DESIGN CRITERIA FOR AFFORDABLE HOUSING: MAINTAINING BLUFFTON'S "STATE OF MIND"

by

JOSHUA K. TILLER

(Under the direction of Professor Allen D. Stovall)

ABSTRACT

The focus of this thesis is to provide design criteria for affordable housing that ensures that a community's architectural, ecological, and cultural characteristics are maintained. The design criteria are based upon defining the historical architectural character of a community, ecological protection and preservation of the landscape, and historical and present day social aspects. While this is not an entirely new construct, this exploration may provide alternatives within landscape architecture for designing within the low-income sector of the population. I have chosen the town of Bluffton, South Carolina as the location for the thesis site. The resulting designed master plan for an affordable housing community was based on the criteria explored throughout the thesis.

INDEX WORDS: Affordable housing design, Affordable housing community, Affordable housing design, Design criteria, Community design, Conservation community, Sense of place, Bluffton

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JOSHUA K. TILLER

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JOSHUA K. TILLER

Approved:

Major Professor: Allen D. Stovall

Committee: Mark Reinberger
Scott Messer
Teri Norris

Electronic Version Approved:

Gordhan L. Patel
Dean of the Graduate School
The University of Georgia
August 2002

DEDICATION

To my family.

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"The rule of no realm is mine, but all worthy things that are in peril as the world now stands, those are my care. And for my part, I shall not wholly fail in my task if anything passes through this night that can still grow fair or bear fruit and flower again in days to come. For I too am a steward. Did you not know?"

- J.R.R. Tolkein

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CHAPTER 1

INTRODUCTION

Purpose of Thesis Study

> People are often born, marry, procreate, raise children, work, grow old, die, and function as part of economic, political and social systems in homes. Homes are anchors of human life – whether they be permanent or temporary, are located in one place or are transported from place to place, are owned or rented, or are in planned communities or squatter settlements. In some cases homes are closely associated with a culture's cosmology and world view, may be religiously sacred and holy, and may connect people to one another, to Gods and supernatural beings, to an ancestral past or to the future, and to the world and nature at large.
>
> These qualities of homes are not universal, and there is enormous variation among cultures and over the course of history in the form, use, importance and role of dwellings in peoples' lives. Regardless of their variation across cultures, however, there is no escaping the fact that homes are among the most central physical settings of human life. (Arias 1993, xix)

The focus of this thesis is to provide design criteria for affordable housing that ensures that a community's architectural, ecological, and cultural characteristics are maintained. The design criteria are based upon defining the historical architectural character of a community, ecological protection and preservation of the landscape, and historical and present day social aspects. While this is not an entirely new construct, this exploration may provide alternatives within landscape architecture for designing within the low income sector of the population.

For years, arguments have arisen over the role landscape architects play in the engagement of the less glamorous corners of the built environment. The accolades tend to be awarded to those designs that serve communities within the upper-income and less

than diverse communities. Often times, the designs that serve low-income and ethnically diverse communities tend to not receive *quality* planning and design.

> "This is all the more surprising given that Frederick Law Olmsted's great vision for the built landscape, articulated so clearly in his plan for Central Park: that the built landscape should create a green, healthful respite to the teeming cities of his day and provide a setting where people of all backgrounds and classes could freely come together." (Thompson 2002, 39)

With Olmsted's vision in mind, this thesis proposes a clear set of design criteria that provides for quality design within the affordable housing sector of the population. The design criteria proposed in this thesis is applicable in any community; whether it is an expanding community or infill project, or within a rural, suburban, or urban setting. This set of design criteria will provide communities with the best mechanism for affordable housing design; it provides a clear, collective vision for any growing community in need of creating more affordable housing opportunities.

I have chosen the town of Bluffton, South Carolina as the location for the thesis site. There are many attractive aspects that drew me to the overall character of Bluffton. These aspects include Bluffton's architectural, environmental, and cultural qualities.

First, is the architecture of Bluffton. It has been described as "light" and "whimsical". The "lightness" alludes to light building materials, such as wood and sheet metal, which do not take on a heavy or permanent character like brick and slate. The buildings of Bluffton are made of wood; there are no stone, stucco, or brick buildings existing. Bluffton's "whimsies" include the abundance of artists and their shops that are full of creative signage, decoration, and sculptures. Bluffton is known for its artistic culture.

Another of these aspects is the brackish, freshwater, and wetland waters of Bluffton and the importance of these waters to Bluffton's founding and culture. These waters have provided refuge for wildlife, shrimpers, boaters, fishermen, sightseers, and recreation. It is within these waters that Bluffton's cultural activities are based; whether it is a community oyster roast or a weekend fishing tournament. Just onshore, you'll find what might be Bluffton's greatest defining characteristics.

Bluffton's landscape is characterized by its makeup of vegetation native to the South Carolina low country. There, streets are tunnels consisting of the outstretched limbs of mature live oaks and the textured tops of palmettos. Other native plants predominate in the landscape in Bluffton, including, scrub palmettos, rhododendron, magnolias, tall pines, deciduous oaks, wax myrtles, pittisporum, dogwoods and yaupon. The native vegetation is just that, native; one will not find a highly manicured or rigid planting configuration in the town of Bluffton. The vegetation here is allowed to grow freely and naturally.

Over the past 20 years, Bluffton has grown from a small sleepy coastal town with a strong sense of place and community into a much larger sprawling resort-oriented community, comprised of more than 39 square miles. Bluffton is famous for its "State of Mind":

> "How fast can you slow down?"
> "The way the South was before the Civil War."
> "Leave us the hell alone and let us shuck oysters." (South Carolina Downtown Development Association 2000, III-1)

The physical character of Bluffton reflects those attitudes. It is this community's goal to preserve its unique sense of character and still grow in a responsible way.

A community's economic success depends upon growth. Growth can be hindered by a lack of affordable housing. When the sector of the population in need of affordable housing is no longer able to find it, they tend to leave a community. This exodus causes a community's economy to tumble. (HHI-BCC 2002)

Currently, Bluffton is in the midst of an affordable housing shortage. The constituents of the town are interested in providing for affordable housing that does not detract from the community's defining characteristics. Bluffton has begun this with the Bluffton Historic Small House Series (BHSHS). This program provides economic assistance to citizens in need of replacing an existing manufactured home or infilling a vacant lot or acreage within the city limits of Bluffton. The BHSHS, designed by Hall and Hull Architects, Inc., offers the advantages of modular construction to the highest codes and wind loads, with design features taken form interesting Bluffton homes. In addition, because they are classified as equivalent to "stick built" construction, they offer loan and grant possibilities that make these houses very financially attractive. To get this economic assistance, the homeowner or landowner must use one of the designs from the BHSHS. The architecture of the design criteria for this thesis will be based on the house styles of this series. With the architectural criteria already in place, it is the goal of this thesis to provide design criteria for the planning of the communities that these affordable homes will occupy.

As development proceeds, Bluffton's Genius Loci or *spirit of place* is threatened. To ensure that this does not occur, Bluffton is beginning to provide for a density bonus initiative, which is a program that rewards good design with higher possible building densities. This initiative lowers the land cost for future homeowners. Currently there are

no design criteria that could be used to qualify for the density bonus initiative. A design, based upon this thesis's design criteria of an affordable housing community, should provide for the assurance that Bluffton's character is not lost. Moreover, an effective design instigated in concert with the BHSHS and the density bonus initiative can be a highly effective tool for not only lowering the cost of housing, but assuring that Bluffton's "State of Mind" is not lost.

I have selected a one hundred acre property within the city limits of Bluffton as the site for this thesis. The reasons for choosing this site include the following:

1. The property contains access to water and has wetlands within the site boundary. The water access, which is an important aspect of Bluffton, provides for the opportunity to provide community interaction through recreational, cultural, or aesthetic means. These areas also provide for the implementation of environmental protection for riparian and wetland zones. These protected zones can become greenspaces for the community. (See Figures 1.1-1.2)

2. A portion of the site has historically been used for the logging of loblolly pine trees. This area provides for the opportunity to restore the portion to the native ecosystem common in the coastal plain. (See Figures 1.3-1.4)

3. This property, with its strong natural features, is a site where the interface between architecture with a strong sense of regional character and environmental design/landscape architecture may be explored.

4. The site has features that are present throughout Bluffton. The site presents an array of physical, functional, and cultural issues that may be used as inspiration for affordable housing growth within the Bluffton area. The criteria applied to this site can be applied

Figure 1.1: The Edge of the New River

Figure 1.2: An Oak Filled Wetland Floodplain

Figure 1.3: Existing Loblolly Pine Stand

Figure1.4: Vaccineum arboreum (Sparkleberry – our old friend)

just as effortlessly to an infill project or a site with less acreage or greater acreage. This site was chosen independently of its location, but purely for its site features and amenities that are familiar to the Bluffton area.

Organization

This thesis is organized into eight chapters, including the introductory chapter, which reveals the primary focus and purpose. The selection of the one hundred acre site in Bluffton, South Carolina is explained in detail.

Chapter II provides an in-depth overview of the implication of affordable housing in America. It provides an exploration into the need and meaning of affordable housing. It also offers reason behind the need for *quality* design in the affordable housing market.

Chapter III presents the story of Bluffton's dynamic history and growth over the ages. It describes the town's change from a sleepy summer getaway for area plantation owners to its transformation into one of the fastest growing resort areas in South Carolina. With this tremendous change in population, the chapter also explains the town's need for affordable housing.

Chapter IV examines the concept of Genius Loci or *spirit of place.* The chapter describes how the idea of Genius Loci has evolved over time from the mythical notion to the Greek's domestication of the notion, and to how this idea has been applied to a particular community's spirit of place. Chapter IV also defines, for the purpose of this thesis, those components which create the Genius Loci of a place.

Chapter V discusses the built environment and the role it plays in the Genius Loci of a place. The components of the built environment included in Chapter V are the townscape, the architectural aesthetic of a community, and the importance of the street.

These components are then compared to the existing built environment of historic Bluffton.

Chapter VI discusses the natural environment as a component for the Genius Loci of a place. This chapter explores Randall Arendt's process for master planning a site adjacent to a shallow bay and two tidal creeks. This landform is similar to the site in Bluffton. Next, the chapter explores the idea of sustainability and how to maintain sustainable developments over time.

Chapter VII explores the cultural implications of designing affordable housing communities. It explores the relationship culture has with the environment and how the preservation of culture leads to the preservation of the landscape. The chapter then reveals the contemporary and historic cultural aspects of Bluffton.

Chapter VIII focuses on the application of my thesis ideas to the design of an affordable housing community in Bluffton. It provides answers to many of the questions asked throughout the thesis. It presents the overall rationale for the design as it relates to similar constructs. Maps depicting various site information and analysis are presented to give insight into the development of the conceptual, preliminary, and final master plan.

CHAPTER II

AN EXPLORATION INTO THE SIGNIFICANCE OF AFFORDABLE HOUSING

Defining Affordable Housing

> 'Affordable housing' is the latest in a long list of synonyms to denote housing for those who cannot afford the free-market price. Earlier in this century it was called 'poor housing' or 'subsidized housing.' The rubric for all of these, and the term used by most Europeans, is 'social housing,' which expresses both the intention and the need. 'Social housing' implies that a responsible and humane society has an obligation to assist those of its members who could not otherwise have decent housing. (Davis 1995, 1)

For the purposes of this thesis affordable housing is "housing that receives direct or indirect financial assistance, housing that is developed outside the purely market-rate private system." (Davis 1995, 1) To ensure the stability of families and communities, it is essential to make decent, safe, affordable housing available. To the individuals who occupy it, housing is more than just wood and bricks, or sanctuary with electricity and running water, whether urban or rural. This shelter is a home that symbolizes the homeowner's individual characteristics and pride. The collections of these shelters become the foundation of society.

The Need for Affordable Housing and Design

In 1949, the U.S. Congress adopted legislation that called for "a decent home and suitable living environment for every American family." Nearly 50 years later, this goal remains an elusive dream for many households who are experiencing housing affordability problems. This is evidenced, for example, by the continuing decline in home

ownership rates among, particularly, the younger age groups and the excessive proportion of income paid for housing by many low-income renters. (Van Vliet 1997, xxii)

Three trends seem to have contributed to the problem of housing affordability over the past twenty-five years:

1. Low-income families lost real income at an unprecedented rate;

2. Housing prices for the poor escalated faster than for any other group;

3. Federal support for new subsidized housing was substantially reduced. (Ford Foundation 1989, V)

In addition to these trends, changes have occurred in percentages of income paid by the poor for housing. In the 1970s, poor families spent thirty percent of their income for housing. This was an acceptable level according to the current standards of the Department of Housing and Urban Development (HUD). By 1985, the poor were spending 58 percent for housing. (Ford Foundation 1989, 13)

Throughout the 1970s and 1980s, low-income families were affected by the deepest income loss of all socioeconomic groups and the greatest increase in housing costs. The cost of housing has risen due to mass-production techniques and technological improvements that have contributed to the rise in the standard of living. The building industry has not been able to match the mass-production techniques that pass the savings along to consumers. This trend along with rising production costs, rising land costs, and rising financing costs have compounded the problems the poor have in acquiring housing. (Ford Foundation 1989, 13)

Reason for *Quality* Design

With all of these problems facing the poor in acquiring affordable housing, why even think about making the argument for *quality* affordable housing design? Is there value in design for such a basic need as housing? Most individuals know that good community design has a price tag, and while a landscape architect or architect can bring value to a community, they seldom include savings. It is unique for an individual to go to a landscape architect or architect to save money. The stereotype is perpetuated by the landscape architectural profession and the media that *quality* design comes at a cost, or is only designated for the privileged and famous. This misconception is not an accurate perception.

Planning and design affect a large percentage of the cost for a community plan. Careful planning, economical, and high quality design that savse ten percent of those costs can reduce the monthly payments by one hundred dollars in perpetuity. For example, creating a community that uses zero lot lines and has plenty of shared open space can save a homeowner on land costs and taxes. Another example is Bluffton's density bonus initiative, which is a program that rewards good design with higher possible building densities. These higher densities reduce the cost of the land and pass savings along to the future landowners. It is important to keep in mind that reducing costs with these early design decisions does not affect the community economically or socially in the future. In fact, taking measures early on that are not necessarily economical will often pay off in the long-term.

Housing and the communities in which people live are not merely shelter and places to reside. These places give people a sense of dignity and self-importance. To

ignore this aspect when designing a community for affordable housing, or to only consider it a privilege for those who can afford it, is to promote both social and financial disaster. Housing and the designs that create residential neighborhoods are the primary ingredients to forming a strong sense of community. Often times, affordable housing communities force their populace to be disconnected and alienated, especially if the community is created in such a way that they are socially, economically, and architecturally disconnected from the surrounding communities.

For years, the development of affordable housing communities has been largely designed without consideration for local needs, codes, customs or climates. Generally, there has been a standardized or generic design for these developments that leads to the overall alienation of these communities from the surrounding communities. There has always been the misconception that affordable housing should not exceed a minimum standard- that it should be no more than basic, safe, and clean. The idea that affordable housing should meet the cultural and psychological needs of its residents or have the quality and amenities of market-rate housing is often seen as a misguided use of money, particularly if the housing is subsidized. This condescending attitude has led to the development of housing that stigmatizes and penalizes its residents, that denies their dignity and their humanity.

The design of these affordable housing communities can be used as a tool to remove the stigma associated with living in the normative affordable housing development. This can be accomplished by ensuring that the affordable housing community is connected to the surrounding communities, whether it is architecturally,

socially, or naturally. The focus would be to weave the thread of affordable housing back into the fabric of the surrounding communities.

