for the southbound and westbound approaches. In the meantime the intersection improvements were designed

without these right-turn lanes, mainly due to lack of right-of-way. Since the future analyses conducted for the Cherokee Farms report included this additional geometry, acceptable service levels were achieved.

With or without Habersham Expansion Project, separate southbound and westbound right-turn lanes should be considered for the intersection. The most critical is the southbound right-turn lane as this would allow for a right-turn signal overlap to function with the eastbound left-turn phase.

Joe Frazier Road at Still Shadow Drive

This intersection deteriorates to a marginally poor service level during the AM peak hour. This delay is not extremely high and is not thought to be a significant problem. The poor service level is dictated by the STOP controlled approach (Still Shadow Drive), and traffic signalization will likely not be warranted. No mitigation is recommended for this intersection.

Broad River Boulevard at Castle Rock Road

This intersection operates at a poor service level during the AM peak hour under No-Build and Build conditions. This delay is not extremely high and is not thought to be a significant problem. The project does not add traffic to the critical movement for the intersection, which is left-turns out of Castle Rock Road. One measure that would improve the service level with or without this project is the construction of a separate right-turn lane for the Castle Rock approach. This would allow for right-turns to proceed around a queued left-turning vehicle.

Joe Frazier Road

As mentioned in the Cherokee Farms report, traffic volumes for Joe Frazier Road should be monitored in the future for the consideration of improvement to a four-lane cross-section. The analyses conducted for this report indicate that nodes (intersections) will operate acceptably along the route with turn-lane improvements, however additional development in the area may trigger the need for a four lane section.

Capacity analyses have been conducted for the intersection of Broad River Boulevard at Joe Frazier Road with the addition of right-turn lanes for the southbound and westbound approaches. Analyses have also been conducted for the intersection of Broad River Boulevard at Castle Rock Road with the Castle Rock approach improved to two lanes. The results of these analyses are detailed in Table 4.

Table 4
MITIGATED LEVEL-OF-SERVICE SUMMARY
Habersham Expansion Project

Study Area Intersections	Time Period	2010 NO-BUILD			2010 BUILD			2010 BUILD MITIGATED		
		V/C ^a	Delay ^b	LOS ^c	V/C	Delay	LOS	V/C	Delay	LOS
Broad River Boulevard at Joe Frazier Road	AM	1.01	18.5	B	1.06	19.3	B	0.71	13.8	B
	PM	1.14	40.8	D	1.23	56.2	E	1.04	18.9	B
Broad River Boulevard at Castle Rock Road	AM		48.2	E		59.9	F		33.8	D
	PM		25.9	D		31.7	D		22.0	C

- a. Volume-to-Capacity ratio.
b. Delay in seconds-per-vehicle.
c. LOS = Level-of-Service.

GENERAL NOTES:

1. For signalized intersections, Delay is representative of overall intersection.
2. For unsignalized intersections, Delay is representative of critical approach.

As shown, the addition of right-turn lanes for the southbound and westbound approaches at Broad River Boulevard/Joe Frazier Road. has a positive impact on the intersection and good operations (LOS B) are expected during both peak-hour time periods.

Operations at Broad River Boulevard/Castle Rock Road would also be improved with an additional lane for the northbound Castle Rock Road approach.

CONCLUSIONS

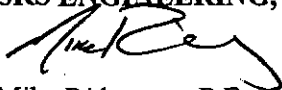
This study has been conducted to analyze the impacts of Habersham Expansion Project, which is proposed as an expansion to the existing Habersham PUD. The major benefit of this project is that an additional access point for Habersham will be provided, thus providing relief for the intersection of Joe Frazier Road at Cherokee Farms Road. The additional access will be provided via an improved Still Shadow Drive. The intersection of Still Shadow Drive at Joe Frazier Road should be improved to include a northbound left-turn lane for Joe Frazier Road and separate left and right-turn lanes for Still Shadow Drive.

The intersection of Broad River Boulevard at Joe Frazier Road is shown to operate poorly under Build conditions during the PM peak hour. It should be noted that this project is not the primary cause of this poor operation. The traffic study prepared for the Cherokee Farms PUD by Wilbur Smith Associates assumed right-turn lane improvements that would improve operations that are not currently proposed. An additional lane for the Castle Rock Road approach to Broad River Boulevard would improve the poor service level during the AM peak hour expected under No-Build and Build conditions. These turn-lane improvements are recommended with or without the development of Habersham Expansion Project.

If you have any questions or comments regarding any information contained within this report, please contact me at (803) 252-1799.

Regards,

SRS ENGINEERING, LLC


Mike Ridgeway, P.E.
Principal

Attachments

APPENDIX

- Figures
- Capacity Analyses

FIGURES

NOTE: VOLUMES TAKEN FROM CHEROKEE FARMS TRAFFIC STUDY PREPARED BY WILBUR SMITH ASSOCIATES.

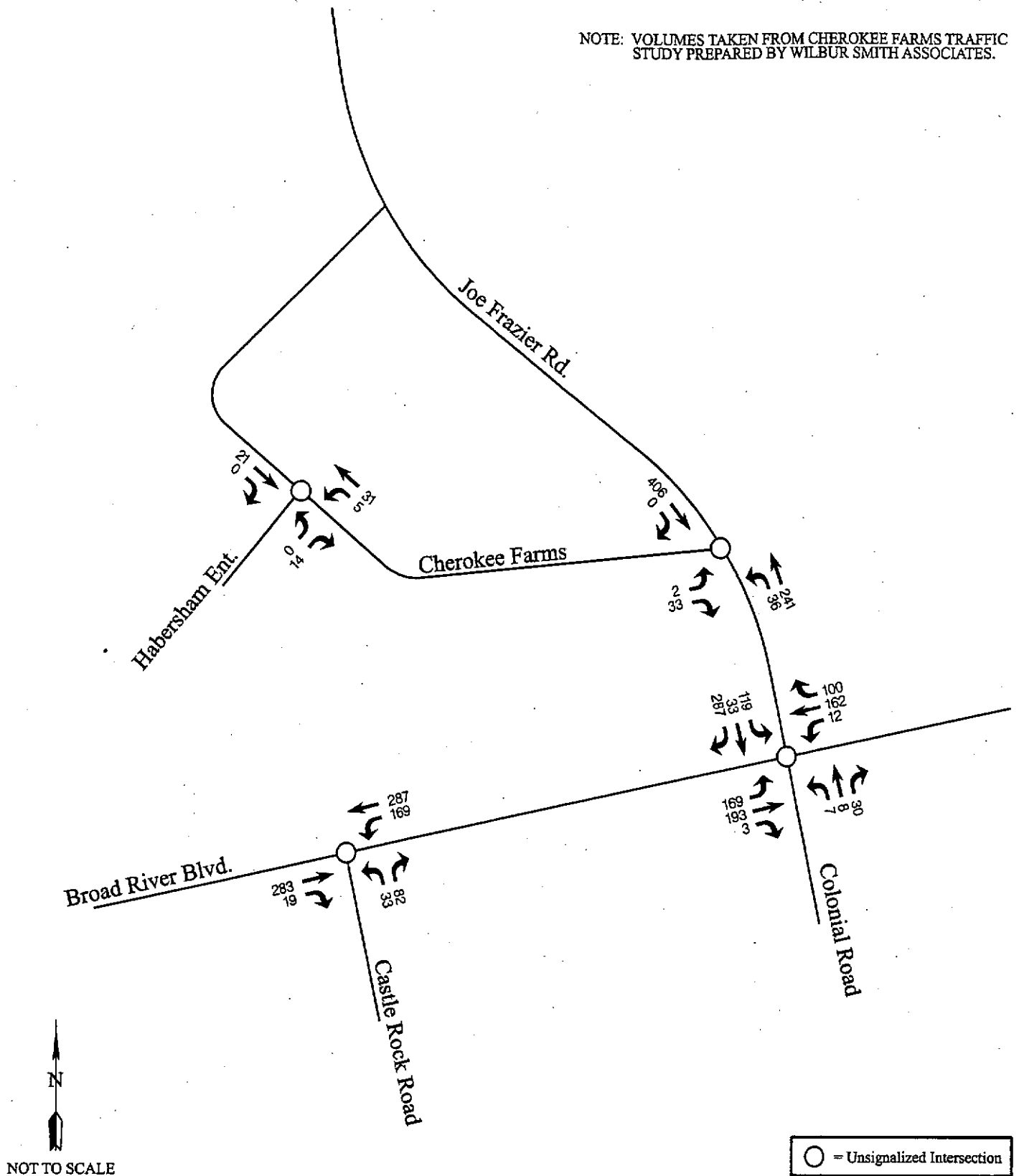


Figure 1
EXISTING TRAFFIC VOLUMES
AM PEAK-HOUR

The Sunrise Project: Beaufort, SC

NOTE: VOLUMES TAKEN FROM CHEROKEE FARMS TRAFFIC STUDY PREPARED BY WILBUR SMITH ASSOCIATES.