CHAPTER III

THE STORY OF BLUFFTON'S "STATE OF MIND" AND ITS CALL FOR AFFORDABLE HOUSING

The Story of Bluffton's "State of Mind"

> Bluffton, "A State of Mind" is many different things to many different people. To the old-time residents it is a haven free of regulations and restrictions where you can live your lives in peace. To the Newcomers it is a haven of new opportunity and proximity to the coast. To all it is an opportunity to preserve antiquities and a wonderful way of life. (Heyward 2001)

The Town of Bluffton is characterized as a little summer retreat on the high bluff banks of what the French named the May River. The French made no other contribution to settling the area, but the Spanish plotted to keep it in the hands of their Indian allies, rather than the English who settled Charles Towne in 1670. After the failure of the Yemassee revolt in 1715, the English Lord Proprietor divided up the "Indian Lands" and Sir John Colleton drew the surrounding Devil's Elbow Barony. His grandson, also Sir John, built plantations at Victoria Bluff and Foot Point. By the time the British destroyed these places in 1779, Colleton had already divided his barony into six tracts, sold them, and died. The site of Bluffton had gone to Benjamin Walls. (SCDDA 2001, II-1)

Since the Beaufort county records were later destroyed by Sherman's troops, it is difficult to say exactly who came when. The records were in the process of being moved from Gillisonville to Columbia, where they would have been burned anyway. In the early 1800s, Bluffton came to be a summering place where the families of the rice and cotton planters of the Lowcounty could escape the heat, insects and malaria of the near-sea-

level plantations. It appears that the Pope and Kirk families were seeking refuge from malaria in Bluffton as early as 1800. Other cotton and rice planters from Hilton Head and elsewhere followed. In the 1830's the streets as we now know them were laid out. Though the place was known at first as May River and then as Kirk's Bluff, the name of Bluffton was settled on at a town meeting. The new name was a compromise between the Kirk and Pope families and an obvious choice since the town has several miles of high bluffs facing into a favorable southeast breeze. The newly named town continued to grow and would soon have both Episcopal and Methodist churches, a private school, a Masonic lodge, and several stores. (SCDDA 2001, II-1)

It was a merry place where everyone swam, boated, fished, crabbed, shrimped and in the cooler weather, enjoyed the oysters, clams and scallops as the Indians had done long before and as the present day residents still do. Bluffton grew, and travel between the coastal towns in the early days was of course, mainly by water. So as Bluffton was between Savannah on the south and Beaufort and Charleston on the north, it became an important distribution center. Out of Bluffton to the coastal cities flowed crops from the farms and plantations, and often from there to Europe, and back came supplies the farms needed. Soon the main street of Bluffton, leading to the town wharf, boasted well-stocked general stores and boarding houses to serve the increasing number of travelers. This commerce brought Bluffton year round residents. Then in 1844, Federal tariffs (that made the goods they imported from abroad excessively expensive) angered the planters around Bluffton. Out of this discontent grew the "Bluffton Movement". Incensed planters gathered beneath what became known as the "Secession Oak," and the secessionist movement was born. (Short 1983)

This secession was led by Robert Barnwell Rhett, the "Father of Secession." He promoted the idea of the rebellion, but the rhetoric faded as the secession arrived. After Union troops took control of Hilton Head Island, the residents of Hilton Head were evacuated to Bluffton in November 1861. Soon after, Bluffton itself was evacuated. All homes and their furnishings owned by Blufftonians were abandoned to the Union troops who occasionally passed through. Confederate pickets were still stationed in Bluffton to offer token resistance, so in June 1863, one thousand Union troops in three vessels were sent to destroy the community. Though Southern troops took up positions nearby, they could do nothing to stop the enemy from burning two-thirds of the town. Only thirteen homes, eight of which remain, and the two churches were left standing. (SCDDA 2001, II-2)

While it still had its summer visitors, in the years following the Civil War, Bluffton grew back as a commercial center with at least seven large general stores on Calhoun Street. The riverboat was the main link with the outside world until the completion of the Savannah River Bridge in 1926. Businesses then declined, for customers now drove away for their supplies, but popularity as a summer village increased; Savannah residents could commute. Real prosperity did not return however, until the development of Hilton Head and other resort communities. Rich or poor, Bluffton has remained remarkably unchanged. Bluffton is a true village. (Baldwin 2000)

A Sea of Change

After the Civil War, Bluffton and the surrounding Lowcountry remained home to a hardy, peace-loving community of individuals who farmed and worked on the surrounding waters, living on what they alone had learned to wrestle from the

environment. Just across the Intercostal waterway lies Hilton Head Island. The island was home of the Gullah people who also worked the land and waters for their livelihoods. These African Americans lived simply and asked little from the rest of the world, and little was forthcoming. From 1866 to 1949, portions of Hilton Head were the settings of their small-scale farming operations. They acquired about 22 percent of the island's land from the Freedman's Bureau and others in the 1863-1870 period. Their farm income was supplemented by cash earned in work on dredges, jobs on the Savannah waterfront, and in oyster packing operations. The remaining 78 percent of the island was used for hunting plantations until 1956. (Greer 1995, 5&9)

Then along came a sea of change embodied in a dynamic, Yale Law School graduate who knew the history and the land and had his own vision. Twenty-six-year-old Charles Fraser ushered in the modern resort era of Hilton Head Island. Between 1949 and 1950, Fraser, along with the McIntosh, Stebbins, and Hack families, purchased 18,000 acres of the island to begin a low-density development for most of the island, with abundant parks and open spaces. They believed that given the right controls and the right combinations of a long list of elements, this island could be home to hundreds, even thousands, of people who would be grateful for its natural beauty and forgiving climate. (Greer, 1995, 9)

Over the next 35 years, Hilton Head evolved into the present day resort town. This dynamic change to the local economy, a far cry from the quiet peaceful days of the Gullah farmers, created an economic spillover into Bluffton. The development that occurred on Hilton Head is expected to happen within greater Bluffton as well. Only

what took over 35 years to occur on Hilton Head is expected to happen in less than half that amount of time in Bluffton.

The Call for Affordable Housing

With development at full capacity on Hilton Head, the cost of living and property values began to skyrocket. As a result, the work force needed to supply Hilton Head was forced to find more affordable living in Bluffton. At the same time, developers had their eyes on large tracts of land in Bluffton that could supply the ever-growing demand for upscale golf course communities. The face of Bluffton was changing from the rural south to that of sprawl and suburbia. Growth in Beaufort County from 1990-2000 was the highest in the state at an average annual rate of 3.99 percent. The county is divided geographically by the Broad River into distinct areas – northern Beaufort County (growing at an annual average rate of 2.18 percent) and southern Beaufort County (growing at 7.3 percent). Since the preponderance of growth in the county has taken place during the last few years, the year 2000 growth rate was well above the annual ten-year average rate. Some say it was as high as 5 percent for northern Beaufort County and 12 percent for southern Beaufort County. County and municipal governments have granted irrevocable permits for the population growth that has taken place (and continue to do so today), especially in southern Beaufort County (recently a rural area), which has a permitted population in excess of 100,000 people. (SBCCA 2001, 1)

The town of Bluffton, comprised of more than 39 square miles, is in the throes of an unprecedented real estate building boom with much of its land legally committed for up to 50 years to commercial and residential development. With Bluffton prospering in the 1990s, there was little focus on the drastic shortage of quality affordable housing.

There were very few options for individuals low on the economic scale to own their place of residence. This has forced most of the work force to become renters and not owners. (SBCCA 2001, 1)

In the winter of 2002, during a real estate, construction, and land development economic meeting sponsored by the Greater Beaufort Chamber of Commerce, leaders in the construction and real estate industries portrayed the Lowcountry as fertile ground for continued growth. They also cautioned that the prosperity also harbors some ills, such as a lack of affordable housing, which, in turn, leads to taxed transportation networks because lower-income workers are forced to commute from outlying areas, such as Jasper and Hampton counties. (*The Island Packet,* March 16, 2002)

In the Hilton Head/Bluffton area, the average cost of a home is $530,000, compared to the South Carolina state average of $130,000, and a national average of about $147,000. In Beaufort County, the average price of a home is about $200,000. (*The Island Packet,*2002)

People in the service sector of Bluffton's economy have very few chances for home ownership. This often forces them to look in the surrounding counties for housing opportunities. When affordable housing is not available, the resulting imbalance in the social structure of a community upsets patterns in traffic, crime, livability, and the general mollifying experience of the society. (See Figures 3.1-3.3)

> Where are your teachers, firemen, your policemen going to live? Where are the people who are going to service the hotels going to live, and how are you going to protect the quality of life and still ensure that people can get where they intend to work without clogging the arteries? (*The Island Packet,* 2002)

According to Ginnie Kozak, the leader of the housing assessment portion of the Bluffton Community Strategic Plan, the average citizen cannot begin to afford the average new home built in Bluffton. Kozak projects that the situation will not improve without serious effort. (*The Island Packet,* April 18, 2002)

Figure 3.1: Typical Affordable Housing in the Town of Bluffton

Figure 3.2: Typical Affordable Housing in the Town of Bluffton

Figure 3.3: Typical New Multifamily Rental Units in The Town of Bluffton

In Bluffton, the affordable housing problem will always exist because of the constant demand for upscale golf course communities and the developers' desire to acquire maximum profit for their lands. There are, however, a number of ways in which the problem is being addressed. They include rehabilitation grants for older homes, a Habitat for Humanity effort, and the publicly encouraged but private options offered by several tract housing builders. Two of the more promising possibilities emerging in the town are the Bluffton Historic Small House Series (BHSHS), which are pre-approved designs of modular homes, and the density bonus initiative, a program that rewards good design with higher possible building densities. The former speaks to the rising cost of building; the latter serves to reduce the cost of land, thereby approaching the affordability issue from both ends. (*The Island Packet,* April 18, 2002)

With the BHSHS coupled with the density bonus initiative, developers are better able to provide affordable housing without having to sacrifice profit. A design based upon this thesis' design criteria of an affordable housing community should qualify as a development for the density bonus initiative. Moreover, an effective design instigated in concert with the BHSHS and the density bonus initiative can be a highly effective tool for not only lowering the cost of housing, but assuring that Bluffton's "State of Mind" is not lost.

CHAPTER IV

THE SPIRIT OF PLACE: A METHODOLOGY BASED ON ARCHITECTURAL, NATURAL, AND CULTURAL PRECEDENTS

> We will recall the old concept of 'Genius Loci.' Since remote times man has recognized that different places have a different character. This character is often so strong that it, in fact determines the basic properties of the environmental images of most people present, making them feel that they experience and belong to the same place. (Norberg-Schulz 1979)

Genius Loci in Mythology

The Greeks and the Romans associated every place with a particular deity. Every fountain, valley and mountain had its own protecting divinity. The Genius Loci was a lesser, local god: it did not live on Mount Olympus but in a given town, hill or area of the countryside.

There were various types of Genius Loci. Nymphs lived in fountains, streams and the sea: they were not immortal but generally enjoyed a long life. The Naiads, nymphs of springs and lakes, brought fertility. The Dryads were the spirits of trees, woods and forests. According to very ancient myths, every Dryad was born to protect a tree and lived in it or in its proximity. Since the dryad died when its tree fell, the gods punished those who had caused the destruction.

In order for a town or fortress to remain intact, the deity had to continue living there. Rooks represent the Genius Loci of the Tower of London. According to legend, the Tower will remain intact as long as the birds continued to dwell there. Geese are connected to the Genius Loci of the Capitol in Rome. In 390 B.C., when the Gauls

invaded Rome, the squawking geese woke up the consul Manlius Marcus Capitolinus who was thus able to chase away the invaders. (Berry, 1999)

The Genius Loci had a particular relationship with the harmony of a given place and endeavored to preserve the appropriate balance between water, wind, vegetation, buildings etc. It became irritated if the characteristics and harmony of a specific place were altered as a result of actions or gestures that were extraneous to its nature.

Domestication of Genius Loci

The Greeks and Romans suggested that places could have a soul and become the habitat of a spirit, Genius Loci. The places earn their soul through the deposit and accumulation of affects that are brought by the inhabitants over a long period of time. Such a process is characterized by various moments and stages.

There is also the notion of the "domestication" of objects. Thus, the objects that surround us are "domesticated" objects. "Domesticated" objects are obvious. A fork, a chair, a lamp are objects that raise no doubts; we do not question ourselves about them. They are objects that we recognize at once, we use them with the greatest of ease and they contribute to defining our identity. When we see them they evoke a feeling of being at home, of being in a familiar world. (Freud, 1919).

When an object loses its domestic quality, it can no longer be used. Likewise, when the Genius Loci leaves a place, that place loses its soul, it becomes an easy prey for an enemy.

The notion of Genius Loci, *the spirit of place,* is based upon the belief that each town has its own individual special uniqueness, character, identity, aesthetic, and spirit, which differs form all other places. A spirit, which has value and meaning to a town's

inhabitants, and without which their quality of life would be diminished. When the spirit or environmental image, is altered, destroyed, or removed from the daily lives of the populace, the essential bond between person and place can be broken, with a subsequent tangible loss in the basic quality of life. This phenomenon is not localized to one region or culture, but has been shown to persist on a worldwide scale. (Garnham, 1985) Rene Dubos affirms that, "The widespread acceptance of the words 'Genius' and 'Spirit' to denote the distinctive characteristics of a given region or city implies the tacit acknowledgement that each place possesses a set of attributes that determines the uniqueness of its landscape and its people." (Dubos, 1971)

Alexander Pope stated, "Consult the Genius of the Place in all." This statement can further be understood as, "local climate, resources, and terrain determine the kind of Landscape and Architecture which is best suited to a particular region." (Dubos, 1971)

For the purpose of this thesis, it is central that a place's components of identity of *spirit* are isolated. It is then central that these components are separated into sets that enable the opportunity for settling on further speculation. For this to happen, it is important that each place's character, *spirit*, and identity are defined. These notions can then be applied to future design-making decisions.

Criteria for Maintaining the "Genius Loci"

According to Dubos, the primary components of identity are determined to be:

1. Physical Features and Appearance: The actual physical structure of a place; the reality of its buildings, landscape, climate, and aesthetic quality.

2. Observable Activities and Functions: How a place's people interact with it, how their cultural institutions have affected it, and how the buildings and landscapes are used.

3. Meanings or symbols: A more complex aspect, primarily the result of human intentions and experiences. Much of a place's character will be derived from people's reaction to its physical and functional aspects. (Dubos, 1971)

For the purpose of this thesis, it is important to simplify the determination of these components that create the Genius Loci of a place. The unique character or spirit of place will be based upon the overall **architectural** aesthetic, the **ecological** identity and preservation, and the **cultural** aspects of setting. After each aspect is determined, design decisions for future growth within a community can be made with the idea that these individual aspects of the Genius Loci are not destroyed.

CHAPTER V

THE BUILT ENVIRONMENT AS A COMPONENT FOR THE GENIUS LOCI OF A PLACE

> The essential fact, which makes it possible, is that the patterns are not generated, suddenly, completely, but that instead each larger pattern comes into being as the end product of a long sequence of tiny acts – and that these tiny acts themselves have the power to create the pattern, if they are repeated often enough. (Alexander 1979, 499)

The Townscape as a Component

For the purposes of this thesis, the criteria of townscape will be defined by two components. These two architectural components that define the unique character, or strong sense of place are (a) a community's overall architectural aesthetic and (b) the spatial characteristics of a community's streets. These two aspects include an array of architectural characteristics that create the unique townscape of a place or visual architectural aesthetic.

The Architectural Aesthetic as a Component

The elements used to define the exterior and interior in architecture are important to defining not only individual buildings, but also the townscape of a community. It is, as described by Alexander, the generation of the built environment with these elements that over time begin to create a community's architectural pattern.

Throughout history, the architecture of early civilizations took on a more homogenized townscape. For example, the townscapes of Japan and Europe were lined with somewhat similar types of buildings. The European cities were defined by their masonry construction of stone or brick taken from the local area. In Japan, one would

find that all buildings were constructed of wood, using cedar or cypress for structural members and local clay for roof tiles. (Ashihara 1983, 67)

Traditional cities were much better equipped to compile a townscape with a composition of buildings that had similar characteristics. The use of local materials and construction techniques, coupled with the methodical approach to growth, has made traditional cities able to maintain a definable *spirit of place*. Throughout the past several centuries, with the introduction of modern architecture and the automobile, and the increased change in program needs for buildings, townscapes have taken on an exceptionally different appearance. The scale of buildings has gone from the human scale to the skyscraper. Also, with the standardization of construction materials and techniques, buildings have not been built with an aesthetic that relates to the local materials or environment. (Kunstler 1993)

It is essential to begin looking for a community's architectural character. At this time, a record of the town's details will be taken. This visual survey should begin by determining color, form, texture, materials, and construction methods of the objects that weave the overall aesthetics of the town together, coupled with looking at the building types and materials used previous stages of a place's development. It is in these early stages that the materials and style of the architecture relate most to the place's regional resources and environment.

In the case of affordable housing, it is also important to determine the various housing types used for affordable housing. It is then vital to document all aspects of these structures, including the materials used, style, and spatial or programming needs. It is

then important to determine what modern construction techniques and materials can be used to ensure that the integrity of the historical style of these buildings is maintained.

The Affordable Housing Architectural Aesthetic of Bluffton

Throughout Bluffton and the surrounding Lowcountry, the landscape is scattered with a disappearing architectural form, akin to the "shotgun" home, known as the lowcountry cottage. These cottages have long been a part of the rural Lowcountry landscape and make a tremendous input to the Lowcountry's *spirit of place.* Most of these unique house forms are beginning to deteriorate and disappear through the act of "demolition by neglect." (See Figure 5.1) It is important to the Lowcountry's rural and urban character that these house forms remain as part of the landscape. (See Figure 5.2)

Figure 5.1: A Deteriorating "Lowcountry Cottage"

Figure 5.2: An Occupied Cottage on St. Helena Island

According to Teri Norris, the Beaufort County Long-Range Planner, these structures "speak to the environment, climate, and living very simply on the land. They inspire an appreciation of the charm, scale, and functionality of these buildings. It is suggested that such vernacular county styles be used as templates for future affordable housing designs. The lowcountry cottage is one character feature that need not completely disappear and in celebrating its value, we might fulfill a dire county-wide need [Affordable housing]." (Norris 2002)

Since Bluffton began as a summer retreat for early plantation owners prior to the civil war, Bufftonians had frugality in mind when constructing these "second" homes. As stated in the introduction, the architecture has been described as "light" and "whimsical".