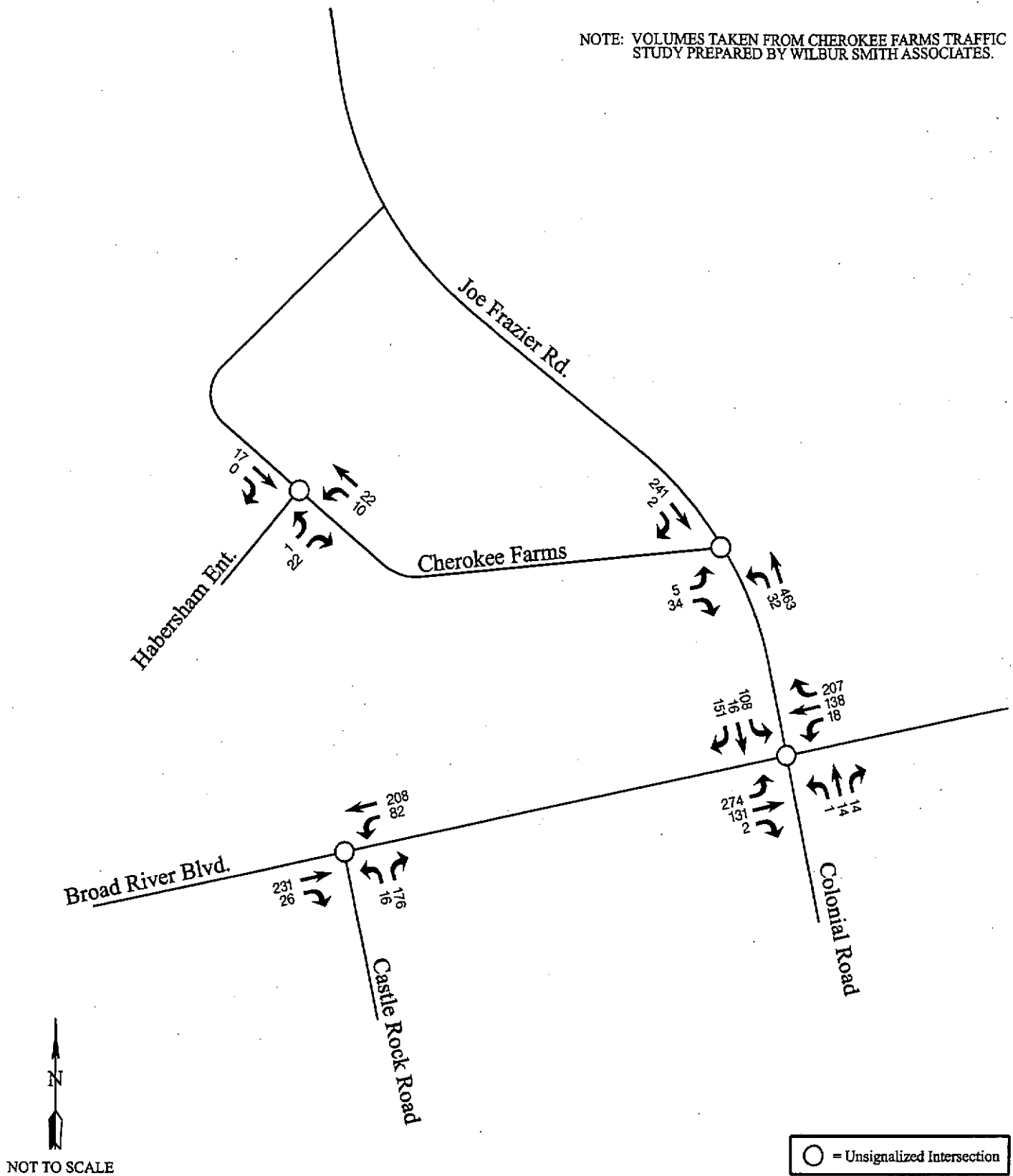


Figure 2
EXISTING TRAFFIC VOLUMES
PM PEAK-HOUR

The Sunrise Project: Beaufort, SC

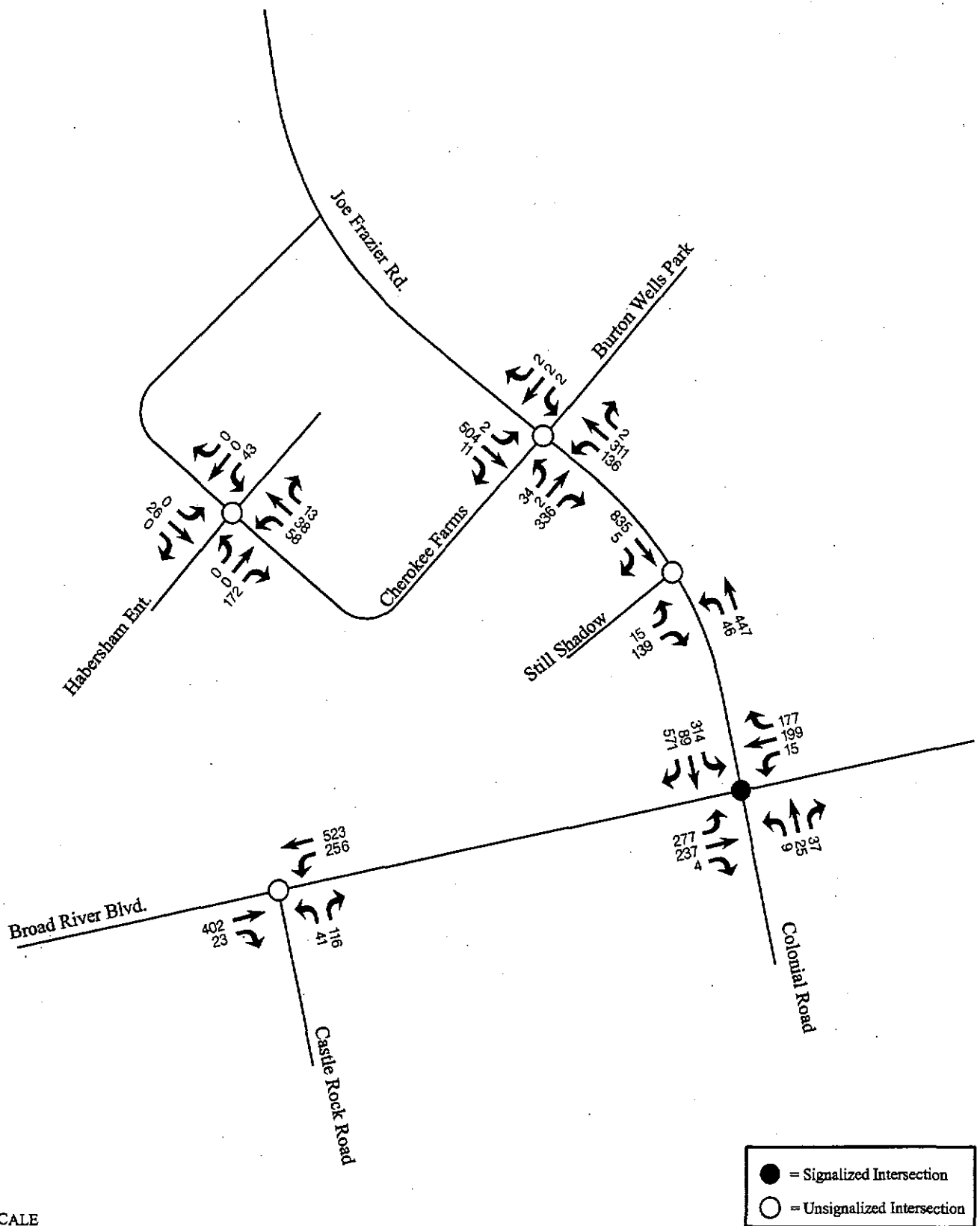


Figure 3
2010 NO-BUILD TRAFFIC VOLUMES
AM PEAK-HOUR

The Sunrise Project: Beaufort, SC

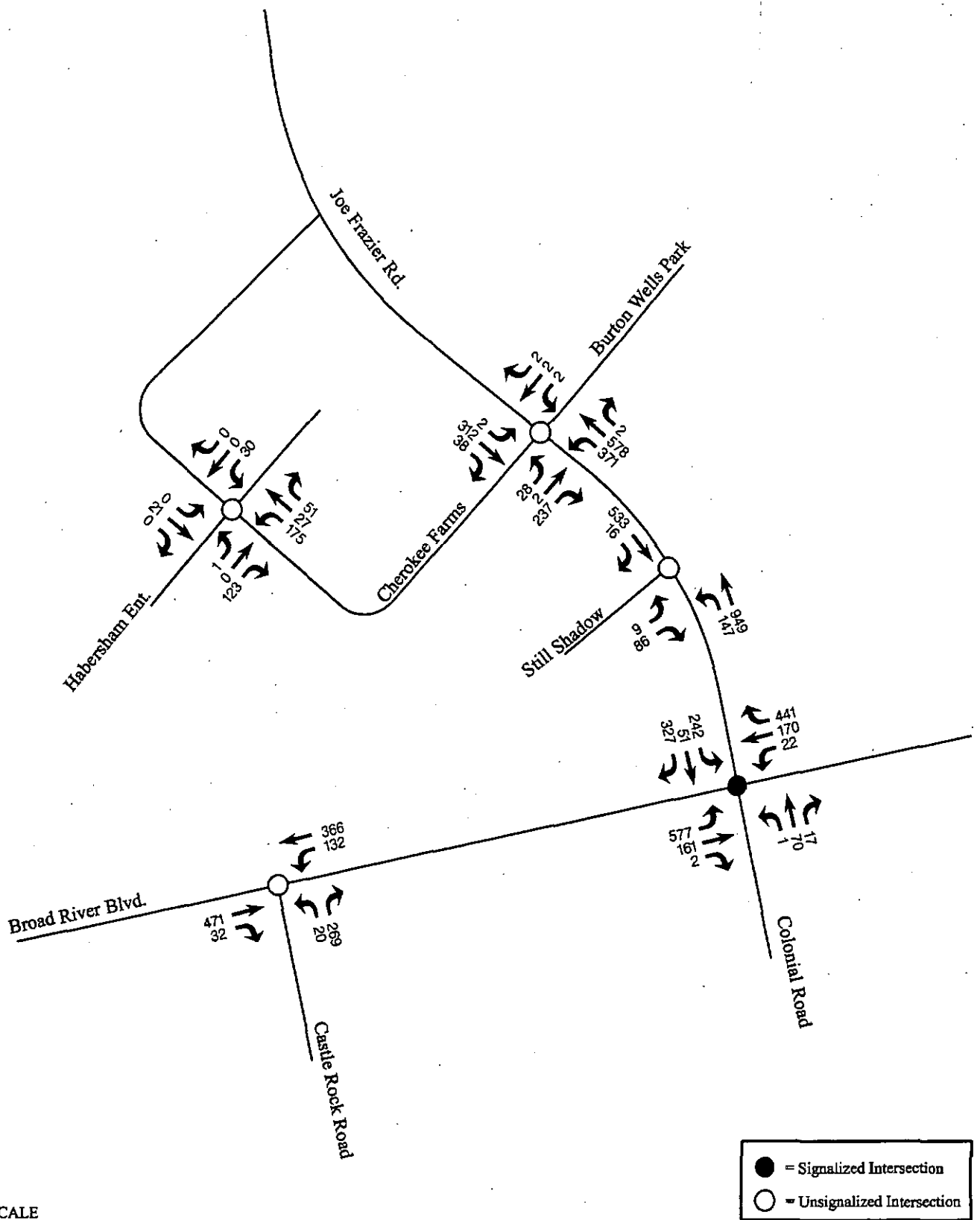


Figure 4
 2010 NO-BUILD TRAFFIC VOLUMES
 PM PEAK-HOUR
 The Sunrise Project: Beaufort, SC