The “lightness” alludes to light building materials, such as wood and sheet metal, which do not take on a heavy or permanent character like brick and slate. The buildings of Bluffton are made of wood; there are no stone, stucco, or brick buildings existing. Bluffton’s “whimsies” include the abundance of artists and their shops that express and outpouring of creative signage, decoration, and sculptures. (SCDDA, 2001) (See Figure 5.3-5.5)

Figure 5.3: “Lightness”: A Typical Home in Bluffton

Figure 5.4: "Lightness": Typical Homes in Bluffton

Figure 5.5: "Whimsy": Motorcycle Sculptures in Front of a Bluffton Art Gallery

It is important that future affordable housing design incorporates not only the aesthetics and functionality of the traditional lowcountry cottage, but also the "lightness" described as being part of Bluffton's architectural character. As described in Chapter I, Bluffton has begun an affordable housing program with the Bluffton Historic Small House Series (BHSHS). This program provides economic assistance to citizens in need of replacing an existing manufactured home or infilling a vacant lot or acreage within the city limits of Bluffton. The BHSHS, designed by Hall and Hull Architects, Inc., provides a design that incorporates the traditional style of the lowcountry cottage with "lightness" in construction that is typical of the Bluffton vernacular. (See Figure 5.6 and 5.7)

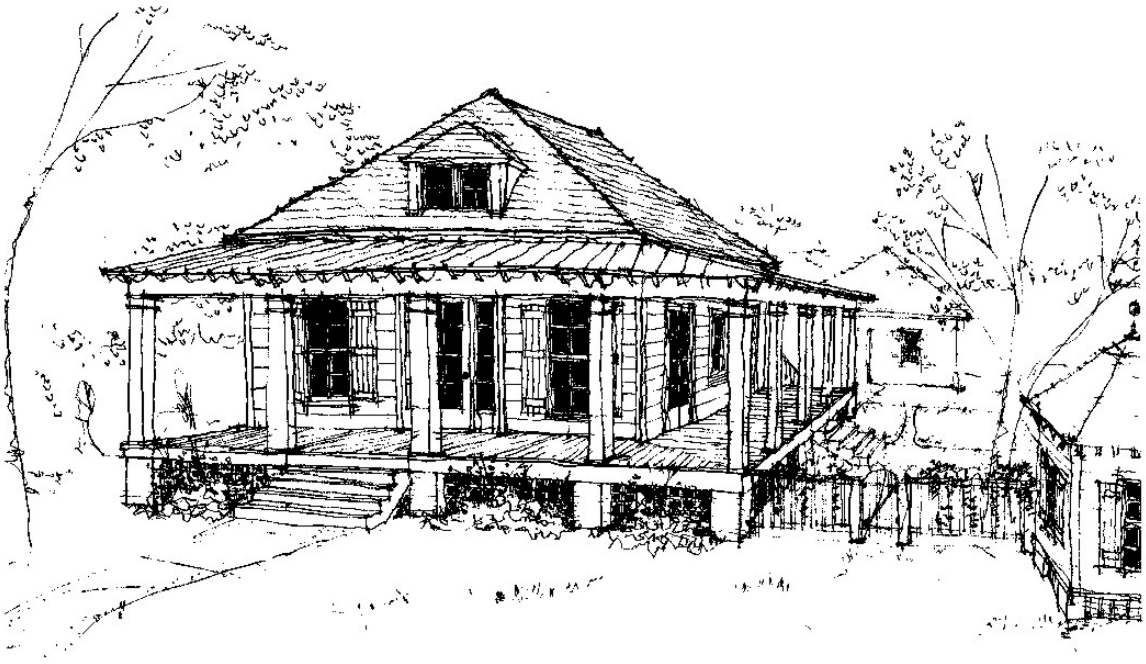


Figure 5.6: BHSHS Gold Series – The Shotgun House (Hall and Hull Architects, Inc.)

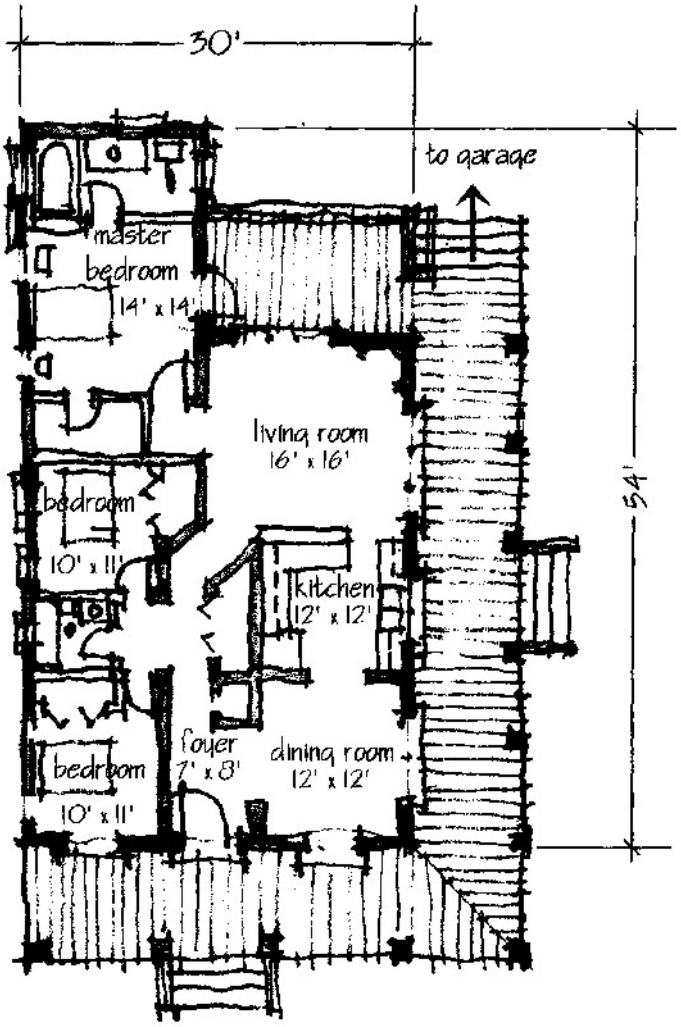


Figure 5.7: BHSHS Gold Series – The Shotgun House (Hall and Hull Architects, Inc.)

The designs recommended by Hall and Hull Architects, Inc. provide assurance that Bluffton's traditional architectural aesthetic is not lost. (See Figures 16-24 of List of Figures) They accomplish this by designing these structures to be built using traditional vernacular, regional and local materials. They have also cleverly designed these homes to reflect those lowcountry cottages that are rapidly disappearing from the Lowcountry landscape. They reflect those cottages in scale, proportion, functionality, and materials. In

addition to the fact that these designs maintain the Bluffton vernacular, they have also created designs that are much more efficient by incorporating modern materials and construction techniques into the design. As Alexander alluded to, these elements "themselves have the power to create the pattern, if they are repeated often enough." These designs for affordable housing provide for the first initial elements that define and maintain the architectural character of Bluffton.

The Street as an Architectural Aesthetic Component

Another important aspect to the architectural aesthetic of a community is the public street. History has shown us that the cities in the Latin countries of western Europe have the strongest affection for their streets. Italians, having constructed the first roads, make the street an integral part of their daily life. Their streets become the central arena for their communities where they are the sites of time-honored customs. The street is crucial to the Italian way of life and an expression of the bonds shared by the inhabitants of their cities. (Ashihara, 1983)

Streets are more than just linear spaces that provide room for utilities, automobiles, and neighborhood boundaries. These local streets provide the thread that ties communities together, whether it is through communication, public access to property, or through public activity. The design of a street has a major role in how a community is perceived. Their sizes and arrangements give structure to a community as well as the overall aesthetic of a community.

Streets give people a space to be outside. Often times these spaces are secondary only to public spaces such as parks and plazas. It is important to note that these streets provide spaces to be sociable. Communities need these sociable spaces to be successful,

for these social spaces give a community places to communicate, interact, and exchange ideas.

It is the physical elements of streets that allow these social episodes to occur. What are the physical elements that lead to a successful community street? According to Allan Jacobs, "Streets are defined in two ways: vertically, which has to do with height of buildings or walls or trees along a street; and horizontally, which has most to do with the length of and spacing between whatever is doing the defining. There is, as well, definition that may occur at the ends of a street, which is both vertical and horizontal. Usually it is buildings that are the defining elements, sometimes walls, sometimes trees, sometimes trees and walls together, always the floor." (Jacobs 1993, 277)

There are certain material characteristics that are necessary for successful streets. Allan Jacobs states that these characteristics relate directly to social and economic criteria having to do with building good communities: accessibility, bringing people together, public-ness, livability, safety, comfort, participation, and responsibility. (Jacobs 1993, 270) It is important to note all of these aspects of a community's streets when compiling the inventory of a particular street.

There are also aspects that relate to scale, proportion, and materials. Scale and proportion relate to the townscape's ratio of street width to building or vegetation height. These proportions can be examined by using *D* for the distance between buildings or vegetation on both sides of the street and *H* for the height of the adjacent buildings or vegetation. When $D/H = 1$, this becomes the median by which spatial qualities vary depending on whether D/H is greater or less than 1. As $D/$H rises above 1, the space opens up, and, as it passes 2, gradually becomes expansive or vast. When D/H falls below

1, space grows increasingly intimate, until eventually it is simply cramped. When *D/*H equals 1, a balance is achieved; for actual design purposes *D/*H ratios of about 1, 2, or 3 are the most feasible. (Ashihara 1983, 46) (See figure 5.8)

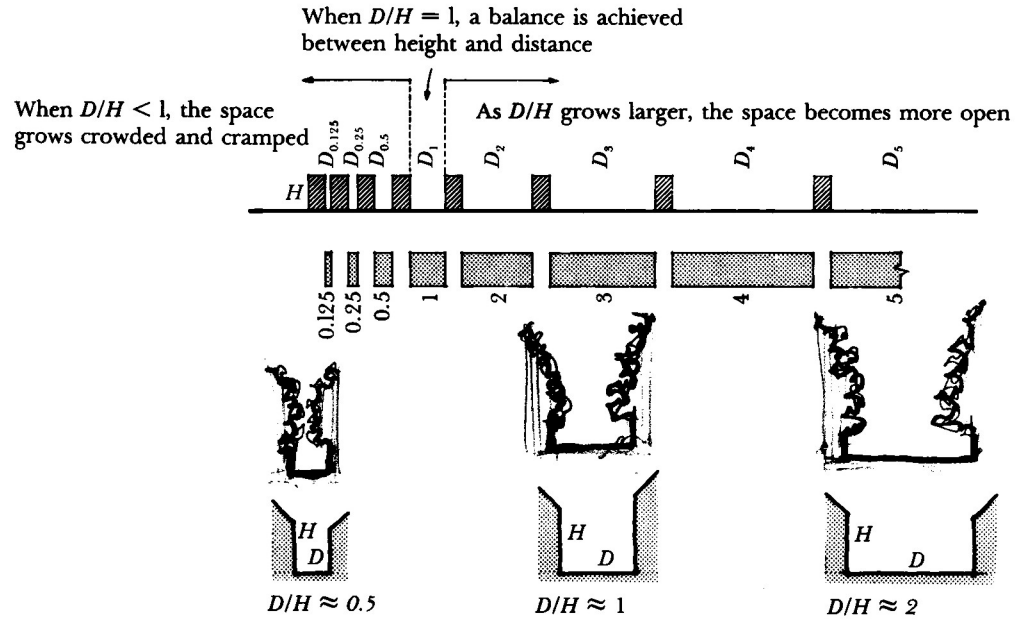


Figure 5.8: D/H Relationship in Architecture (Ashihara 1983, 47)

The materials that define a street are also important to the overall aesthetic. It is important to inventory the existing predominant materials that create the floor and walls of the street. These can be vegetation or building materials. Each community has its own unique use of materials.

For the purposes of this thesis, it is important to compile an inventory of the aesthetic characteristics of a community's streets. These characteristics include Jacob's criteria, the scale and proportion or *D/H* ratio, and the materials of the street.

Bluffton's Streets as an Architectural Aesthetic

As stated before, Bluffton was between Savannah on the south and Beaufort and Charleston on the north and became an important distribution center. Out of Bluffton to

the coastal cities flowed crops from the farms and plantations, and often from there to Europe, and back came supplies the farms needed. Soon the main street, now Calhoun Street, of Bluffton, leading to the town wharf, boasted well-stocked general stores and boarding houses to serve the increasing number of travelers. (Short 1983)

Today, Bluffton's Calhoun Street continues to remain a busy commercial area. The difference now is that those well-stocked general stores have changed to artisan shops that define part of the cultural character of Bluffton. (See Figure 5.9 and 5.10)

Figure 5.9: The General Store on Calhoun Street During May Fest

Figure 5.10: A Ceramic Studio on Calhoun Street During May Fest

Calhoun Street is composed of Jacobs' characteristics: accessibility, bringing people together, publicness, livability, safety, comfort, participation, and responsibility. It is on this street that Bluffton's cultural events occur.

Calhoun Street and the rest of Bluffton's streetscapes have similar characteristics. Street edges are soft rather than hard. Asphalt paving is narrow and often fades out into sand or grass without an abrupt edge. The few areas of hard curb and gutter edges seem suburban and out of place. Some streets are even sand or shell. Parking spaces are defined only with log or landscape timber edges, which are rarely precisely aligned. The few concrete driveways also seem ultimately suburban and out of place. There are asphalt parking lots along SC-46 which are suburban in character and do not fit with the village. Sidewalks are almost all concrete, and are separated from the street by strips of sand or

grass. Distinctive character is created where sidewalks curve out and around existing trees. (SCDDA 2001, III-4)

The South Carolina Downtown Development Association has the following recommendations for maintaining the village character of Bluffton (SCDDA 2001, III-5):

1.Sidewalks

a.Only Calhoun Street and SC-46 should have sidewalks on both sides.

b. Other through streets should have sidewalks on one side.

c. Small dead-end streets and alleys need no sidewalks.

d. Sidewalks should be oyster shell concrete or plain concrete.

e. Sidewalks should be set back from the street with a sand or grass strip in between.

2. Parking

a. Most parking should be provided by parallel parking along streets.

b. Small off-street parking areas are acceptable but should be designed for no more than four cars, except along SC-46.

c. Driveways and curb-cuts should be kept to a minimum.

d. Sand, sand and shell, shell or grass surfaces are preferred.

e. Brick or concrete pavers are acceptable for small areas.

f. Asphalt paving is discouraged.

g. Concrete parking areas should be prohibited.

3. Drainageways

a. Grassed swales are preferred.

b. Asphalt swales should be limited to high-volume flow areas.

c. Concrete curbs and gutters should not be used.

Within the residential streets of Bluffton, things begin to change. The vegetation and the natural features of the landscape define the streets. House fronts, particularly those along Brighton Beach, are oriented to take advantage of the constant breezes coming from the South and across the May River. (See Figure 5.11) The porches allow for people to engage with the street. These outdoor rooms become a popular place for people to interact with the street, beach, and community. This street's cross-section (See Figure 5.12) is open and sunny. Here, the $D/H > 1$, so the space becomes more open.

Figure 5.11: Homes Along Brighton Beach

Figure 5.12: A Cross-section of Brighton Beach

Directly behind these homes fronting Brighton Beach are a series of alleyways that are shared by the residents. Not only are the alleyways shared, but the back yards appear to be shared. There are no visual boundaries that define properties behind these homes. (See Figures 5.13-15)

Figure 5.13: Shared Alleyway in Brighton Beach

Figure 5.14: Shared Alleyway in Brighton Beach

Figure 5.13: Shared Open Areas Adjacent to the Alleyways

As one moves further into the residential neighborhood at the heart of you begin to notice that nature begins to take on a more dominant role. Streets here are defined by vegetation; for in Bluffton, the natural environment is seen prior to the built environment. Here, centuries-old live oaks extend over the roadways, sometimes completely enclosing the space along the edges and even above. (See Figure 5.14-16) The continuity of the vegetation throughout Bluffton's streets gives the town a harmony that provides the traveler a sense of enclosure and comfort.

Figure 5.14: Typical Bluffton Residential Street

Figure 5.15: Typical Bluffton Residential Street (D/H < 1)

Figure 5.16: Typical Bluffton Residential Street (D/H < 1)

After close observation, Bluffton's streets appear to provide the inhabitants accessibility (bringing people together), public-ness, livability, safety, comfort, participation, and responsibility; exactly what Jacobs prescribed for a successful street. This inventory of Bluffton's streets also provide the aesthetic characteristics that include the overall scale and proportion of Bluffton's streets as well as the materials that define the composition of the streets.

CHAPTER VI

THE NATURAL ENVIRONMENT AS A COMPONENT FOR THE GENIUS LOCI OF A PLACE

> The Biophilia Hypothesis boldly asserts the existence of a biologically based, inherent human need to affiliate with life and lifelike processes. This proposition suggests that human identity and personal fulfillment somehow depend on our relationship to nature. The human need for nature is linked not just to the material exploitation of the environment but also to the influence of the natural world on our emotional, cognitive, aesthetic, and even spiritual development. Even the tendency to avoid, reject, and, at times, destroy elements of the natural world can be viewed as an extension of an innate need to relate deeply and intimately with the vast spectrum of life about us. (Wilson 1993, 42)

Man's Biological Need for the Natural World

For years, philosophers, poets, and scientists have tried to explain how humanity is enhanced by its relationship to nature. Edward O. Wilson published the book, *Biophilia*, which attempted to offer an understanding of how humanity's relationship with life and natural process might be the expression of a biological need, one that is integral to the human species' developmental process and essential in physical and mental growth. In other words, Wilson defines the biophilia hypothesis as the "innate tendency to focus on life and lifelike processes." (Wilson 1984, I) Therefore, the notion of biophilia powerfully states that much of the human search for a coherent and fulfilling existence is closely dependent upon our relationship to nature.