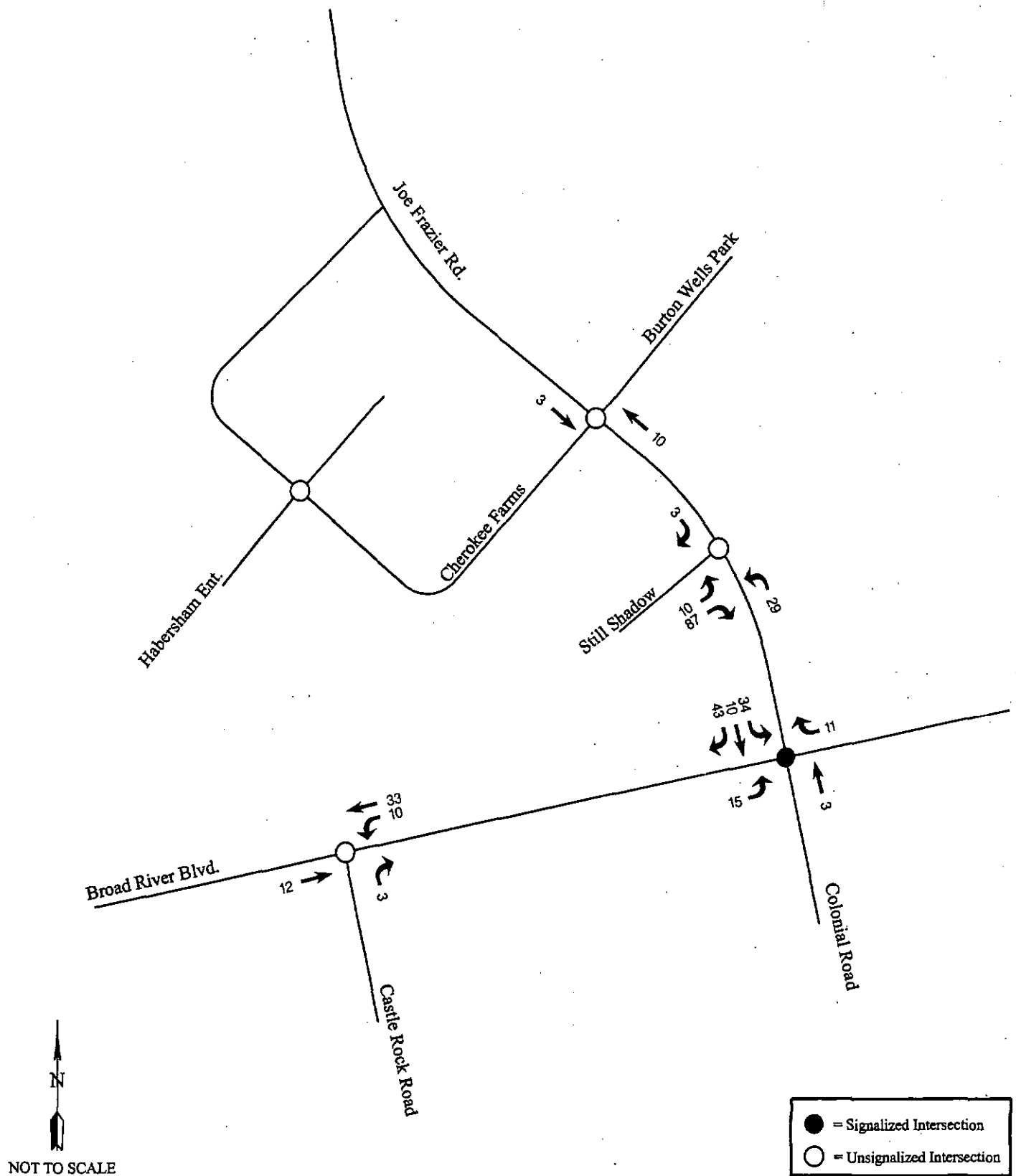


Figure 5
SITE-GENERATED TRAFFIC VOLUMES
AM PEAK-HOUR

The Sunrise Project: Beaufort, SC

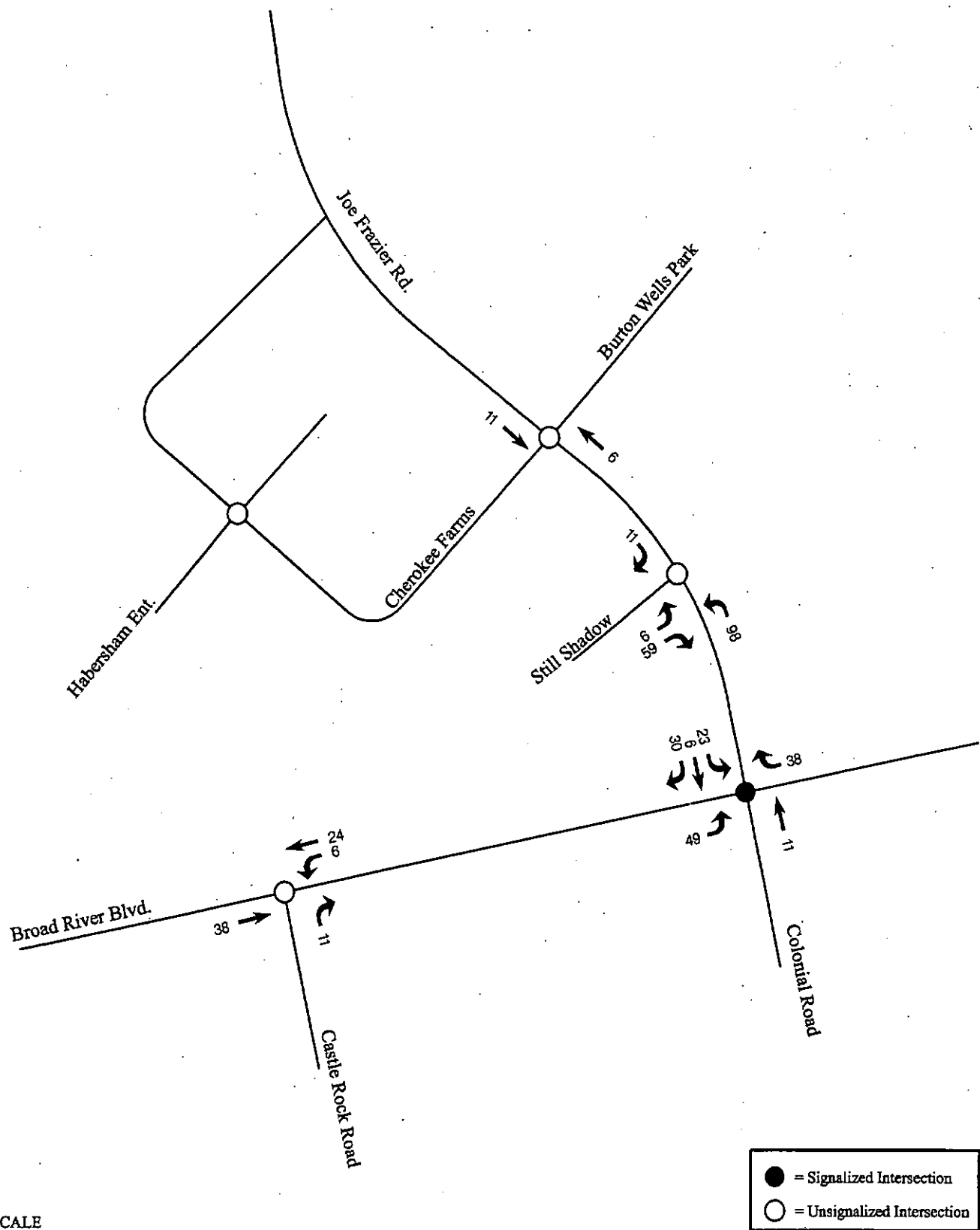


Figure 6

SITE-GENERATED TRAFFIC VOLUMES PM PEAK-HOUR

The Sunrise Project: Beaufort, SC

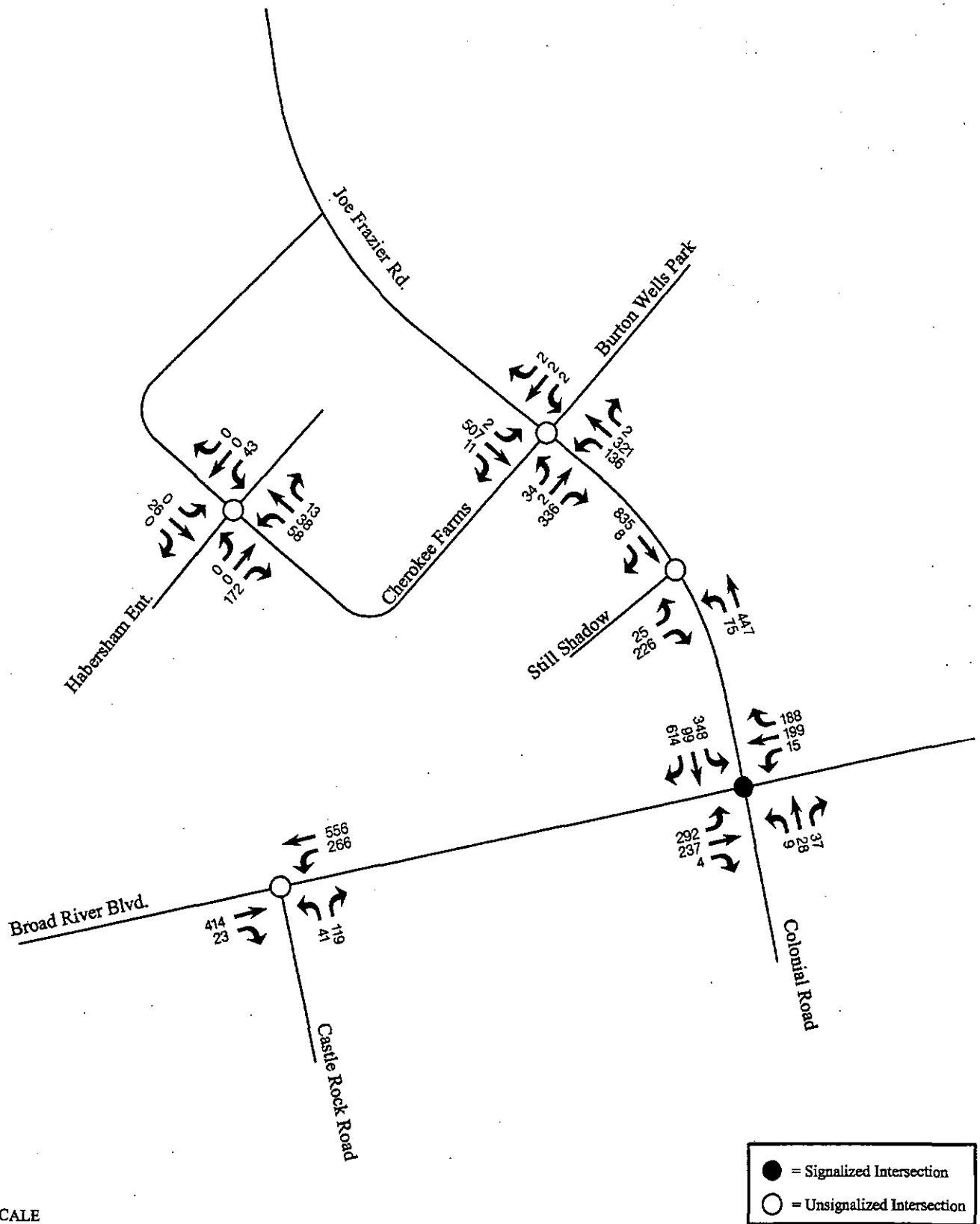


Figure 7
2010 BUILD TRAFFIC VOLUMES
AM PEAK-HOUR

The Sunrise Project: Beaufort, SC

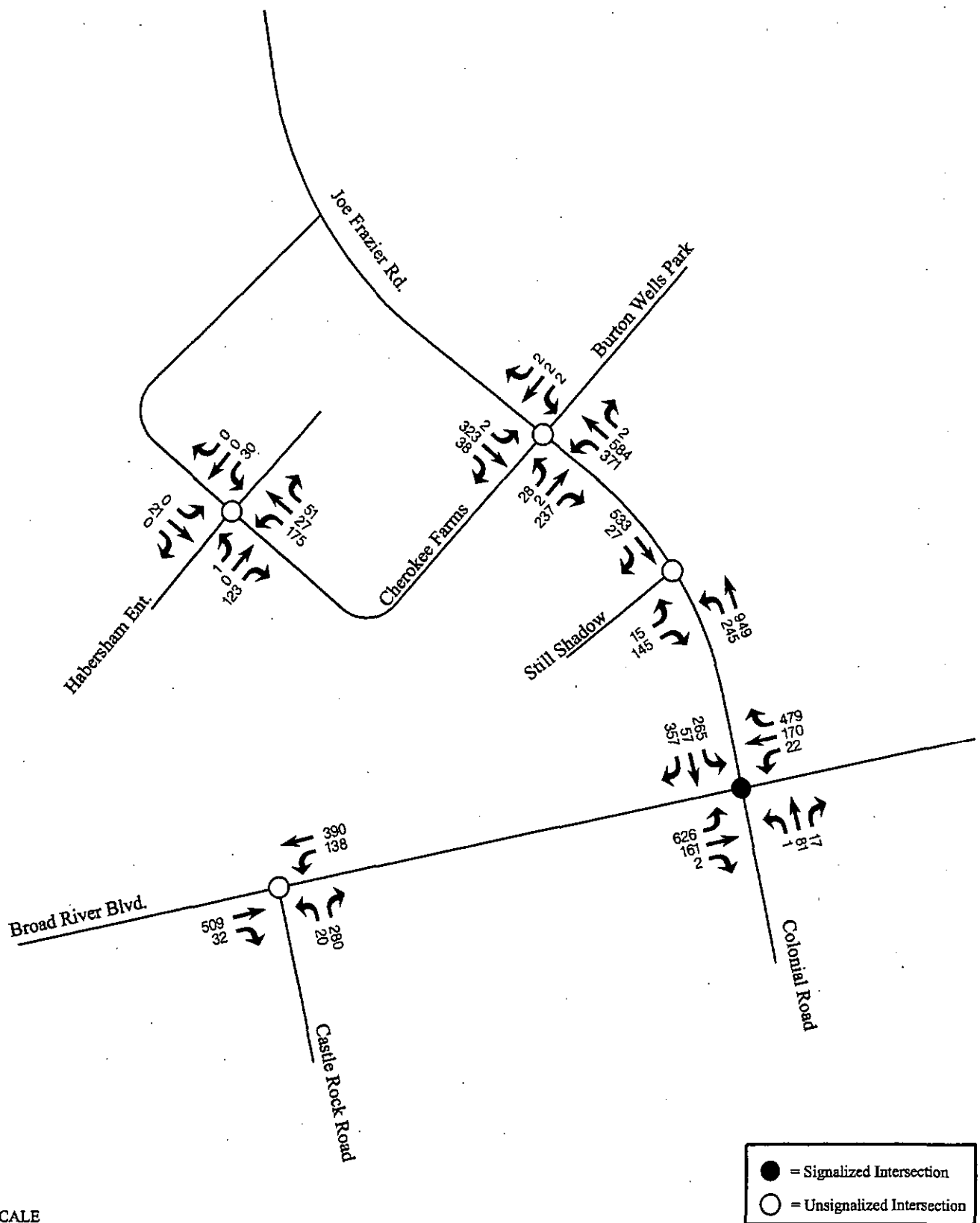


Figure 8
2010 BUILD TRAFFIC VOLUMES
PM PEAK-HOUR

The Sunrise Project: Beaufort, SC

CAPACITY ANALYSES



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	1	1	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Volume (veh/h)	402	23	256	523	41	116
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	437	25	278	568	45	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume		462		1574	449	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		462		1574	449	
tC, single (s)		4.1		6.4	6.2	
tC, 2 stage (s)						
tF (s)		2.2		3.5	3.3	
p0 queue free %		75		51	79	
cM, capacity (veh/h)		1099		90	610	
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	462	278	568	171		
Volume Left	0	278	0	45		
Volume Right	25	0	0	126		
cSH	1700	1099	1700	244		
Volume to Capacity	0.27	0.25	0.33	0.70		
Queue Length (ft)	0	25	0	116		
Control Delay (s)	0.0	9.4	0.0	48.2		
Lane LOS		A		E		
Approach Delay (s)	0.0	3.1		48.2		
Approach LOS				E		
Intersection Summary						
Average Delay		7.3				
Intersection Capacity Utilization		56.2%		ICU Level of Service		B