Stephen R. Kellert states that the notion of biophilia can be explained with nine basic aspects of our species' biological basis for our relationship with nature. These fundamental aspects of the biological basis are referred to as the following: the utilitarian,

naturalistic, ecologistic-scientific, aesthetic, symbolic, humanistic, moralistic, dominionistic, and negativistic valuations of nature. (Kellert 1993, 43) For the purposes of this thesis, we will focus on two of Kellert's aspects, the naturalistic and aesthetic response since these two responses relate closest to the visual design rudiments within a community.

According to Kellert, the naturalistic can be explained by man's contentment for direct contact with nature. The naturalistic value includes a sense of "fascination, wonder, and awe, derived from an intimate experience of nature's diversity and complexity." (Kellert 1993, 45) There seems to be an instinctive desire for man to explore the natural world. With the modern industrial society, man's need for discovering the outside world has increased.

As suggested by O.E. Wilson, "because species diversity was created prior to humanity, and because we evolved within it, we have never fathomed its limits…. The living world is the natural domain of the more restless and paradoxical part of the human spirit. Our sense of wonder grows exponentially; the greater the knowledge, the deeper the mystery and the more we seek knowledge to create new mystery…. Our intrinsic emotions drive us to search for new habitats, to cross unexplored terrain, but we still crave this sense of a mysterious world stretching infinitely beyond." (Wilson 1984, 76) It is important to note that for the naturalistic in the notion of biophilia to occur, species diversity must be present. This diversity is not limited to just plant species, but also diversity in plant sizes, water bodies, animals, color, and land forms. The naturalistic propels man to discover and explore the living diversity of the natural world. This

naturalistic tendency provides an important basis for outdoor recreation, which in turn is one element of a good life.

Kellert's notion of the aesthetic response, or the physical attractiveness of nature, has the strongest response to the human consciousness. The beauty of nature, from the setting sun, to a field of wildflowers, or to a roaring mountain stream is the most complex of all the aspects of the notion of biophilia. Each facet of the aesthetic response has a strong impact on most people, whether physically or emotionally. Humans tend to prefer a natural design aesthetic. This has been proven in a number of studies. "one of the most clear-cut findings in the…literature…is the consistent tendency to prefer natural scenes over built views, especially when the latter lack vegetation or water features. Several studies have shown that even unspectacular or subpar natural views elicit higher aesthetic preference…than do all but a very small percentage of urban views." This tendency has been shown to express itself across cultural boundaries, "Although far from conclusive, these findings…cast some doubt on the position that aesthetic preferences vary fundamentally as a function of culture." (Ulrich 1983, 109)

Thus, with humanity's thirst for the naturalistic and aesthetic aspects of biophilia, it is important that design criteria for affordable housing focus on maintaining the ecological aesthetic of a place. This criteria should provide assurance not only in maintaining a region's ecological and natural aesthetic, but also provides assurance that the region's populace maintains its connection to the naturalistic and aesthetic response. The landscape architect Robert Marvin stated that, "at one time Americans could only react to their physical environment- to the material world. But their emotional environment was what affected their happiness. Our goal as designers should be to create

an environment in which each individual can develop into a full human being as God intends him or her to be." (Iseley 2002, 307)

Master Planning For Maintaining a Region's Naturalistic Aesthetic

With the existence of humanity's inherent need to relate to the natural world, and with an ever-growing need to protect and preserve the environmentally sensitive features of a region, it is important to begin design with a process that implements an environmental conservation approach. For the purposes of this thesis, we will focus on designing an affordable housing community that pledges not only to maintain the environmental integrity of a region, but also to one that is a lasting and nondestructive way to live on this Earth. Randall Arendt has developed design principles that can be applied to several different types of rural properties in his book, Conservation Design For Subdivisions. For the site in Bluffton, South Carolina, we will use his design principle for a site adjacent to a shallow bay and two tidal creeks due to its similarity to the Bluffton site. (Arendt 1996, 78) Following each step will be a graphical representation of Arendt's procedure for the steps taken to design for such a site. Step 1 involves acquiring all site information that will give the designer the ability to assess the site's condition. (See Figure 6.1)

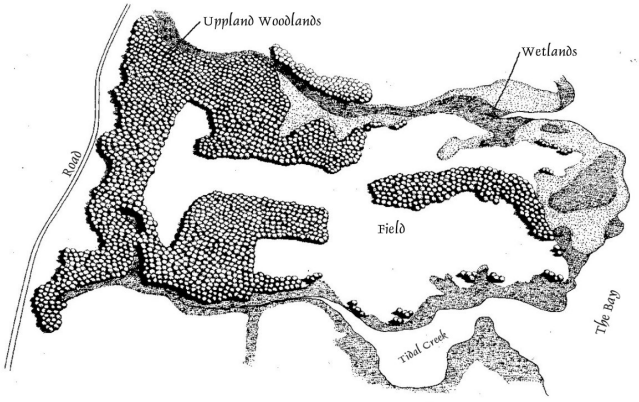


Figure 6.1: Site Before Development (Arendt 1996, p. 78)

At this time, the site analysis is completed along with any research regarding the local context. This site is notable for the cleared dry upland that borders the wetland area adjacent to the bay. This site is also noted for its ribbons of woodlands that occupy not only the dry upland but also portions of the wetland area adjacent to the bay. From this information, the designer is able to begin determining those areas of the site that are primary conservation areas based on land type or endangerment. In Figure 6.2, the sensitive areas are highlighted. These areas include hydric soils, an endangered species site, wetlands, and the 100-year floodplain.

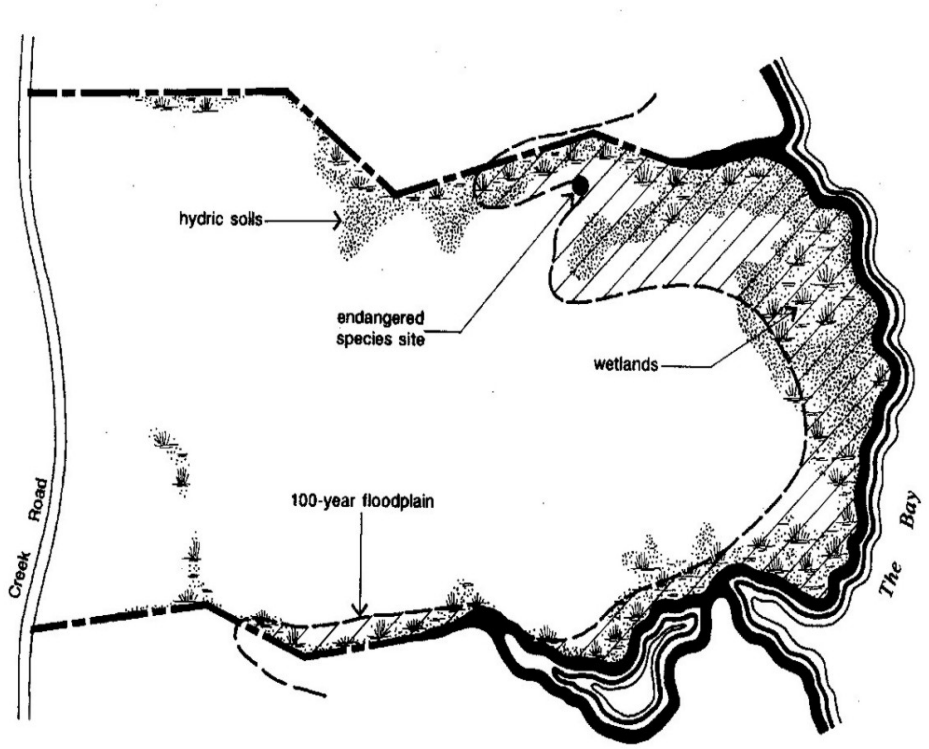


Figure 6.2: Identifying Primary Conservation Areas (Arendt 1996, 79)

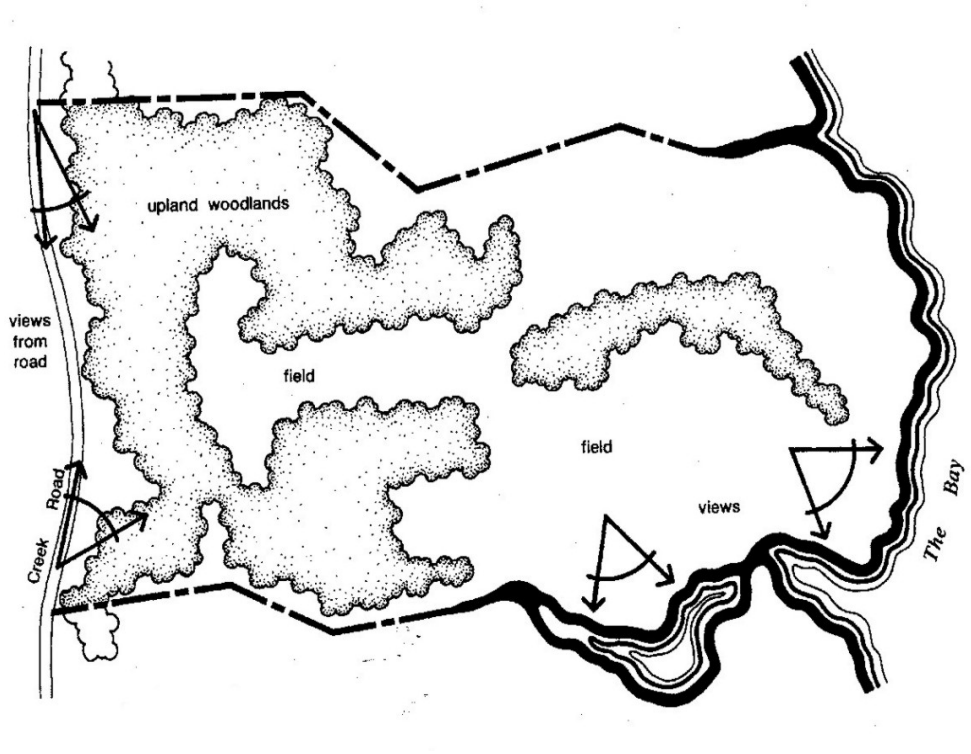


Figure 6.3: Secondary Conservation Areas (Arendt 1996, 80)

After identifying the primary conservation areas, step 3 requires the designer to identify any secondary conservation areas. (See Figure 6.3) Within the secondary conservation areas, land areas of high importance or significance are located. Here, Arendt has located potential view corridors and the upland wooded areas that have a higher priority than the upland areas previously cleared for farming. Here you can observe that the agricultural fields become the areas most suitable for development. The upland wooded areas provide habitat for the wildlife population.

Next, Arendt creates a map that identifies potential development areas. (See Figure 6.4)

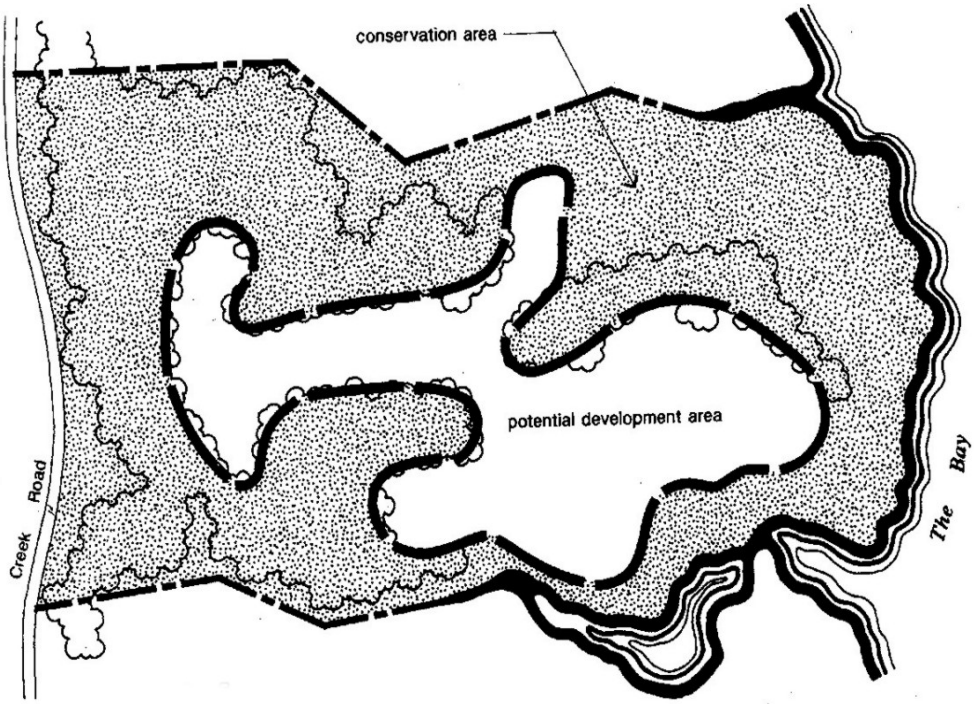


Figure 6.4: Identifying Potential Development Areas (Arendt 1996, 80)

Within this map, Arendt has located areas of the site best suited for development and those areas best suited for conservation. After determining which areas of the site are best employed for development, the design of the community can be completed. The final design of the community (See Figure 6.5) is comprised of three steps. The first step consists of locating the home sites within the pre-determined developable areas. It is also important to determine which areas of the developable land should be set aside for community open space and meadows. The next step includes locating the street and path systems throughout the neighborhood. After access to the home sites has been determined, lot lines and setbacks should be drawn based on local requirements.

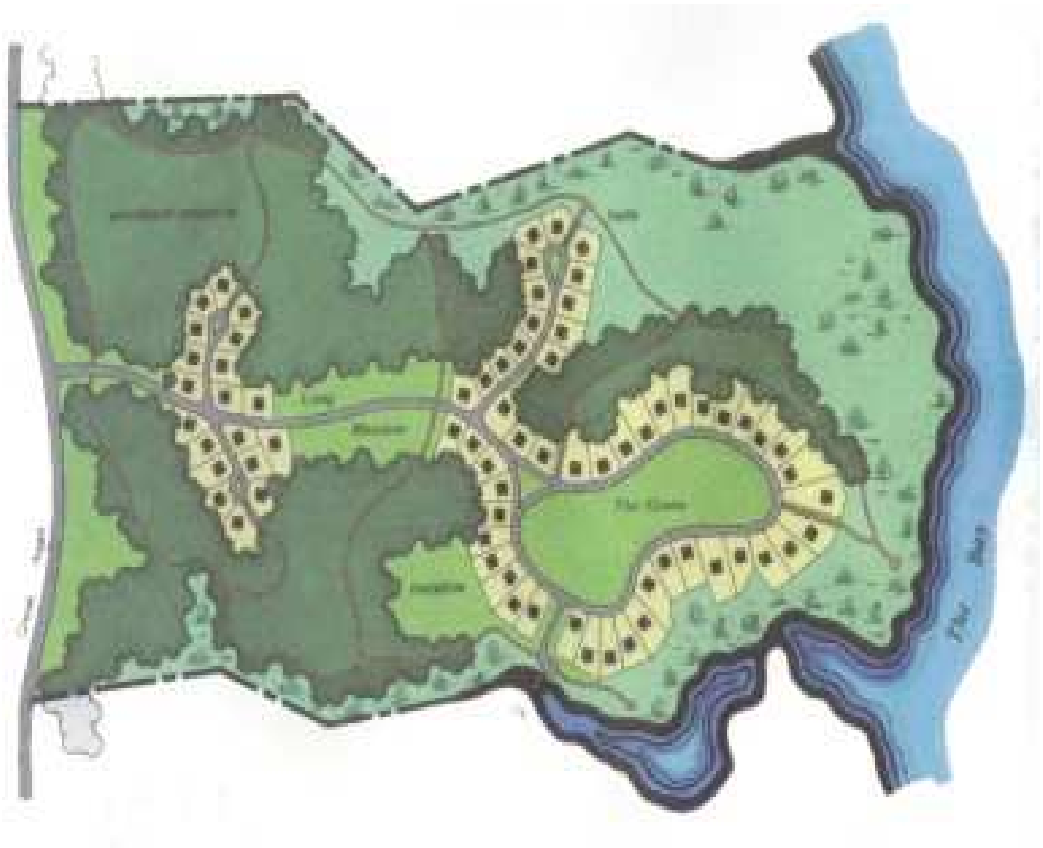


Figure 6.5: Final Conservation Community Design (Arendt 1996, 80)

This design process provides protection for major creeks, riparian habitat, wetlands, and other sensitive environmental features. These natural features provide visual relief and establish a community character defined by the environmental habitat, not the built environment. This design process enhances the natural features of a site and serves a dual purpose: (1) as a means to maintaining man's desire for associating with a region's ecological and natural aesthetic; and (2) as a means of preserving the natural ecology of a site.

Guidelines For Maintaining a Region's Naturalistic Aesthetic

Concern for the health of outdoor spaces is a central theme in landscape architecture and landscape contracting. This is precisely why Arendt's design process was used for the purpose of this thesis. What is important is that the goals and objectives

of the environmental conservation plan are maintained over time. These maintenance issues are what determine the long-term environmental success of a site. In 100 years will this site be more or less ecologically sound? The materials and methods of creating landscapes can answer this concern. A growing number of landscape designers are looking beyond the assumption that all built landscapes are eco-friendly. Their focus is to make environmentally responsible choices in the process of conceiving and constructing landscapes.

As our communities continue to grow and more lands are developed, the impacts on the purity of our environment are amplified. These built landscapes alter the self-sustaining ecosystems. These altered states are a direct result of soil loss, degradation of water, reduction of biofiltration, loss of evapotransipiration, introduction of toxic and nonrenewable materials, and unsustainable energy use.