Analysis Period (min)		15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Sign Control	Free		Free		Stop		Stop					
Grade	0%		0%		0%		0%					
Volume (veh/h)	2	504	11	136	311	2	34	2	336	2	2	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	548	12	148	338	2	37	2	365	2	2	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL				TWLTL	
Median storage veh							1				1	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	340			560			1195	1194	554	1553	1199	339
vC1, stage 1 conf vol							558	558			635	635
vC2, stage 2 conf vol							637	636			918	564
vCu, unblocked vol	340			560			1195	1194	554	1553	1199	339
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5			6.1	5.5
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			85			86	99	31	91	99	100
cM capacity (veh/h)	1219			1011			267	276	532	25	245	703
Direction Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total	2	560	148	340	37	367	2	4				
Volume Left	2	0	148	0	37	0	2	0				
Volume Right	0	12	0	2	0	365	0	2				
cSH	1219	1700	1011	1700	267	529	25	364				
Volume to Capacity	0.00	0.33	0.15	0.20	0.14	0.69	0.09	0.01				
Queue Length (ft)	0	0	13	0	12	135	6	1				
Control Delay (s)	8.0	0.0	9.2	0.0	20.7	125.8	159.1	15.0				
Lane LOS	A		A		C	D	F	C				
Approach Delay (s)	0.0		2.8		25.3		63.0					
Approach LOS					D		F					
Intersection Summary												
Average Delay	8.2											
Intersection Capacity Utilization	65.6%											
ICU Level of Service	C											
Analysis Period (min)	15											

No-Build AM
8: Joe Frazier Rd & Still Shadow

11/2/2004



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	835	5	46	447	15	139
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	908	5	50	486	16	151
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWBL		
Median storage veh				1		
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume			913		1496	910
VC1, stage 1 conf vol					910	
VC2, stage 2 conf vol					586	
VCu, unblocked vol			913		1496	910
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			93		94	55
cM capacity (veh/h)			746		260	333
Direction Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	913	50	486	16	151	
Volume Left	0	50	0	16	0	
Volume Right	5	0	0	0	151	
cSH	1700	746	1700	260	333	
Volume to Capacity	0.54	0.07	0.29	0.06	0.45	
Queue Length (ft)	0	5	0	5	57	
Control Delay (s)	0.0	10.2	0.0	19.8	24.5	
Lane LOS		B		C	C	
Approach Delay (s)	0.0	0.9		24.1		
Approach LOS				C		
Intersection Summary						
Average Delay	2.8					
Intersection Capacity Utilization	59.5%					
ICU Level of Service	B					
Analysis Period (min)	15					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	126	0	58	38	13	0	10	172	43	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	28	0	63	41	14	0	0	187	47	0	0
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	55			28			203	210	28	390	203	48
vC1, stage 1 conf vol												
VC2, stage 2 conf vol												
vCu, unblocked vol	55			28			203	210	28	390	203	48
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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			96			100	100	82	90	100	100
cM capacity (veh/h)	1549			1585			732	660	1047	453	666	1020

Direction, Lane #	EBL	WBL	NBL	SBL
Volume Total	28	118	187	47
Volume Left	0	63	0	47
Volume Right	0	14	187	0
cSH	1549	1585	1047	453
Volume to Capacity	0.00	0.04	0.18	0.10
Queue Length (ft)	0	3	16	9
Control Delay (s)	0.0	4.1	9.2	13.8
Lane LOS		A	A	B
Approach Delay (s)	0.0	4.1	9.2	13.8
Approach LOS		A	B	

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		

No-Build AM

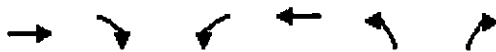
1: Broad River Blvd & Joe Frazier Rd

11/2/2004



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↕			↰	↱	
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	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00			1.00	1.00	
Frt	1.00	1.00		1.00	0.93		0.93			1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.99			0.95	1.00	
Satd. Flow (prot)	1770	1858		1770	1731		1721			1770	1621	
Flt Permitted	0.20	1.00		0.60	1.00		0.55			0.71	1.00	
Satd. Flow (perm)	367	1858		1113	1731		946			1317	1621	
Volume (vph)	277	237	4	15	199	177	9	25	37	314	89	571
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	258	4	16	216	192	10	27	40	341	97	621
RTOR Reduction (vph)	0	1	0	0	63	0	0	27	0	0	490	0
Lane Group Flow (vph)	301	261	0	16	345	0	0	50	0	341	228	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.6	32.6		16.3	16.3		18.9			18.9	18.9	
Effective Green, g (s)	32.6	32.6		16.3	16.3		18.9			18.9	18.9	
Actuated g/C Ratio	0.55	0.55		0.27	0.27		0.32			0.32	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0			4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0			3.0	3.0	
Lane Grp Cap (vph)	491	1018		305	474		300			418	515	
v/s Ratio Prot	c0.13	0.14			c0.24						c0.44	
v/s Ratio Perm	0.21			0.01			0.08			0.26		
v/c Ratio	0.61	0.26		0.05	0.73		0.17			0.82	0.44	
Uniform Delay, d1	9.3	7.1		15.9	19.6		14.6			18.7	16.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00			1.00	1.00	
Incremental Delay, d2	2.3	0.1		0.1	5.5		0.3			11.6	0.6	
Delay (s)	11.5	7.2		16.0	25.1		14.9			30.3	16.7	
Level of Service	B	A		B	C		B			C	B	
Approach Delay (s)		9.5			24.8		14.9				21.1	
Approach LOS		A			C		B				C	

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	59.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	471	32	132	366	20	269
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	512	35	143	398	22	292
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume			547		1214	529
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol			547		1214	529
IC, single (s)			4.1		6.4	6.2
IC, 2 stage (s)						
IF (s)			2.2		3.5	3.3
p0 queue free %			86		87	47
CM capacity (veh/h)			1023		172	549
Direction Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	547	143	398	314		
Volume Left	0	143	0	22		
Volume Right	35	0	0	292		
cSH	1700	1023	1700	477		
Volume to Capacity	0.32	0.14	0.23	0.66		
Queue Length (ft)	0	12	0	117		
Control Delay (s)	0.0	9.1	0.0	25.9		
Lane LOS		A		D		
Approach Delay (s)	0.0	2.4		25.9		
Approach LOS				D		
Intersection Summary						
Average Delay	6.7					
Intersection Capacity Utilization	61.8%					
ICU Level of Service	B					
Analysis Period (min)	15					

No-Build PM

7: Joe Frazier Rd & Cherokee Farms Rd

11/2/2004



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	2	312	38	371	578	2	28	2	237	2	2	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	339	41	403	628	2	30	2	258	2	2	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
VC, conflicting volume	630			380			1802	1801	360	2038	1821	629
vC1, stage 1 conf vol							364	364		1436	1436	
vC2, stage 2 conf vol							1438	1437		602	385	
vCu, unblocked vol	630			380			1802	1801	360	2038	1821	629
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
IF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			66			66	98	62	88	98	100
cM capacity (veh/h)	952			1178			90	109	685	19	95	482

Direction Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	2	380	403	630	30	260	2	4
Volume Left	2	0	403	0	30	0	2	0
Volume Right	0	41	0	2	0	258	0	2
cSH	952	1700	1178	1700	90	656	19	158
Volume to Capacity	0.00	0.22	0.34	0.37	0.34	0.40	0.12	0.03
Queue Length (ft)	0	0	38	0	33	47	8	2
Control Delay (s)	8.8	0.0	9.6	0.0	64.0	14.0	218.9	28.4
Lane LOS	A		A		F	B	F	D
Approach Delay (s)	0.0		3.8		19.3		91.9	
Approach LOS					C		F	

Intersection Summary	
Average Delay	5.9
Intersection Capacity Utilization	164.1%
ICU Level of Service	C
Analysis Period (min)	15



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩		↩	↩	↩	↩
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	533	16	147	949	9	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	579	17	160	1032	10	93
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT		
Median storage veh				1		
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume			597		1939	588
vC1, stage 1 conf vol					588	
vC2, stage 2 conf vol					1351	
vCu, unblocked vol			597		1939	588
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			84		94	82
cM capacity (veh/h)			980		155	509
Direction Lane #	EBT	EBR	WBL	WBT	NBL	NBR
Volume Total	597	160	1032	10	93	
Volume Left	0	160	0	10	0	
Volume Right	17	0	0	0	93	
cSH	1700	980	1700	155	509	
Volume to Capacity	0.35	0.16	0.61	0.06	0.18	
Queue Length (ft)	0	15	0	5	17	
Control Delay (s)	0.0	9.4	0.0	29.7	13.7	
Lane LOS		A		D	B	
Approach Delay (s)	0.0	1.3		15.2		
Approach LOS				C		
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			59.9%		ICU Level of Service	B
Analysis Period (min)			15			

No-Build PM

13: Cherokee Farms Rd & HABERSHAM ACCESS

11/2/2004

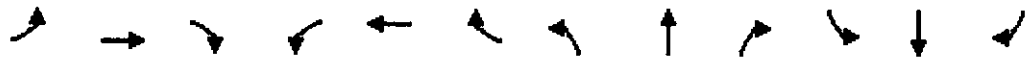


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	21	0	175	27	51	1	0	123	30	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	23	0	190	29	55	1	0	134	33	0	0
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	85			23			460	488	23	594	460	57
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85			23			460	488	23	594	460	57
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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			88			100	100	87	90	100	100
cM capacity (veh/h)	1512			1592			464	423	1054	330	438	1009
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	23	275	135	33								
Volume Left	0	190	1	33								
Volume Right	0	55	134	0								
cSH	1512	1592	1043	330								
Volume to Capacity	0.00	0.12	0.13	0.10								
Queue Length (ft)	0	10	11	8								
Control Delay (s)	0.0	5.5	9.0	17.1								
Lane LOS		A	A	C								
Approach Delay (s)	0.0	5.5	9.0	17.1								
Approach LOS			A	C								
Intersection Summary												
Average Delay	7.1											
Intersection Capacity Utilization	41.9%											
ICU Level of Service	A											
Analysis Period (min)	15											