The focus here is to create design guidelines that generate sustainable developments. What does sustainability look like? According to J. William Thompson and Kim Sorvig, sustainability has six dissimilar characteristics. The first characteristic is that "the sustainable landscape does not exclude human presence or even human engineering; however, it does not blindfully glorify human intervention nor equate gentle human influence with massive human domination." (Thompson 2000, 19) This underlying idea here is that humans should live with nature, not in or on nature.

The second characteristic as described by Thompson and Sorvig is that "the sustainable landscape does not waste energy or resources on trying to disguise human influence. Rather, it eliminates (functionally, not just visually) influences that are destructive or disruptive. Other influences it reveals and even celebrates. In revelation

and celebration, it becomes an artistic expression." (Thompson 2000, 19) This characteristic reveals that man should not focus on hiding their influences on the land. For example, if it is required that a site have a water retention basin for stormwater runoff, then make that element an aesthetic feature within the site. Do not try to hide or mask its existence; exploit and celebrate its use so that individuals can learn about it.

The third characteristic of sustainability is that "the sustainable landscape follows natural and regional form whenever this can improve the ecological functioning of the built or restored landscape. It builds nature-mimicking forms primarily because these harbor rich diversity of life and ecological function, and secondarily because many people prefer the visual effect." (Thompson 2000, 19) This characteristic was used in Randall Arendt's design process for creating a conservation community. There, the form of the land was mimicked by the layout of the community.

The fourth characteristic is that "the sustainable landscape integrates and balances human geometries with natural ones. It is not enough to allow natural form to take the leftover spaces; spatial and visual integration between nature's fractal forms and humanity's Euclidean ones is essential. The means to this integration are those of the arts as well as of the sciences." (Thompson 2000, 20) This characteristic allows for the healthy integration of built forms and environmental forms in design.

The fifth characteristic stated by Thompson and Sorvig is that "the sustainable landscape is unlikely to be dominated by the visually simple and near sterile extremes of urban or engineered space. It is likely to incorporate elements of urban space as people transform cities and industries to a more sustainable model." (Thompson 2000, 20) In this case, the idea is to allow nature to be the dominating aspect of civilization. During the

process of reclaiming urbanized landscapes, this characteristic encourages the unification of the built and natural elements.

The final characteristic for sustainability is that "the appearance of a naturalistic landscape often contributes to ecological function, but does not guarantee it. For this reason, neither naturalistic nor sustainable landscapes should ever be viewed as substitutes for wild places, which will remain critically important no matter how "ecological" built landscapes become or appear." (Thompson 2000, 20) This is an unavoidable harsh reality. Once man alters or *build*s within a landscape, its unspoiled uniqueness is removed.

With the characteristics of sustainability defined, what steps are needed so that these characteristics are not lost over time? Again, Thompson and Sorvig have developed a list of principles for maintaining a sustainable community: (See Figure 6.6)

1. Keep healthy sites healthy
2. Heal injured sites
3. Favor living, flexible materials
4. Respect waters of life
5. Pave Less
6. Consider Origin and Fate of Materials
7. Know the Cost of Energy Over Time
8. Celebrate Light, Respect Darkness
9. Quietly Defend Silence
10. Maintain to Sustain

Figure 6.6: Principles for Maintaining Sustainability (Thompson 2000, ix-xii)

How does this all relate to designing for affordable housing? Affordable housing communities developed under these guidelines will be far more imaginative than communities designed without these standards. A design based on these principles takes on a more holistic approach that encompasses science, engineering, ecology, and art. This holistic approach provides for a more comprehensive design that warrants maintaining the naturalistic and environmental aesthetic characteristics of a region.

CHAPTER VII

REGIONAL CULTURE AS A COMPONENT FOR THE GENIUS LOCI OF A PLACE

> We are no longer in a fight with nature. We are in a fight with our own technology.
>
> Robert Marvin

The Meaning of Culture

There are multiple aspects of culture, of which the following relate to this thesis. First, “culture” suggests a set of signs people put out to each other, indicating where they are coming from and what they are about. This set of signs enables other individuals to determine what makes them different. A second aspect of culture is that culture's indifference allows intermingling of different cultures. This second aspect offers different ways of knowing who we are and who others are through culture. Modern, urban culture is as much about indifference as it is about difference, as sociologist Georg Simmel concludes. (Simmel 1950) This is the third thing we can say about culture: there are ethical and political questions at stake as to how open or closed a particular culture is to different behaviors and attitudes, both within the ranks of those it considers 'inside' it, and those it considers 'outside'. The signs and the rules set up these notions of an inside and an outside.

Cultural historian Raymond Williams spent a lot of time trying to come up with a definition of culture. He referred to it as a whole way of life, or a structure of feeling. It gives you the sense of culture as something you learn, perhaps without really being aware of it, yet it shapes your awareness of everything around you and how you react to things. (Williams 1983)

The fourth aspect of culture is that it uses rituals and artifacts to sustain its coherence across space and time, but it is not reducible to those artifacts and rituals. Understanding culture is not just a matter of reading its 'texts.' One has to follow them around, see what uses or abuses they are subjected to in everyday life. (Marks 1973, pp.70-71)

The fifth thing we can say about cultures is that they make sense of time and space for their members. Culture is the process at work that lends continuity and meaning to the lives within a society. Modern living added a whole new dimension to what it is cultures have to manage. Capitalism, as Karl Marx said, is a dynamic force in society, and the modern society it shapes is one where "all that is solid melts into air, all that is sacred is profaned." Capitalism accelerated the changes that culture has to try to make intelligible to its members. This is one of the reasons a wide range of people have come to focus on culture, because it appears to be the process at work that lends continuity and meaning to lives that otherwise are battered pretty hard by rapid economic and social change.

Culture is composed of fundamental and identifiable features of groups and societies that relate to learned behaviors, attitudes, and group beliefs over time. What is also important to understand is that the environment has a direct effect on culture. For example, the environment places certain controls on what man can do in the landscape. Man is unable to grow tropical plants on the North Pole. In some instances, man has placed the controls on the environment. For example, in centuries past Native Americans used fire as a tool for hunting. These fires had a direct influence on the landscape. In this instance, man's culture changed the environment. In the past several centuries, as man

has become more technologically advanced, the environment has had less of an impact on culture. The more technological a culture is, the greater its impact on the environment. This is what is commonly referred to as the cultural landscape. (Habemmas 1989)

This loss of the environment's effect on culture places a great importance for modern societies to embrace and understand the historic cultural aspects of their communities so that they can have a stronger respect for their environment. Therefore, while designing affordable housing communities, it is important to celebrate the historic culture and provide opportunities to partake in those historic cultural rituals. This aspect will give the populace a better appreciation for the importance of their environment.

Bluffton's Gullah Cultural History

The cultural aspects of Africa have been a part of Bluffton and the South Carolina Lowcountry since the earliest of exploration days. African influences came to the coast when Africans sailed with Spanish galleons over 500 years ago. The ancestral traditions of the enslaved Africans who survived the middle passage to the Americas continue to be a part of the Lowcountry culture. These enslaved people came from a place located just under the hump of West Africa on the Atlantic Ocean the sovereign republic of Sierra Leone is one of the smaller African countries, only a bit larger than South Carolina, with a population of approximately four million people. Sierra Leone is in the center of what is called the Mano River region, a tri-state area including Liberia to the south and Guinea to the north. The names, like Mende and Kisi, Malinke and Bantu have survived along with their language, music, crafts, and cuisine. (Penn Center)

The Gullah language, a Creole blend of European and African tongues was born in the holding pens of Africa's slave coast, and matured on the isolated plantations of the

coastal South. Gullah accents, words and intonations echo across the Carolina Sea Islands today. Here, survive the Gullah "shout", the Gullah rhythms translated from forbidden drums and the oldest of plantation melodies, reminders of a saved and sacred past. (Coastal Guide)

Today sweet grass basket weavers still make their delicate wares in the ancestral ways and display them by the road. African "long strip" quilting continues and people of all ages are called by their "basket" names. A fabric artist creates magic in indigo and chefs keep to the flavors of African rice coast foodways. Storytellers speak their fun and wisdom, choirs preserve the haunting songs, and scholars translate the Bible into Gullah. (Coastal Guide)

Bluffton's Cultural Character

Bluffton's cultural character has been shaped by the land, the sea, its rich history of people, and ,more recently, the artisan culture.

The people of Bluffton have a direct relationship with the May River and other tidal creeks. For generations, these waters have been a source of food for local families. At a Southern Beaufort county forum on affordable housing, Mr. Emory S. Campbell, the former director of the Penn Center (An African-American cultural center), was asked how the Gullah community felt about development. In his opinion, "positive…development in Beaufort County has brought economic growth within our communities. Our biggest concern is whether or not we will still be able to catch our food?" (Hilton Head Island-Bluffton Chamber of Commerce 2002)

Campbell is alluding to the fact that development, especially gated communities, separates the rest of the public from the waters that these gated communities border. For

the water dependent aspect of the culture to survive, development must allow for open public access to the water. (See Figure 7.1-7.2)

Figure 7.1: Public Access to the May River(Fishing)

Figure 7.2: Public Access to the May River (Recreation)

To Campbell, the privatization of the lands bordering the beaches and waterways not only excludes that sector of the populace that cannot afford to live in those developments, but it also surmounts the efforts of the local historic culture to survive.

Two other aspects of Bluffton's culture include the historic and artisan. These two aspects bring in tourists, sparking the local economy. The Town of Bluffton supports various cultural events that exploit these two cultural aspects. They include May Fest, and the Ugly Dog Contest, historical tours, the Gullah Arts Festival, and more recently, the South Carolina Artisan Show. It is these cultural events that perpetuate Bluffton's cultural heritage. (See Figures 7.3-7.4)

Figure 7.3: Calhoun Street During May Fest

Figure 7.4: May Fest Street Entertainment (Notice how the vegetation provides the backdrop to the public "stage".)

Figure 7.5: Sweetgrass Basket Stand (Calhoun Street)

It was stated earlier in this chapter that as man's technology has grown over the ages, it has allowed for man to become less reliant on the environment for survival. The technological culture is a detriment to the environment. Without continued efforts to maintain and educate the populace of its local historic cultural aspects, a community will begin to lose its connection to the environment. During the process of designing for an affordable housing community, an intense focus should be placed upon providing for areas of opportunity for these cultural events. It is also necessary to provide space for learning the traditions and customs of the local culture. Once a community has lost its cultural connection to the environment, other connections to the environment will soon be lost or forgotten.

CHAPTER VIII

DESIGN APPLICATION: AN AFFORDABLE HOUSING COMMUNITY IN BLUFFTON, SOUTH CAROLINA

General Design Objectives and Rationale

The design objectives and rationale for this thesis have been based upon the following:

1. Research conducted on and an investigation of the history of Bluffton and its sense of place.

2. An objective study of Bluffton's architectural aesthetic and how it translates into a design for an affordable housing community.

3. An exploration of environmental design techniques and standards that provide for the preservation and sustainability of the designed environment.

4. A study of Bluffton's cultural history as a means of determining the cultural programmatic design elements for the affordable housing community.

5. Numerous site and community visits to explore and experience its character, its design, layout, history, environment, and its culture.

The design for an affordable housing community in Bluffton, South Carolina provides an opportunity to create a community within one of the South's most beautiful environments. Bluffton is known throughout the South for its attractive waterways, marshlands, vegetation, architecture, culture and history. With its rapid growth and lack of affordable housing, Bluffton is in dire need of a design framework for

affordable housing that maintains its well-known characteristics. A design for a conservation affordable housing community in Bluffton should be built to reflect its natural environment, the architectural aesthetic, and the culture. The challenge with this design lies in presenting both abstract and realistic concepts. Both are necessary to provide a reconnection to Bluffton's culture, architecture, and environment. These three concepts must be thoughtfully entwined.

The Site

The town of Bluffton, South Carolina is centrally located amongst the towns of Hilton Head Island, Beaufort, Hardeeville, and Savannah, Georgia (Site: Figure 1). The site is located west of town on Highway 46. This site borders the western edge of what has become "Greater" Bluffton. The tracts of land (Jones, Buckwalter, and Palmetto Bluff) between the thesis site and Bluffton have been annexed into the town. With annexation into the town, these tracts of land are now open to development.

The developments currently in progress here do not reflect the character of Bluffton, but take on a characteristic typical of upper-class suburban sprawl. The exclusive nature of these gated subdivisions prohibit the communities within from becoming part of Bluffton's municipal fabric. A design that allows for interconnectivity of these subdivisions into the developed pattern of Bluffton will allow for Bluffton's unique character to remain in tact. It is the position of this thesis to provide a design that sets the standards for development within the "Greater" Bluffton area. It should be noted that this site was chosen purely for its environmental components. Consideration of transportation problems, proximity to commercial or business districts were ignored to

provide for a site that encompassed all possible environmental components of Bluffton's natural environment.

The site is bordered by South Carolina highway 46 (Figures 6&7) on the south, the New River on the West (Figures 1 &15), and private, undeveloped land on the east. The New River drains the Great Swamp located north of the site in Jasper County, South Carolina (See Figure 1). Historically, the portions of the Great Swamp across the New River were once used as rice fields. Aerial infrared photography shows that the site is composed of two types of plant communities (Site: Figure 2). In the center of the site, you find high ground and a managed pine forest (the deep red area; Figures 8-10). Union Camp had forested this timber for decades for the production of pulpwood and timber. The area bordering the pine forest, Highway 46, and the New River is a native hardwood wetland (the blue-red area; Figures 11-13). This area has been left in its natural state due to regulations that prohibit development of wetlands in Beaufort county without mitigation.

The next map indicates the hydrologic soil groups on the site (Site: Figure 3). This site is composed of three soil groups: A, C, and D. These soil groups specify the drainage classification for the areas they occupy.

In soil group A (Yellow), soil with low runoff potential is found. These soils are defined by having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well drained to excessively well-drained sands or gravels. (Birkeland, 1999) This soil is found in a small area bordering Highway 46.

In soil group C (Red), which occupies about 1/3 of the site, soil with a slow infiltration rate is located. This soil is characterized with a layer that impedes downward movement of water, or soil with moderately fine to fine textures. (Birkeland, 1999)

The last group located on the site, group D (Maroon), has a high runoff rate. This soil is characterized by having very slow infiltration rates even when thoroughly wetted and consists chiefly of clay soils with a high swelling potential. This soil is associated with a permanent high water table, soil with a claypan or clay layer at or near the surface, and shallow soil over nearly impervious material. (Birkeland, 1999) The group D soil here is associated with the high water table (wetland). The soils map shows these wetland areas with the blue hatch.

Potential Development Areas

After the initial analysis of the site, it is determined which areas are best for development and which are best for conservation (Site: Figure 4). These areas have been divided into four zones based primarily on Arendt's analysis technique for determining development suitability: Protected Wetland, Potential Development Area, Buffer, and Mitigated Wetland.

The Protected Wetland (Green), located adjacent to the New River, will be protected based upon three reasons. The South Carolina Coastal Council's law protecting freshwater wetlands and riparian zones determined the first reason for protection. These areas are to be protected from any form of permanent vertical construction, clearing, or contamination unless mitigated. The second reason is to protect the waters of the New River from contamination from stormwater runoff. The last reason is the protection of the

hardwood forest that occupies the site. This area provides a great opportunity for a community nature preserve and animal habitat.

The next zone indicated is the Mitigated Wetland (Red). The land in this area is similar to that which borders the New River. The wetland adjacent to Highway 46 must be mitigated because of the necessity for a road crossing into the development. An option here would be to convert this land into a community lake. This lake will provide a location for recreation and stormwater management.

The next indicated zone is the 50' Buffer (Yellow-Green) surrounding the adjacent properties. According to the Beaufort County zoning ordinance, all PUDs must provide for a fifty-foot natural buffer along property lines. Therefore, no development can occur within these buffers.

The last zone defined by the Potential Development Map is the Potential Development Area (Yellow). This area is designated as a potential development area for three reasons. The first reason is that because of its site history as a cultivated pine forest, this site lacks any woodland or significant trees that would be impacted by development. This area is also outside of any protected wetland, so it is suitable for vertical construction. The last reason for development on this area is due to the lack of a diverse plant community. There is potential here to restore native vegetation and greenspace within the development.

The Master Plan

The master plan for the affordable housing community is a direct reaction to the natural environmental characteristics of the site, as well as programmatic needs, cultural needs, and requirements of the Beaufort County PUD development ordinance (Site:

Figure 5). I have indicated three sectors (I,II, &III) that represent the three criteria explored within this thesis. These three sectors are architecture (I), natural environment (II), and regional culture (III).

Sector I: Architecture

In sector I, a plan has been developed that maintains Bluffton's residential townscape in two ways. First, for housing, the design uses Bluffton's unique architecture based on the Bluffton Historic Small House Series. The designs represented in these house forms maintain the overall character and scale of Bluffton's more affordable house types (See Figures 17-26). Not only do they offer an affordable alternative, but they also embellish upon Bluffton and the surrounding Lowcountry's historic cottages that are rapidly disappearing from the landscape. Also, the community's Cultural Center and Ecological Interpretive Center's architecture will reflect Bluffton's architectural "lightness" in materials and "whimsies" in style.

The second design issue addressed by the plan was to maintain Bluffton's unique streetscape characteristics. The first characteristic involves the use of materials. Paved streets have soft edges rather than hard. The asphalt paving is narrow and allows for the vegetative edges to disrupt any abrupt edge of the streets. From these streets, residents can gain access to the rear of their property through designated alleyways. Each residential block is arranged in a format that reflects that of Brighton Beach and the alleyways used there (See Chapter V, p. 43). The alleyways are left unpaved with a compacted, yet pervious, shell aggregate or sand. The driveways connected to the streets or alleyways are left unpaved, and any edges used to define are constructed of natural materials (Figure 6, Typical Block Configuration).

Another characteristic of the streetscape is the use of vegetation to define the edge of the street. This is carried over from Bluffton's ideal that "nature is seen before architecture". The planting of native live oaks and palmettos will, over time, begin to completely enclose the space along the edges and over the roadway providing shade and the sense of enclosure.

The final characteristic of the street is maintaining Bluffton's historic grid street system. This is not an enclosed private development. The streets here are designed to connect other neighborhoods to the community. If you observe on the plan, there are three streets that will run parallel to Highway 46. This gives residents an alternative to traveling down the busy highway. A typical development would not be connected to others; so therefore, residents would be forced out onto Highway 46. The divided avenue running centrally in the community and parallel to Highway 46 that terminates at the Cultural Center becomes a place for activity similar to what occurs on Calhoun Street (See Chapter V, p.39). The Cultural Center becomes the terminus of the avenue and the polarizing destination of cultural activity. The open space occupying the median will provide space for cultural community activities and festivals.

Sector II: Natural Environment

Bluffton's natural environment is crucial to maintaining its sense of place. Therefore, a design that focuses on sustainable living is the best way to ensure that Bluffton's environmental characteristics are not destroyed. As noted earlier in this thesis, there are six dissimilar characteristics for sustainability as defined by William Thompson and Kim Sorvig (See Chapter VI, p. 56).

The first characteristic is that the sustainable landscape does not exclude human intervention, but at the same time, it does not glorify humanity with massive human domination. (Thompson 2000, 19) Here, like in Bluffton, people will live with nature, not in or on nature. The design of this community keeps nature at the forefront. The architecture is not the defining characteristic, but merely part of the landscape. The streetscape's natural vegetation becomes the defining element of the overall aesthetic for the community.

The second characteristic is to turn human intervention into a celebrated aesthetic. The main streets of this design are made of an impervious material. This is not the most environmentally sound material, but in the spirit of affordability, it works. To compensate for this lack of pervious paving material, a system of natural swales and french drains are used to direct water into the man-made ponds that surround the edges of the wetland and Highway 46. These detention ponds not only keep non-point pollution from flowing into the protected wetland and waters of the New River, but they also provide for a basin that can be used for irrigation within the community. These ponds become amenities for not only recreation and beauty, but also for education of the community on the importance of sustainable on-site stormwater management.

The third and fourth characteristics of sustainability are for the landscape of the community to follow the natural and regional form to improve the ecological function of the built environment, and to integrate and balance human geometries with natural ones, respectively. (Thompson 2000, 20) In the design for affordable housing, the protected riparian zone and wetland adjacent to the New River become the edge of the built environment. The grid that forms the streets terminates into a curved main road that

borders the edge of the protected wetland. The form of this road boundary between the built environment and the wetland creates a free-flowing form that is highly reflective of the free-flowing form of the New River. The road also sets up a framework for the ponds that the terminating road swales will feed into. This man-made form becomes the barrier between any contaminated elements of the built environment and the protected wetland.

Thompson and Sorvig define the fifth characteristic as the idea that the design of the sustainable community should allow nature to be the dominating aspect of civilization. (Thompson 2000, 20) On this site, the developed areas are those that at one time were damaged by timber farming for pulpwood. In this case, the area was a monoculture void of the natural and diverse plant community and ecosystem native to the Southeastern coastal region. In this developed area, the community will work to heal the site back to its native characteristic, while at the same time, unifying the built environment to the native ecosystem. In this community, only native plants and trees will be planted so that the natural ecosystem is restored and sustained. (Except in the case of vegetable gardens.)

The final characteristic of Thompson and Sorvig is that the appearance of a naturalistic landscape often contributes to ecological function, but does not guarantee it. These sustainable communities can never be viewed as substitutes for wild places, regardless of how "ecological" the sustainable design becomes or appears. (Thompson 2000, 20) This fact alone lays credence upon the design's protection of the natural riparian zone and wetland adjacent to the New River.

With the six characteristics of sustainable design defined and applied to the design for affordable housing, the ten principles developed by Thompson and Sorvig to *maintain*

sustainability within a sustainable community can be applied to the design (See Chapter VI, p. 58). The following states the ten principles for maintaining a sustainable community and a description of how the principle is applied to the design for affordable housing: (Thompson 2000, ix-xii)

1. Keep healthy sites healthy. The design accomplishes this principle by creating a Community River Preserve Park (Protected Wetland). Here the native hardwood wetland forest is protected from development, non-point pollution, and is allowed to grow in its natural state. The only human intervention here is through elevated boardwalks and natural trails that give the community an opportunity to experience and learn about nature.
2. Heal injured sites. The task occurs in the damaged area of the site used historically as pulpwood cultivation. The open spaces throughout the community provide opportunity for native plant community restoration. This concept is taken a step further by encouraging homeowners to do the same within the boundaries of their own properties. So, over time, the entire developable area is restored to a native ecosystem in harmony with the built environment.
3. Favor living, flexible materials. In this case, property owners are required to use natural vegetative buffers rather than fences to create boundaries between properties. Another example is the materials and methods of stormwater management. In the design, natural swales, low-impact french drains, and retention ponds are used in place of stormwater sewers that pipe runoff into the surrounding streams.

4. Respect waters of life. The design protects the New River from any non-point pollution through buffers and retention and biofiltration systems. Also, storwater runoff is collected in retention ponds or individual homeowner cisterns for re-use as irrigation or grey-water.
5. Pave less. The streets throughout the design are not the standard road width. Here, the streets are set at 22 feet from edge of pavement to edge of pavement. The parking areas and alleyways are surfaced with pervious compacted sand or shell aggregate. This allows for a decrease in stormwater runoff and an increase in the natural percolation of the soil.
6. Consider the origin and fate of the materials. One way the design focuses on this is through the use of prefabricated architecture. The Bluffton Historic Small House Series homes are fabricated off-site in a warehouse. Therefore, there is only one delivery of materials to the site, rather than several trucks, bringing in several different materials, from several different locations. The use of the prefabricated home reduces the cost and environmental impact of transportation of materials. Also, some of the amenities to the site can be constructed from materials found on the site. The timbered pine forest can be cultivated, and the timber used to construct boardwalks and the dock for the nature preserve and the Ecological Interpretive Center.
7. Know the cost of energy over time. The architecture of the Bluffton Historic Small House series qualifies as a “Good Cents” home. These homes are designated energy-efficient. Another aspect of the reduction of energy is the ability for homeowners to grow and catch their own food. This over time can

reduce the costs of energy associated with transportation for groceries and the transportation of food goods.

8. Celebrate light, respect darkness. Each house is oriented so that the porch overhangs are oriented toward the southern sun exposure. The cuts down on the effect of radiant heat on the interior spaces of the homes. The abundance of the street trees and vegetation will, over time, provide shade and protection from the hot summer heat.
9. Quietly defend silence. Buffers along the edges of the development protect the community from outside noises coming into the community as well as inside noises escaping the community.
10. Maintain to sustain. This by far is the most important principle for sustaining sustainability. In this case, the Community Cultural Center, the Community Ecological Interpretive Center, and the Community River Preserve, can be used as tools for continuing to educate the current and future populace about sustainable living,

Sector III: Regional Culture

The most important and fundamental statement offered in this thesis concerning culture is that there is a great importance for modern societies to embrace and understand the historic cultural aspects of their communities so that they can have a stronger respect for their environment. This design addresses the aspect of culture by providing facilities and spaces for cultural education and expression.

As revealed earlier in this thesis, Emory S. Campbell stated that it was the African-American community's biggest concern (in regards to development) that "we

will still be able to catch our food." Within this design, the community is not only provided the ability to "catch" (fishing) their food, but also grow and cultivate it. The New River is a popular place for fishing, and the Community Ecological Interpretive Center will provide the public with access to the water by dock and on the water with non-motorized boats. Also, the ponds throughout the community will be supplied with freshwater game fish to any local angler. In addition to "catching" one's food, homeowners will be able to grow and cultivate their own gardens privately or on designated farm plots throughout the opens spaces within the community.

The community's Cultural Center and Ecological Interpretive Center provides facilities for cultural, spiritual, and ecological education as defined earlier in Chapter VII. They also provide the community a place to come together for recreation and celebration. The Cultural Center is the terminus to the boulevarded road that connects the affordable housing community back to the fabric of Bluffton's built environment. This boulevard becomes an open space for outdoor community recreation, festivals, or cultural events.

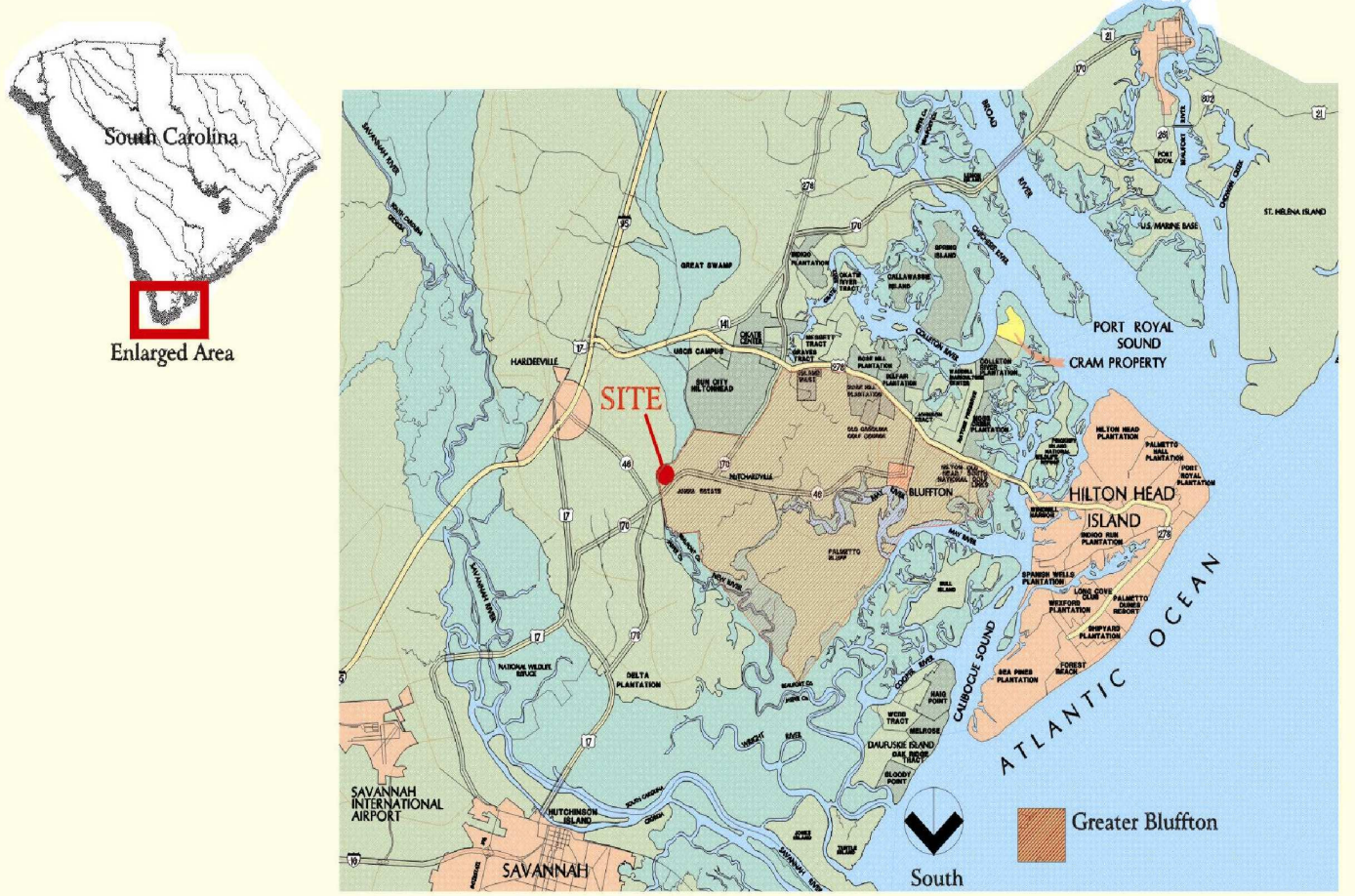
Conclusion

The selection of Bluffton, South Carolina as a community to explore the spirit of place was successful in providing a backdrop for developing the methodology based on architectural, natural, and cultural precedents. The consideration of a region's sense of place should go beyond the standard historical and aesthetic study. The concept of using a region's culture, architectural and natural aesthetic as a design tool provides the greatest assurance that a region's spirit of place, or in this case, "state of mind" is not reduced to a common standard. Affordable housing communities deserve more than just being

“affordable”. These communities can also be sustainable, ecological, educational, and, most important, beautiful.

The exploration and use of a community’s culture, architectural and natural aesthetic provides the landscape architect with an opportunity to reconnect the public to its sense of place. This proposed design for an affordable housing development in Bluffton reflects this solution for maintaining the “state of mind”. Numerous opportunities exist in Bluffton and around the Southeast to reconnect Blufftonians and visitors to the rich cultural, natural, and architectural aesthetic of the South. It is my hope that the characteristics of the South’s heritage remain as the New South grows.

LIST OF SITE FIGURES



A Map of Southern Beaufort and Jasper Counties

Vicinity Map

Site: Figure 1

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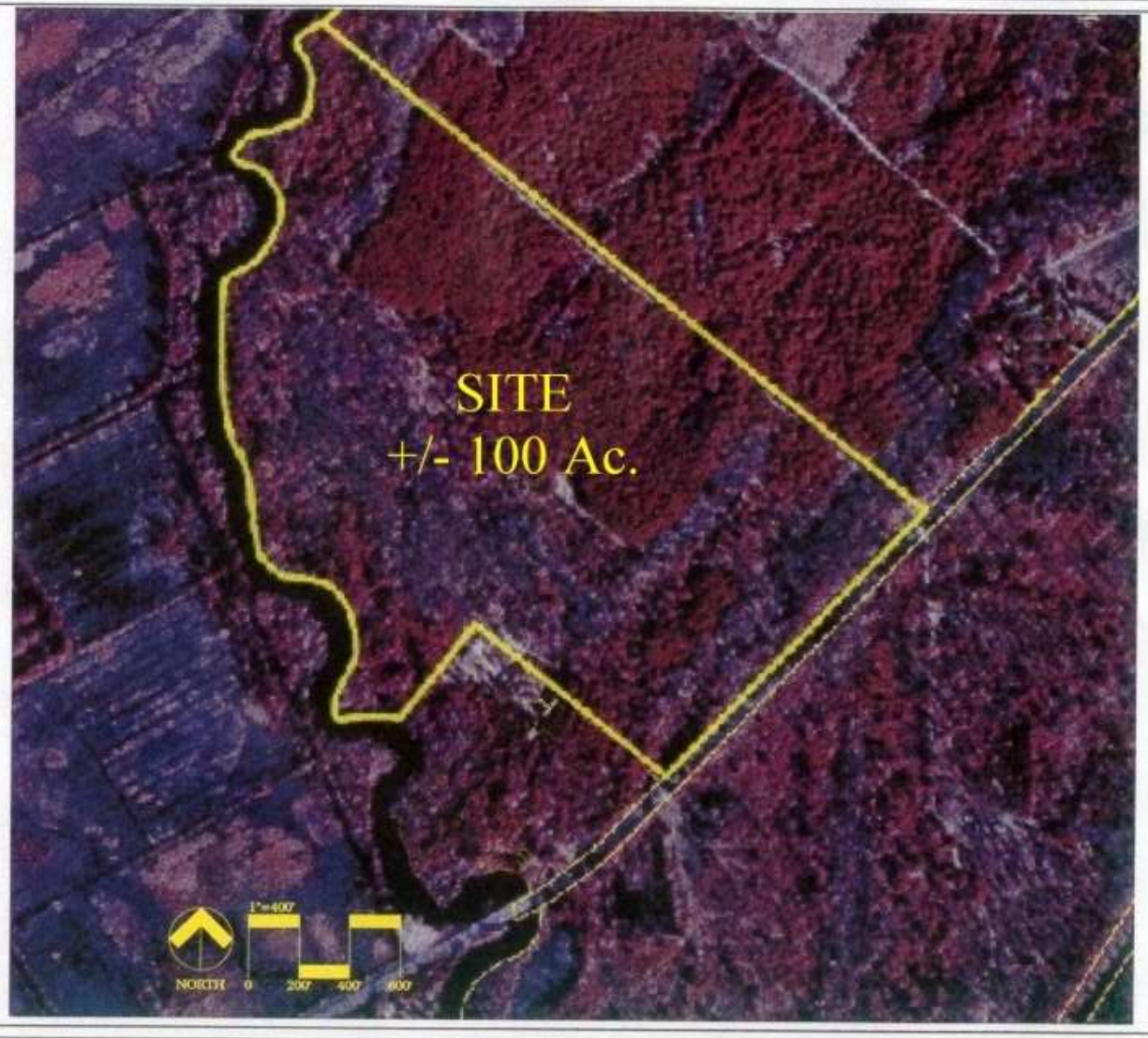