No-Build PM

1: Broad River Blvd & Joe Frazier Rd

11/2/2004



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	→	↱	↰	→	↱	↰	→	↱	↰	→	↱
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	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.89			0.97		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	1860		1770	1661			1814		1770	1621	
Flt Permitted	0.15	1.00		0.65	1.00			0.88		0.72	1.00	
Satd. Flow (perm)	279	1860		1203	1661			1600		1340	1621	
Volume (vph)	577	161	2	22	170	441	1	70	17	242	51	327
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	627	175	2	24	185	479	1	76	18	263	55	355
RTOR Reduction (vph)	0	1	0	0	176	0	0	12	0	0	320	0
Lane Group Flow (vph)	627	176	0	24	488	0	0	83	0	263	90	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4				8			2			6	
Actuated Green, G (s)	49.7	49.7		22.7	22.7			16.3		16.3	16.3	
Effective Green, g (s)	49.7	49.7		22.7	22.7			16.3		16.3	16.3	
Actuated g/C Ratio	0.67	0.67		0.31	0.31			0.22		0.22	0.22	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	651	1249		369	510			352		295	357	
v/s Ratio Prot	c0.30	0.10			c0.40						c0.25	
v/s Ratio Perm	0.35			0.02				0.06		0.20		
v/c Ratio	0.96	0.14		0.07	0.96			0.24		0.89	0.25	
Uniform Delay, d1	19.3	4.4		18.1	25.2			23.7		28.0	23.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	26.2	0.1		0.1	28.9			0.3		26.7	0.4	
Delay (s)	45.6	4.5		18.2	54.1			24.1		54.7	24.2	
Level of Service	D	A		B	D			C		D	C	
Approach Delay (s)		36.5			52.8			24.1			36.1	
Approach LOS		D			D			C			D	

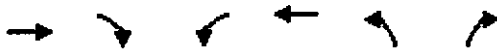
Intersection Summary		
HCM Average Control Delay	40.8	HCM Level of Service D
HCM Volume to Capacity ratio	1.14	
Actuated Cycle Length (s)	74.0	Sum of lost time (s) 12.0
Intersection Capacity Utilization	100.9%	ICU Level of Service G
Analysis Period (min)	15	
Critical Lane Group		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	414	23	266	556	41	119
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	450	25	289	604	45	129
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			475		1645	462
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			475		1645	462
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			73		45	78
CM capacity (veh/h)			1087		80	599
Direction Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	475	289	604	174		
Volume Left	0	289	0	45		
Volume Right	25	0	0	129		
cSH	1700	1087	1700	226		
Volume to Capacity	0.28	0.27	0.36	0.77		
Queue Length (ft)	0	27	0	137		
Control Delay (s)	0.0	9.5	0.0	59.9		
Lane LOS		A		F		
Approach Delay (s)	0.0	3.1		59.9		
Approach LOS				F		
Intersection Summary						
Average Delay		8.5				
Intersection Capacity Utilization		57.5%				
ICU Level of Service					B	
Analysis Period (min)		15				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	2	507	11	136	321	2	34	2	336	2	2	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	551	12	148	349	2	37	2	365	2	2	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL		TWLTL			
Median storage veh							1		1			
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	351			563			1209	1208	557	1567	1213	350
vC1, stage 1 conf vol							561	561			646	646
vC2, stage 2 conf vol							648	647			922	567
vCu, unblocked vol	351			563			1209	1208	557	1567	1213	350
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5			6.1	5.5
TF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			85			86	99	31	91	99	100
cM capacity (veh/h)	1208			1008			263	273	530	25	242	693
Direction, Lane #	EB1	EB2	WB1	WB2	NB1	NB2	SB1	SB2				
Volume Total	2	563	148	351	37	367	2	4				
Volume Left	2	0	148	0	37	0	2	0				
Volume Right	0	12	0	2	0	365	0	2				
cSH	1208	1700	1008	1700	263	527	25	359				
Volume to Capacity	0.00	0.33	0.15	0.21	0.14	0.70	0.09	0.01				
Queue Length (ft)	0	0	13	0	12	136	7	1				
Control Delay (s)	8.0	0.0	9.2	0.0	20.9	26.1	164.6	15.1				
Lane LOS	A		A		C	D	F	C				
Approach Delay (s)	0.0		2.7		25.6		65.0					
Approach LOS					D		F					
Intersection Summary												
Average Delay	8.2											
Intersection Capacity Utilization	65.8%											
ICU Level of Service	C											
Analysis Period (min)	15											



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	835	8	75	447	25	226
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	908	9	82	486	27	246
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT		
Median storage veh				1		
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume			916		1561	912
VC1, stage 1 conf vol					912	
VC2, stage 2 conf vol					649	
vCu, unblocked vol			916		1561	912
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
IF (s)			2.2		3.5	3.3
p0 queue free %			89		89	26
cM capacity (veh/h)			744		243	332
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	
Volume Total	916	82	486	27	246	
Volume Left	0	82	0	27	0	
Volume Right	9	0	0	0	246	
cSH	1700	744	1700	243	332	
Volume to Capacity	0.54	0.11	0.29	0.11	0.74	
Queue Length (ft)	0	9	0	9	140	
Control Delay (s)	0.0	10.4	0.0	21.6	41.2	
Lane LOS		B		C	E	
Approach Delay (s)	0.0	1.5		39.3		
Approach LOS				E		
Intersection Summary						
Average Delay			6.6			
Intersection Capacity Utilization			65.1%			
ICU Level of Service					C	
Analysis Period (min)			15			

Build AM

AM PEAK-HOUR

13: Cherokee Farms Rd & HABERSHAM Access

11/2/2004



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	26	0	58	38	13	0	0	172	43	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	28	0	63	41	14	0	0	187	47	0	0
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	55			28			203	210	28	390	203	48
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	55			28			203	210	28	390	203	48
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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			96			100	100	82	90	100	100
cM capacity (veh/h)	1549			1585			732	660	1047	453	666	1020
Direction, Lane #	EBT	WBT	NBT	SBT								
Volume Total	28	118	187	47								
Volume Left	0	63	0	47								
Volume Right	0	14	187	0								
cSH	1549	1585	1047	453								
Volume to Capacity	0.00	0.04	0.18	0.10								
Queue Length (ft)	0	3	16	9								
Control Delay (s)	0.0	4.1	9.2	13.8								
Lane LOS		A	A	B								
Approach Delay (s)	0.0	4.1	9.2	13.8								
Approach LOS			A	B								
Intersection Summary												
Average Delay				7.5								
Intersection Capacity Utilization				36.7%			ICU Level of Service			A		
Analysis Period (min)				15								

Build AM

AM PEAK-HOUR

1: Broad River Blvd & Joe Frazier Rd

11/2/2004



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	→	↱	↰	→	↱		↕		↰	→	↱
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	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.93			0.93		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	1858		1770	1727			1726		1770	1622	
Flt Permitted	0.19	1.00		0.60	1.00			0.56		0.79	1.00	
Satd. Flow (perm)	360	1858		1113	1727			980		1469	1622	
Volume (vph)	292	237	4	15	199	188	9	28	37	348	99	614
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	317	258	4	16	216	204	10	30	40	378	108	667
RTOR Reduction (vph)	0	1	0	0	68	0	0	26	0	0	478	0
Lane Group Flow (vph)	317	261	0	16	352	0	0	54	0	378	297	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	33.6	33.6		16.7	16.7			21.5		21.5	21.5	
Effective Green, g (s)	33.6	33.6		16.7	16.7			21.5		21.5	21.5	
Actuated g/C Ratio	0.53	0.53		0.26	0.26			0.34		0.34	0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	480	989		295	457			334		501	553	
v/s Ratio Prot	c0.14	0.14		c0.24						c0.48		
v/s Ratio Perm	0.22			0.01				0.08		0.26		
v/c Ratio	0.66	0.26		0.05	0.77			0.16		0.75	0.54	
Uniform Delay, d1	10.6	8.0		17.3	21.4			14.5		18.5	16.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	3.4	0.1		0.1	7.6			0.2		6.4	1.0	
Delay (s)	14.0	8.2		17.4	29.1			14.7		24.8	17.8	
Level of Service	B	A		B	C			B		C	B	
Approach Delay (s)		11.4			28.6			14.7			20.1	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM Average Control Delay			19.3		HCM Level of Service			B				
HCM Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			63.1		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			91.2%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	509	32	138	390	20	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	553	35	150	424	22	304
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume			588		1295	571
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			588		1295	571
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			85		86	42
cM capacity (veh/h)			987		152	521
Direction Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	588	150	424	326		
Volume Left	0	150	0	22		
Volume Right	35	0	0	304		
cSH	1700	987	1700	448		
Volume to Capacity	0.35	0.15	0.25	0.73		
Queue Length (ft)	0	13	0	145		
Control Delay (s)	0.0	9.3	0.0	31.7		
Lane LOS		A		D		
Approach Delay (s)	0.0	2.4		31.7		
Approach LOS				D		
Intersection Summary						
Average Delay			7.9			
Intersection Capacity Utilization			64.8%		ICU Level of Service	C
Analysis Period (min)			15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations	↰	↑		↰	↑		↰	↑		↰	↑							
Sign Control	Free			Free			Stop			Stop								
Grade	0%			0%			0%			0%								
Volume (veh/h)	2	323	38	371	584	2	28	2	237	2	2	2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92						
Hourly flow rate (vph)	2	351	41	403	635	2	30	2	258	2	2	2						
Pedestrians																		
Lane Width (ft)																		
Walking Speed (ft/s)																		
Percent Blockage																		
Right turn flare (veh)																		
Median type							TWLTL				TWLTL							
Median storage veh							1				1							
Upstream signal (ft)																		
pX, platoon unblocked																		
VC, conflicting volume	637				392		1821		1820		372		2057		1839		636	
vC1, stage 1 conf vol							376		376				1442		1442			
VC2, stage 2, conf vol							1445		1443				614		397			
vCu, unblocked vol	637				392		1821		1820		372		2057		1839		636	
tC, single (s)	4.1				4.1		7.1		6.5		6.2		7.1		6.5		6.2	
tC, 2 stage (s)							6.1		5.5				6.1		5.5			
tF (s)	2.2				2.2		3.5		4.0		3.3		3.5		4.0		3.3	
p0 queue free %	100				65		66		98		62		88		98		100	
cM capacity (veh/h)	947				1166		89		107		674		18		93		478	
Direction Lane #	EB 1		EB 2		WB 1		WB 2		NB 1		NB 2		SB 1		SB 2			
Volume Total	2		392		403		637		30		260		2		4			
Volume Left	2		0		403		0		30		0		2		0			
Volume Right	0		41		0		2		0		258		0		2			
cSH	947		1700		1166		1700		89		646		18		155			
Volume to Capacity	0.00		0.23		0.35		0.37		0.34		0.40		0.12		0.03			
Queue Length (ft)	0		0		39		0		33		49		9		2			
Control Delay (s)	8.8		0.0		9.7		0.0		65.3		14.3		229.6		28.9			
Lane LOS	A				A				E		B		F		D			
Approach Delay (s)	70.0				3.8				19.6				95.8					
Approach LOS									C				F					
Intersection Summary																		
Average Delay	5.9																	
Intersection Capacity Utilization	64.6%																	
ICU Level of Service	C																	
Analysis Period (min)	15																	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↰	↱	↰	↱
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	533	27	245	949	15	145
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	579	29	266	1032	16	158
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT		
Median storage veh				1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			609	2158	594	
vC1, stage 1 conf vol				594		
vC2, stage 2 conf vol				1564		
vCu, unblocked vol			609	2158	594	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)				5.4		
tF (s)			2.2	3.5	3.3	
p0 queue free %			73	85	69	
cM capacity (veh/h)			970	111	505	
Direction/Lane #	EB1	WB1	WB2	NB1	NB2	
Volume Total	609	266	1032	16	158	
Volume Left	0	266	0	16	0	
Volume Right	29	0	0	0	158	
cSH	1700	970	1700	111	505	
Volume to Capacity	0.36	0.27	0.61	0.15	0.31	
Queue Length (ft)	0	28	0	12	33	
Control Delay (s)	0.0	10.1	0.0	43.0	15.3	
Lane LOS		B		E	C	
Approach Delay (s)	0.0	2.1		17.9		
Approach LOS				C		
Intersection Summary						
Average Delay	2.8					
Intersection Capacity Utilization	59.9%					
ICU Level of Service	B					
Analysis Period (min)	15					

Build PM

13: Cherokee Farms Rd & HABERSHAM ACCESS

11/2/2004



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	21	0	175	27	51	1	0	123	30	10	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	23	0	190	29	55	1	0	134	33	0	0
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	85			23			460	488	23	594	460	57
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85			23			460	488	23	594	460	57
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
F (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
100 queue free %	100			88			100	100	87	90	100	100
CM capacity (veh/h)	1512			1592			464	423	1054	330	438	1009
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	23	275	135	33								
Volume Left	0	190	1	33								
Volume Right	0	55	134	0								
cSH	1512	1592	1043	330								
Volume to Capacity	0.00	0.12	0.13	0.10								
Queue Length (ft)	0	10	11	8								
Control Delay (s)	0.0	5.5	9.0	17.1								
Lane LOS		A	A	C								
Approach Delay (s)	0.0	5.5	9.0	17.1								
Approach LOS			A	C								
Intersection Summary												
Average Delay	7.1											
Intersection Capacity Utilization	41.9%											
ICU Level of Service	A											
Analysis Period (min)	15											



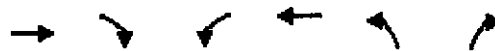
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱			↕		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.89			0.98		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	1860		1770	1657			1820		1770	1622	
Flt Permitted	0.15	1.00		0.65	1.00			0.79		0.69	1.00	
Satd. Flow (perm)	287	1860		1203	1657			1437		1280	1622	
Volume (vph)	626	161	2	22	170	479	1	81	17	265	57	357
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	680	175	2	24	185	521	1	88	18	288	62	388
RTOR Reduction (vph)	0	1	0	0	207	0	0	10	0	0	348	0
Lane Group Flow (vph)	680	176	0	24	499	0	0	97	0	288	102	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	50.0	50.0		22.0	22.0			17.0		17.0	17.0	
Effective Green, g (s)	50.0	50.0		22.0	22.0			17.0		17.0	17.0	
Actuated g/C Ratio	0.67	0.67		0.29	0.29			0.23		0.23	0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	666	1240		353	486			326		290	368	
v/s Ratio Prot	c0.33	0.10			c0.43						c0.28	
v/s Ratio Perm	0.35			0.02			0.07			0.22		
v/c Ratio	1.02	0.14		0.07	1.03		0.30			0.99	0.28	
Uniform Delay, d1	27.8	4.6		19.1	26.5		24.0			28.9	23.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00			1.00	1.00	
Incremental Delay, d2	40.3	0.1		0.1	47.8		0.5			50.7	0.4	
Delay (s)	68.1	4.7		19.2	74.3		24.6			79.7	24.3	
Level of Service	E	A		B	E		C			E	C	
Approach Delay (s)		55.0			72.5		24.6				45.9	
Approach LOS		D			E		C				D	

Intersection Summary			
HCM Average Control Delay	56.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		
Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
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
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1858		1770	1863	1583		1726		1770	1863	1583
Flt Permitted	0.35	1.00		0.60	1.00	1.00		0.97		0.70	1.00	1.00
Satd. Flow (perm)	660	1858		1113	1863	1583		1688		1313	1863	1583
Volume (vph)	292	237	4	15	199	188	9	28	37	348	99	614
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	317	258	4	16	216	204	10	30	40	378	108	667
RTOR Reduction (vph)	0	0	0	0	76	166	0	26	0	0	70	118
Lane Group Flow (vph)	317	262	0	16	140	38	0	54	0	378	38	549
Turn Type	pm+pt			Perm		Perm	Perm			Perm		pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)	27.4	27.4		10.0	10.0	10.0		18.9		18.9	18.9	32.3
Effective Green, g (s)	27.4	27.4		10.0	10.0	10.0		18.9		18.9	18.9	32.3
Actuated g/C Ratio	0.50	0.50		0.18	0.18	0.18		0.35		0.35	0.35	0.59
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	607	938		205	343	292		588		457	648	1058
v/s Ratio Prot	0.13	0.14			0.12						0.06	c0.16
v/s Ratio Perm	0.13			0.01		0.13		0.05		c0.29		0.27
v/c Ratio	0.52	0.28		0.08	0.41	0.13		0.09		0.83	0.06	0.52
Uniform Delay, d1	8.6	7.8		18.3	19.5	18.5		11.9		16.2	11.8	6.4
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.2		0.2	0.8	0.2		0.1		11.7	0.0	0.4
Delay (s)	9.4	7.9		18.5	20.3	18.7		12.0		27.9	11.8	6.9
Level of Service	A	A		B	C	B		B		C	B	A
Approach Delay (s)		8.7			19.5			12.0			14.2	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	414	23	266	556	41	119
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	450	25	289	604	45	129
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume			475		1645	462
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			475		1645	462
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			73		45	78
CM capacity (veh/h)			1087		80	599
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	475	289	604	45	129	
Volume Left	0	289	0	45	0	
Volume Right	25	0	0	0	129	
cSH	1700	1087	1700	80	599	
Volume to Capacity	0.28	0.27	0.36	0.55	0.22	
Queue Length (ft)	0	27	0	61	20	
Control Delay (s)	0.0	9.5	0.0	95.3	12.7	
Lane LOS		A		F	B	
Approach Delay (s)	0.0	3.1		33.8		
Approach LOS				D		
Intersection Summary						
Average Delay			5.6			
Intersection Capacity Utilization			51.3%		ICU Level of Service	A
Analysis Period (min)			15			

Build PM Mitigated
1: Broad River Blvd & Joe Frazier Rd

11/2/2004



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
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
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1860		1770	1863	1583		1820		1770	1863	1583
Flt Permitted	0.39	1.00		0.65	1.00	1.00		1.00		0.73	1.00	1.00
Satd. Flow (perm)	730	1860		1203	1863	1583		1818		1359	1863	1583
Volume (vph)	626	161	2	22	170	479	1	81	17	265	57	357
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	680	175	2	24	185	521	1	88	18	288	62	388
RTOR Reduction (vph)	0	0	0	0	152	340	0	10	0	0	45	130
Lane Group Flow (vph)	680	177	0	24	33	181	0	97	0	288	17	258
Turn Type	pm+pt			Perm		Perm	Perm			Perm		pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)	39.5	39.5		11.7	11.7	11.7		17.4		17.4	17.4	41.2
Effective Green, g (s)	39.5	39.5		11.7	11.7	11.7		17.4		17.4	17.4	41.2
Actuated g/C Ratio	0.61	0.61		0.18	0.18	0.18		0.27		0.27	0.27	0.63
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	826	1132		217	336	285		487		364	499	1102
v/s Ratio Prot	c0.30	0.10			0.10						0.03	0.13
v/s Ratio Perm	0.20			0.02		0.33		0.06		c0.21		0.12
v/c Ratio	0.82	0.16		0.11	0.10	0.63		0.20		0.79	0.03	0.23
Uniform Delay, d1	8.7	5.5		22.2	22.2	24.6		18.4		22.1	17.5	5.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	6.7	0.1		0.2	0.1	4.6		0.2		11.2	0.0	0.1
Delay (s)	15.4	5.6		22.5	22.3	29.2		18.6		33.2	17.6	5.2
Level of Service	B	A		C	C	C		B		C	B	A
Approach Delay (s)		13.4			27.2			18.6			17.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	64.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
Critical Lane Group			