Managed Pine Forest
(Timber and Pulp)

Freshwater Wetland
(Protected Lowland Hardwoods)

Great Swamp (Jasper Co.)
(Former Rice Fields)

Site Aerial

Infrared Photograph
Site: Figure 2

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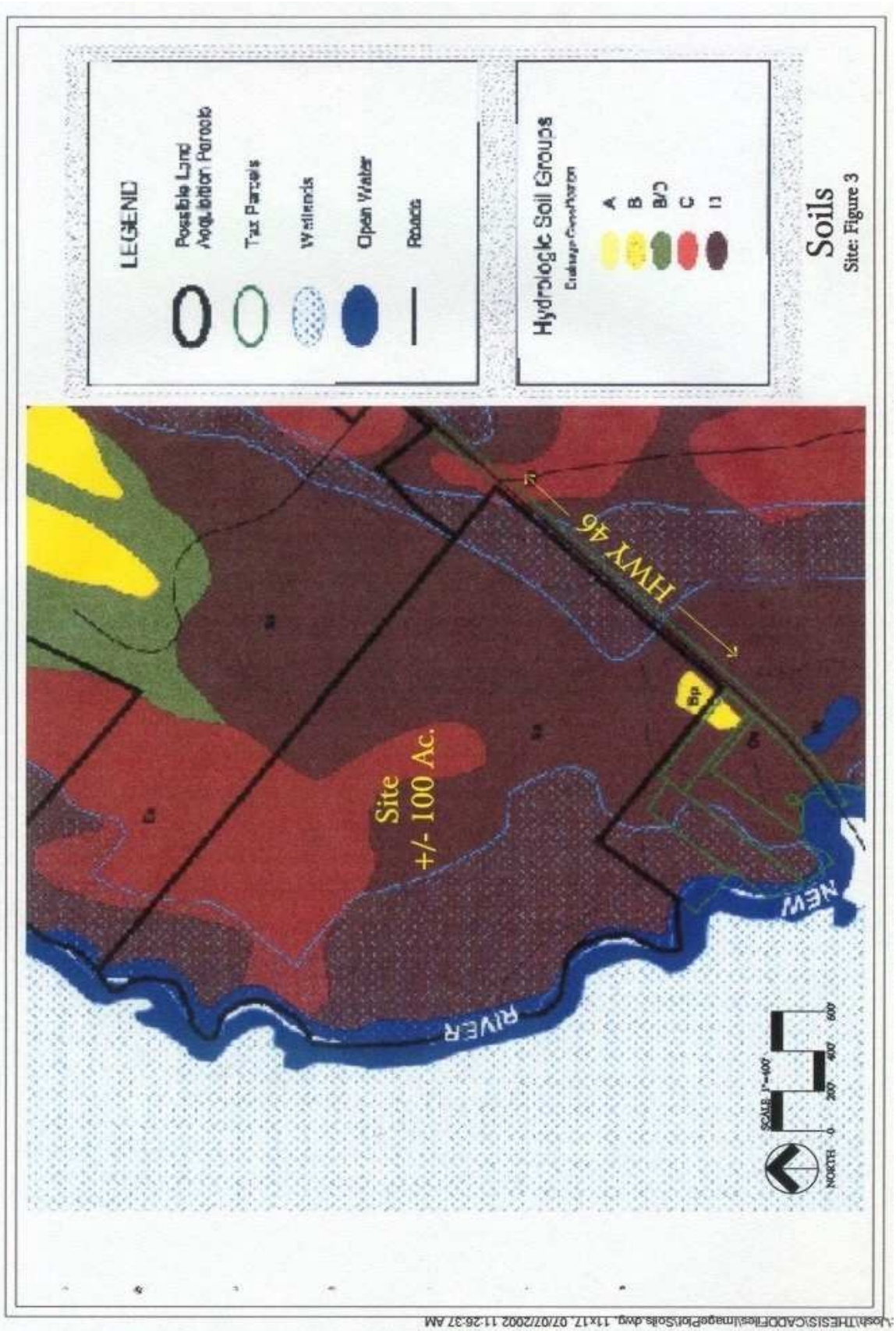
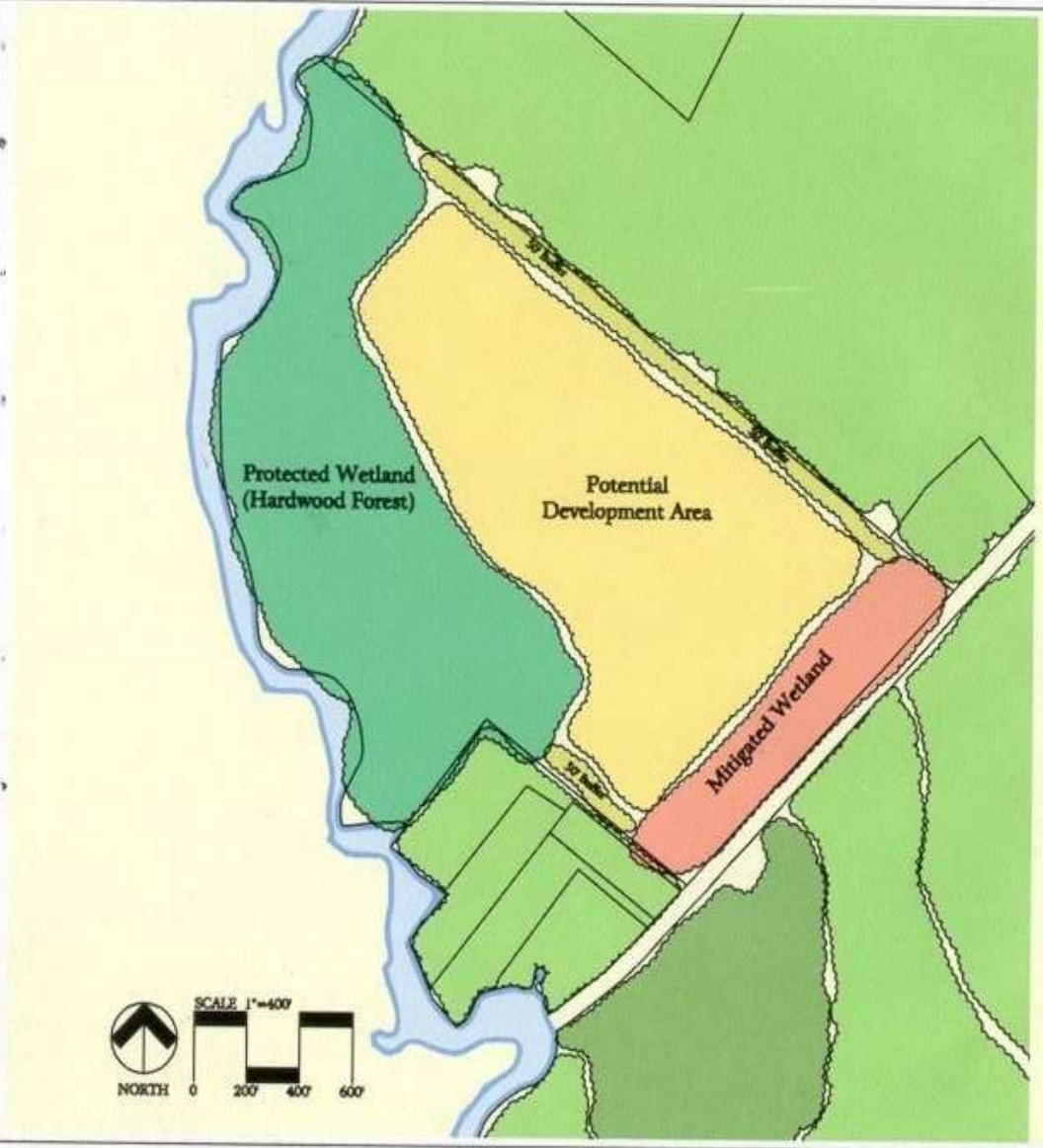

LEGEND
Possible Land Acquisition Parcels
Tax Parcels
Wetlands
Open Water
Roads
Hydrologic Soil Groups
A
B
B/D
C
D
Soils
Site: Figure 3
HWY 46
Site
+/- 100 Ac.
RIVER
NEW
NORTH
SCALE 1"=400'
0
200
400
600



Development Breakdown

Current Parcel Zoning: Rural Residential
Proposed Parcel Zoning: Planned Unit Development (PUD)
• Total Site Area: +/- 100 Ac
• Potential Development Area: +/-39 Ac.
• Protected Wetland: +/- 38 Ac.
• Mitigated Wetland: 8.64 Ac.
• PUD Buffer: 6.76 Ac.

Potential Development Areas

Site: Figure 4

D:\Josh\THESIS\CADDFiles\ImagesPlotfDevelop.dwg, 11x17, 07/07/2002 11:24:54 AM

D:\Josh\THESIS\CADDFiles\BluffThesis.dwg, 11x17 (1), 07/22/2002 08:22:51 PM

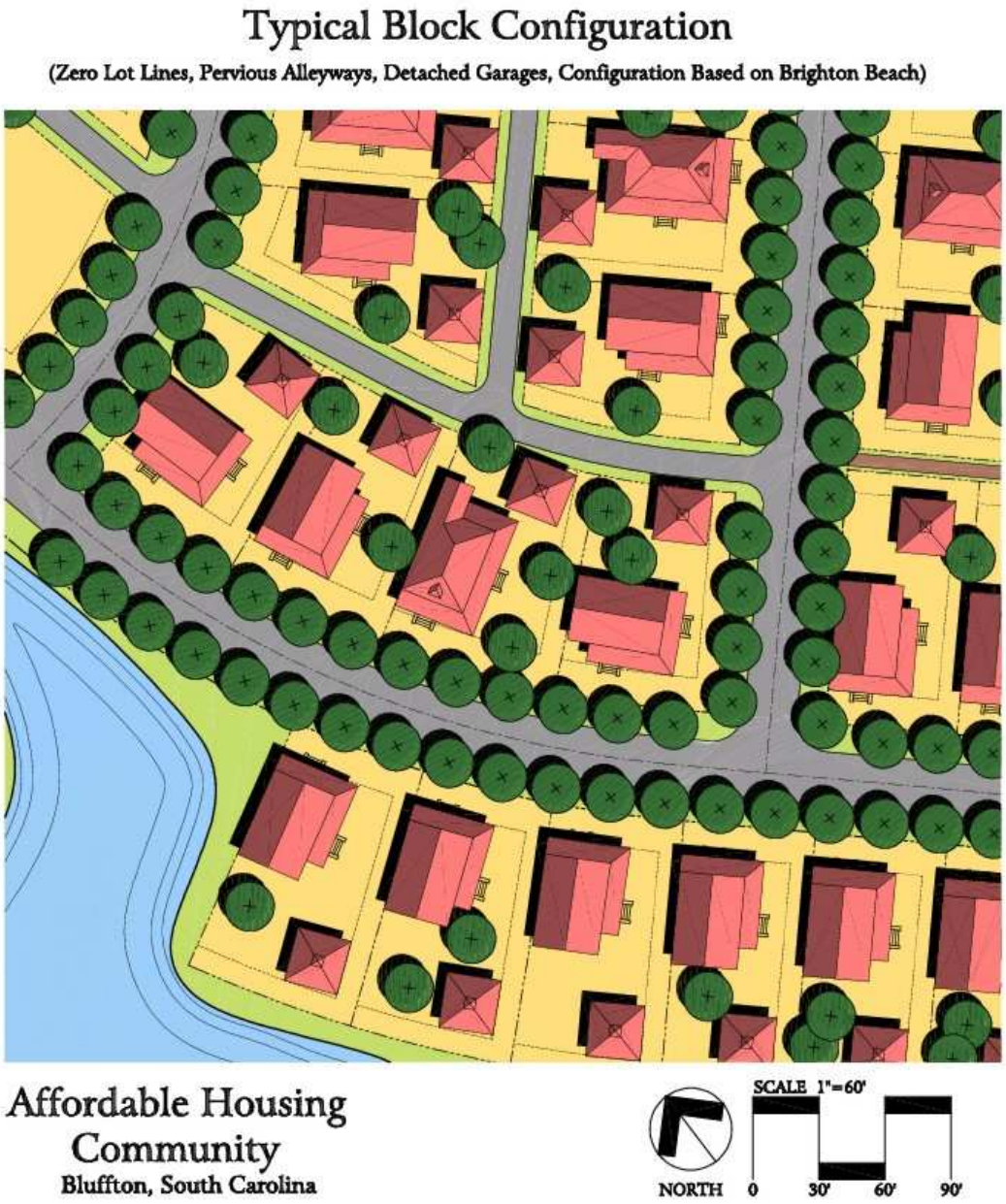


Figure 6. Typical Block Configuration

Figure 7. Edge of property on HWY 46 (Looking South)

Figure 8. Entrance to Property from HWY 46

Figure 9. Young managed pines. (Located on high ground at the center of the property)

Figure 10: Edge of the managed pine forest and the protected hardwood wetland.

Figure 11: Edge of the managed pine forest and the hardwood wetland.

Figure 12. Protected Hardwood Wetland

Figure 13. Protected Hardwood Wetland

Figure 14. Protected Hardwood Wetland

Figure 15. View of New River

Figure 16. View of New River

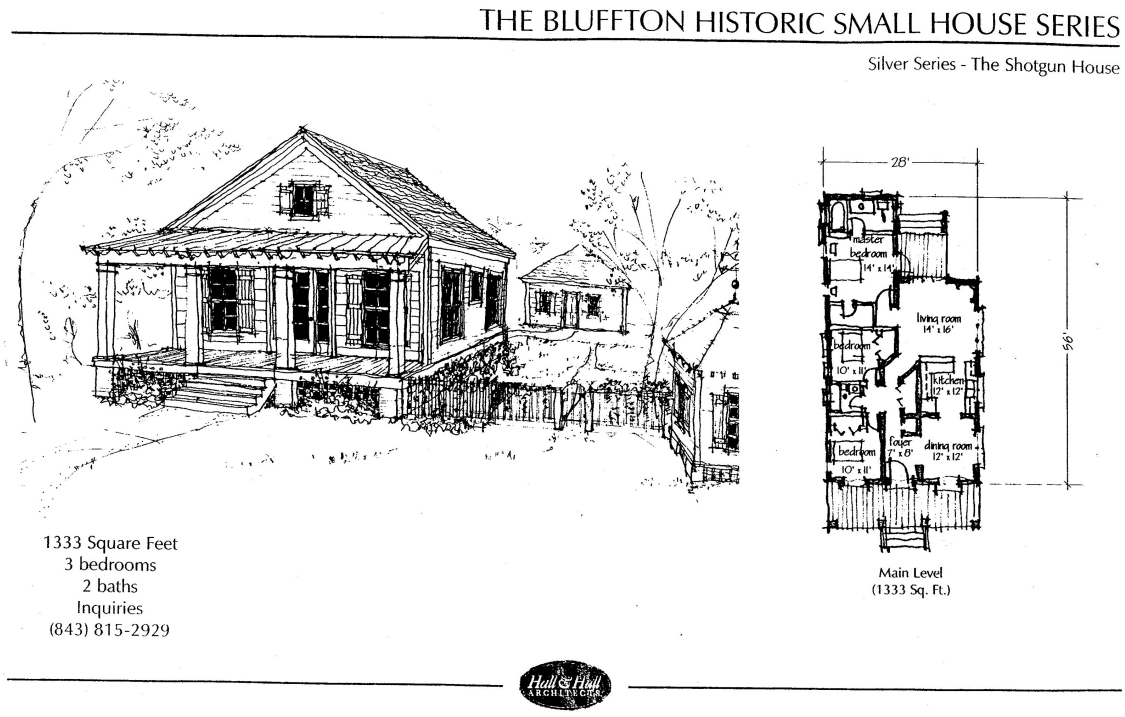


Figure 17. Silver Series: The Shotgun House (Hall and Hull Architects)

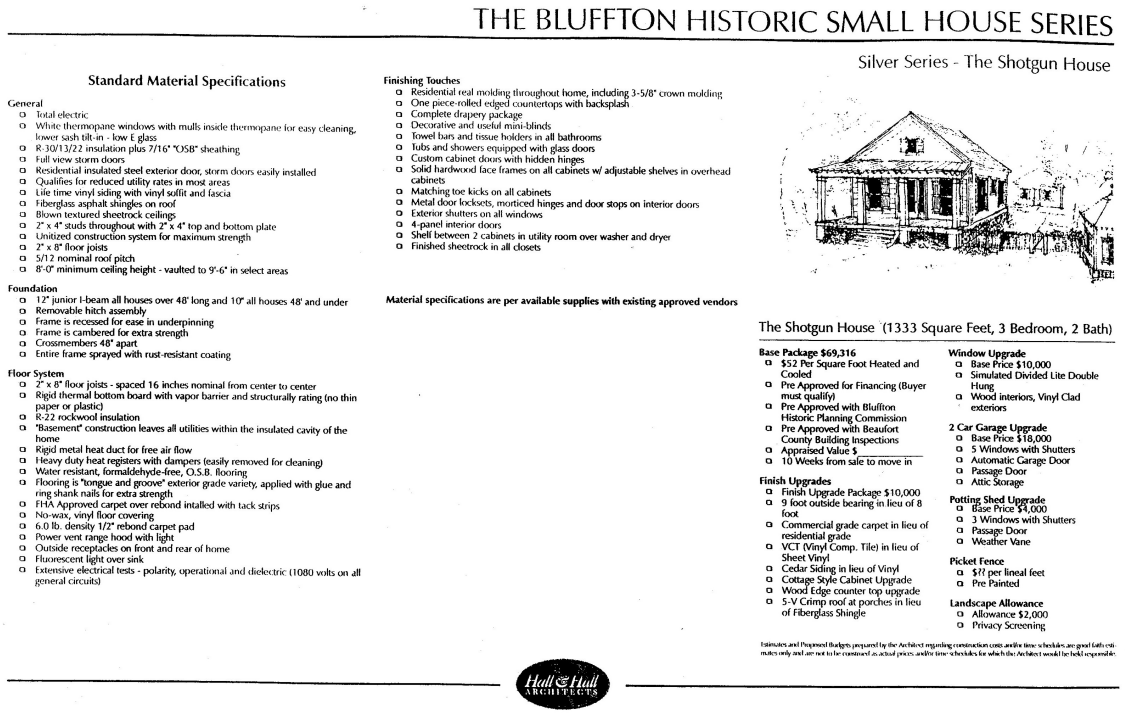


Figure 18. Silver Series: The Shotgun House (Hall and Hull Architects)

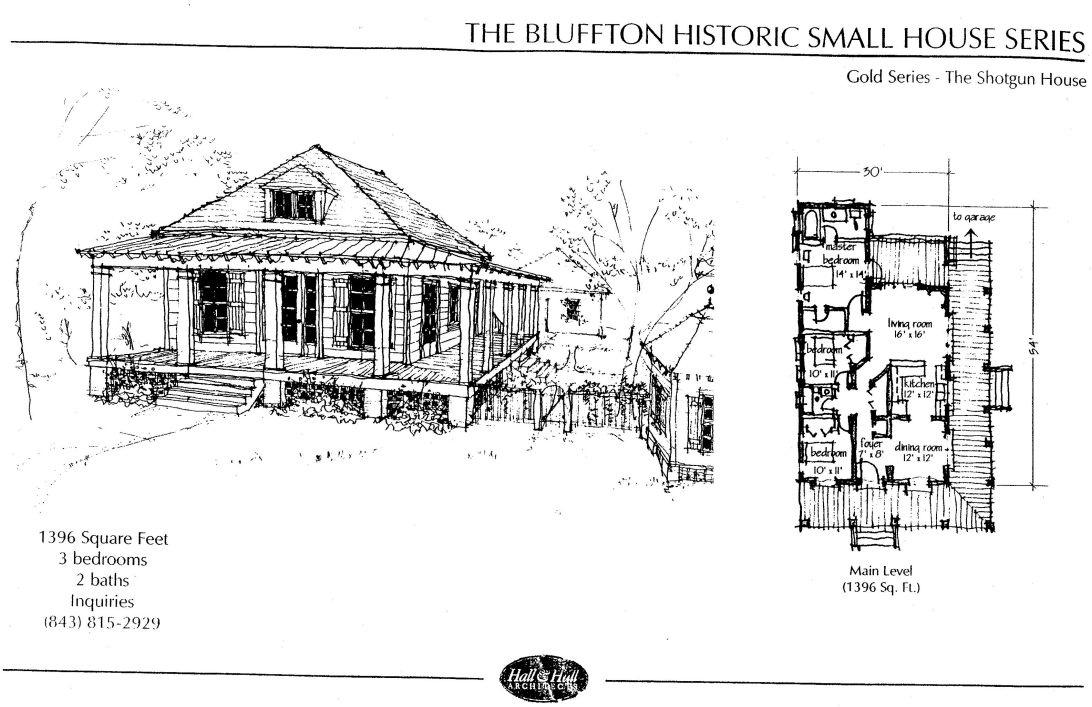


Figure 19. Gold Series: The Shotgun House (Hall and Hull Architects)

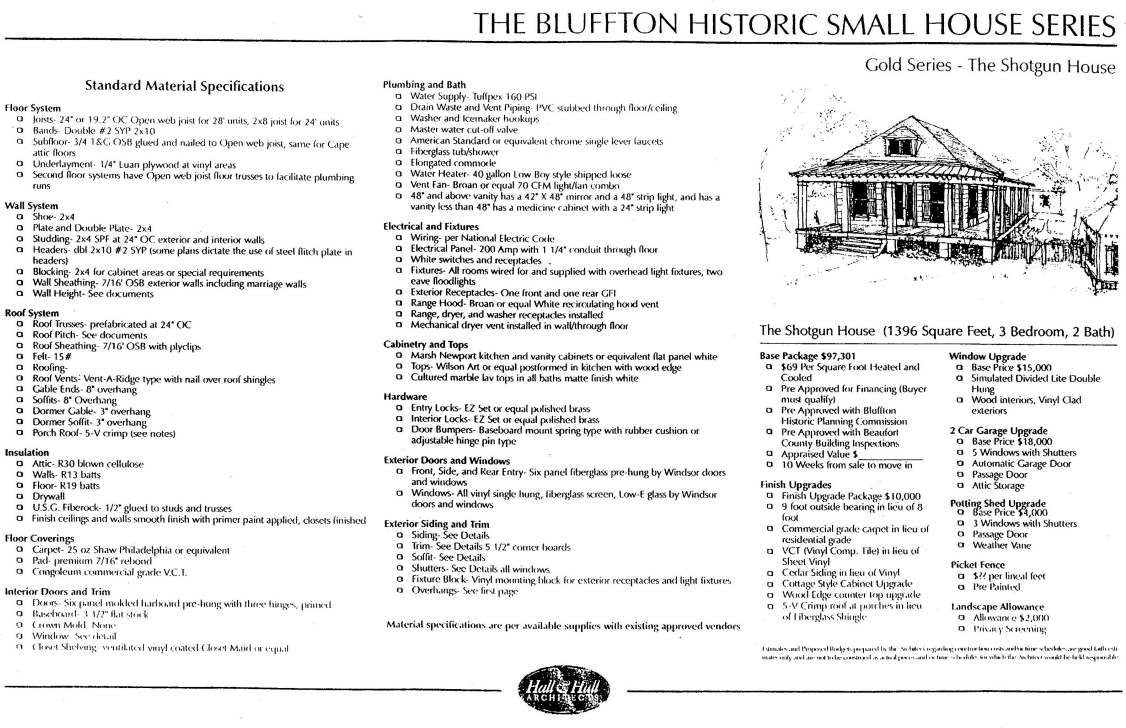


Figure 20. Gold Series: The Shotgun House (Hall and Hull Architects)

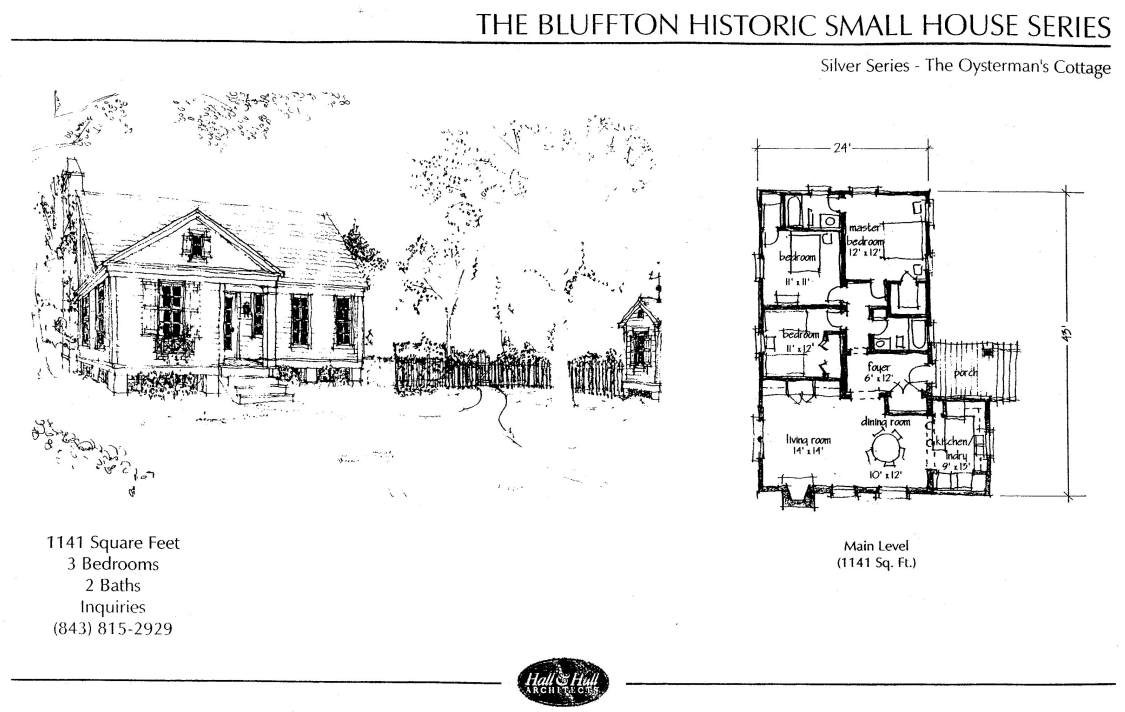


Figure 21. Silver Series: The Oysterman's Cottage (Hall and Hull Architects)

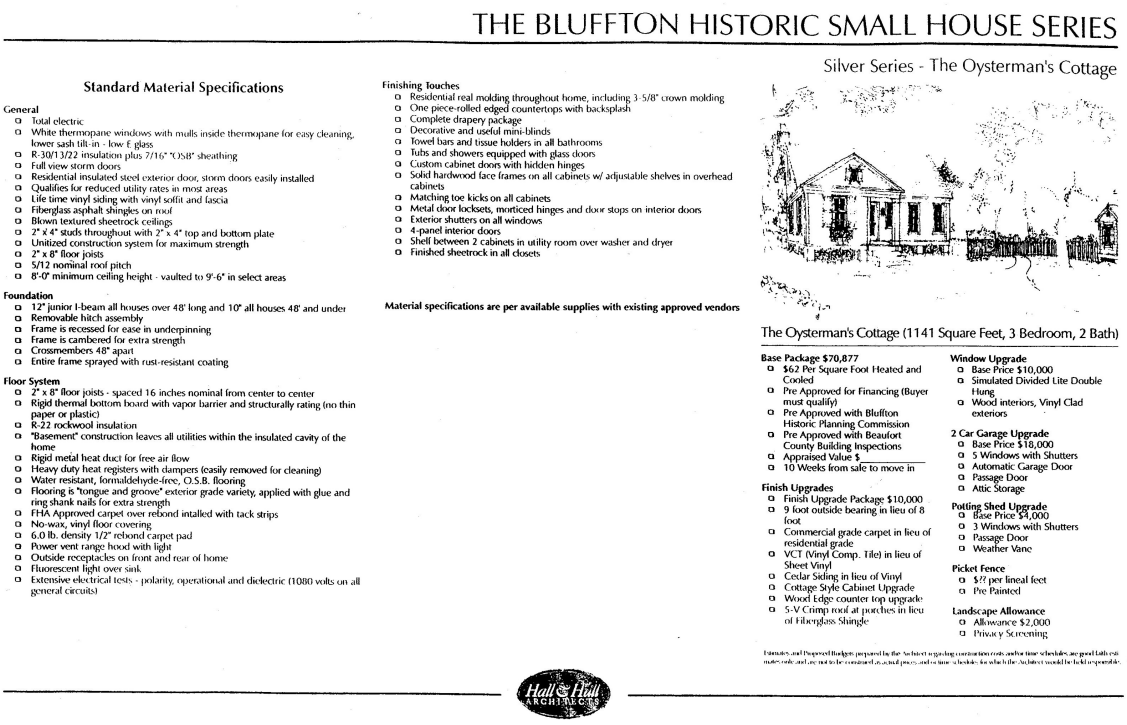


Figure 22. Silver Series: The Oysterman's Cottage (Hall and Hull Architects)

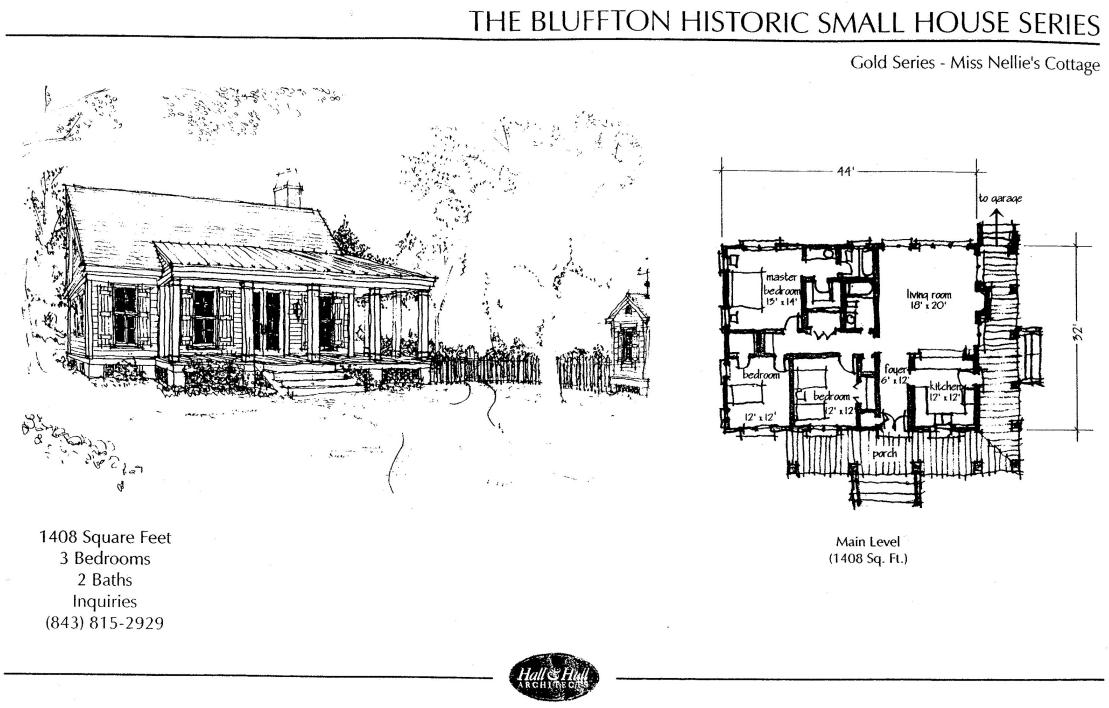


Figure 23. Gold Series: Miss Nellie's Cottage (Hall and Hull Architects)

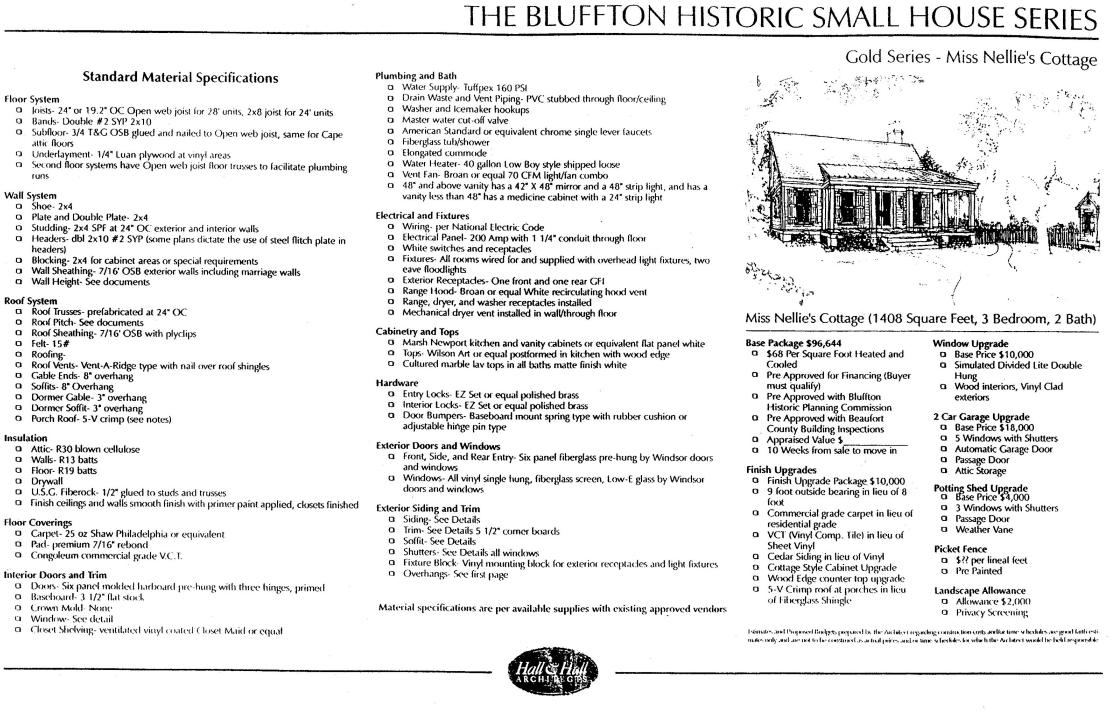


Figure 24. Gold Series: Miss Nellie's Cottage (Hall and Hull Architects)

Figure 25. The first Bluffton Historic House Series installation. (Miss Nellie's Cottage)

Figure 26. The first Bluffton Historic House Series installation. (Miss Nellie's Cottage)

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