Build PM Mitigated

3: Broad River Blvd & Castle Rock Rd

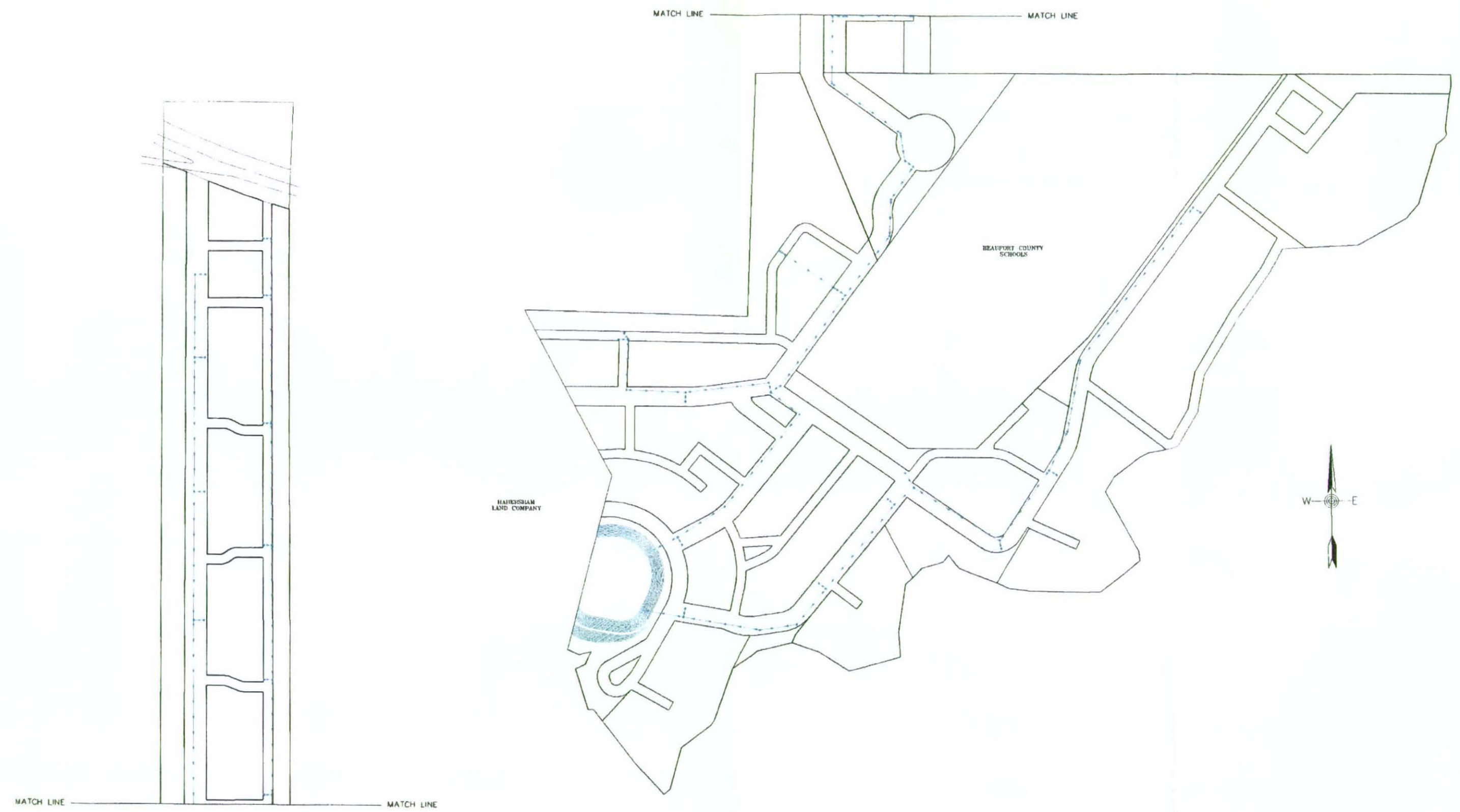
11/2/2004



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩	↩	↩	↩	↩	↩
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	509	32	138	390	20	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	553	35	150	424	22	304
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume			588		1295	571
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol			588		1295	571
IC, single (s)			4.1		6.4	6.2
IC, 2 stage (s)						
IF (s)			2.2		3.5	3.3
p0 queue free %			85		86	42
CM capacity (veh/h)			987		152	521
Direction Lane #	EB-1	WB-1	WB-2	NB-1	NB-2	
Volume Total	588	150	424	22	304	
Volume Left	0	150	0	22	0	
Volume Right	35	0	0	0	304	
cSH	1700	987	1700	152	521	
Volume to Capacity	0.35	0.15	0.25	0.14	0.58	
Queue Length (ft)	0	13	0	12	93	
Control Delay (s)	0.0	9.3	0.0	32.6	21.2	
Lane LOS		A		D	C	
Approach Delay (s)	0.0	2.4		22.0		
Approach LOS				C		
Intersection Summary						
Average Delay		5.7				
Intersection Capacity Utilization		52.7%		ICU Level of Service	A	
Analysis Period (min)		15				

N

HABERSHAM AMENDED PUD
46.88 ACRE TRACT
BEAUFORT COUNTY, SOUTH CAROLINA
STORMWATER MASTER PLAN



0 250 500
SCALE: 1" = 250'
DECEMBER 8, 2004

HABERSHAM AMENDED PUD
46.88 ACRE TRACT
BEAUFORT COUNTY, SOUTH CAROLINA
WATER AND SEWER MASTER PLAN



KEY

	POTABLE WATER
	SANITARY SEWER

0 250 500
SCALE: 1" = 250'
DECEMBER 8, 2004

P



6 SNAKE ROAD, OKATIE, SC 29909-3937
843.987.9292 FAX 843.987.9293
Customer Service 843.987.9200
Operations & Maintenance 843.987.9220
Engineering 843.987.9250
www.bjwsa.org

DEAN MOSS, General Manager

November 8, 2004

George F. Johnson
Habersham Land Company
22 Market
Beaufort, SC 29906

Subject: Water & Sewer Availability – Parcel R100 028 000 0077 0000

Dear Mr. Johnson:

BJWSA has sufficient water and sewer capacity to serve the parcel listed above for a proposed development consisting of 86 single-family and 84 multi-family residential units. Your next step will be to submit plans, specifications, and loading calculations to BJWSA for approval. Once the design package is approved, capacity fees will be quoted. Please note that all fees must be paid in full before a capacity commitment is issued by this office and the construction permit application is submitted to SC DHEC. Construction cannot begin until the SC DHEC construction permit has been issued.

Should you have any questions, please do not hesitate to contact me at 843-987-9251.

Sincerely,

Sharon Gibson
Project Coordinator

MARK C. SNYDER
CHAIRMAN

JIM CARLEN
JOHN R. PHILIPS

MICHAEL L. BELL
VICE CHAIRMAN

BRANDY GRAY
JOHN D. ROGERS

DAVID M. TAUB
SECRETARY/TREASURER

JAMES P. "PAT" O'NEAL
CHARLIE H. WHITE



November 15, 2004

Mr. George Johnson
Habersham Land Development
Post Office Box 365
Beaufort SC 29901

Re: Habersham Amended PUD Tract – 46.88 acres
TMS # R100 028 000 0077 0000

George,

We are please to inform you that South Carolina Electric & Gas Company will be able to provide electric service to the above referenced development. Natural gas is available to the project based on an acceptable gas load.

South Carolina Electric & Gas Co.
3680 Leeds Avenue
Charleston, South Carolina
29405

www.scmga.com

To ensure that your deadline is met, please submit a finalized / approved plat for development to our office at least two months prior to the start of construction. All AutoCAD plans should be submitted to Fross@scana.com.

I look forward to working with you on this project. If you need any other information, please call me at (843) 576-8909.

Sincerely,

Steve Lamonica
Account Manager



P. O. Drawer 1659
Beaufort, SC 29901-1659
Voice 843 525 7917
Fax 843 525 1569

December 2, 2004

Mr. George F. Johnson
Habersham
P. O. Box 365
Beaufort, SC 29901

RE: **Service Commitment Request**
Habersham – Sunrise Tract (Approx. 46.88 acres)
86 single family and 84 multi-family units, R100-028-000-0077-0000
Beaufort County, South Carolina

Dear Mr. Johnson,

Sprint Telephone will provide telephone facilities to the proposed development in Accordance with our standard practices and tariff on file with the South Carolina Public Service Commission.

Sprint Telephone will require two (2) copies of your final plans, as approved by the Beaufort County Development Review Committee, before telephone service can be provided. Please provide this office with your final plans as soon as possible. This is very crucial for our 911 System. It is also requested that this office be notified thirty (30) days prior to start of construction.

Sincerely,
SPRINT

Mike West

Mike West
Sr. Ntwk. Engineer

MCW:cma



November 10, 2004

George F. Johnson
Habersham
P.O. Box 365
Beaufort, SC 29901

RE: Development Adjacent to Habersham / 46.88 Acres

Dear Mr. Johnson:

We are in receipt of your request to provide service to the above referenced property. Hargray Inc. will be able to provide all your telecommunication needs, (telephone, CATV, high-speed data, and future services), pursuant to all the necessary easements and/or right of ways being granted.

Thank you for your request and if you should have any questions please do not hesitate to contact me at (843)815-1676.

Sincerely,

Rodney Cannon
Design Engineer

cc: Ed Heuck
Joe Scruggs
Frankie Denmark

mb



WASTE MANAGEMENT

Rt. 1 Box 121-A
Ridgeland, SC 29936
(843) 987-0710
(843) 987-0720 Fax

November 12, 2004

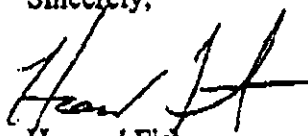
George Johnson
Habersham Land Co.
PO Box 365
Beaufort, SC 29901

Dear Mr. George Johnson,

After looking over the proposed plans Waste Management will be able to provide waste removal services to the new phase at Habersham.

We thank you for considering Waste Management for all of your waste removal needs.

Sincerely,



Howard Fister

