



The Town of Hilton Head Island Regular Town Council Meeting

Tuesday, October 18, 2011

4:00 P.M.

AGENDA

As a Courtesy to Others Please Turn Off All Cell Phones and Pages During
the Town Council Meeting

- 1) **Call to Order**
- 2) **Pledge to the Flag**
- 3) **Invocation**
- 4) **FOIA Compliance** – Public notification of this meeting has been published, posted, and mailed in compliance with the Freedom of Information Act and the Town of Hilton Head Island requirements.
- 5) **Proclamations and Commendations**
Dyslexia Awareness Month
- 6) **Approval of Minutes**
 - a. Town Council Meeting – October 4, 2011
- 7) **Report of the Town Manager**
 - a. Update on the Career Criminal Team - Duffie Stone, Solicitor for the 14th Judicial Circuit of South Carolina
 - b. Update on County Airport – Gary Kubic, Beaufort County Administrator
 - c. Town Manager’s Items of Interest
- 8) **Reports from Members of Council**
 - a. General Reports from Council
 - b. Report of the Intergovernmental Relations Committee – George Williams, Chairman
 - c. Report of the Personnel Committee – Lee Edwards, Chairman
 - d. Report of the Planning & Development Standards Committee –Bill Ferguson, Chairman
 - e. Report of the Public Facilities Committee – Kim Likins, Chairman
 - f. Report of the Public Safety Committee – Bill Harkins, Chairman
 - g. Report of the LMO Rewrite Committee – Kim Likins, Ex-Officio Member
- 9) **Appearance by Citizens**

10) Unfinished Business

a. Revised Second Reading of Proposed Ordinance 2011-25

Revised Second Reading of Proposed Ordinance 2011-25 authorizing the execution of an amendment to lease with the Museum-Chamber Partnership for property owned by the Town of Hilton Head Island, South Carolina, pursuant to the authority of S.C. Code Ann. Sec. 5-7-40 (Supp. 2006), and Sec. 2-7-20, *Code of the Town of Hilton Head Island, South Carolina*, (1983); and providing for severability and an effective date.

b. Second Reading of Proposed Ordinance 2011-26

Second Reading of Proposed ordinance 2011-26 authorizing the execution of a lease with American Towers, L. L. C., for property owned by the Town of Hilton Head Island, South Carolina, and authorizing the execution of two easements in favor of American Towers, L. L. C., encumber town owned land, pursuant to the authority of S. C. Code Ann. Sec. 5-7-40 (Supp. 2010), and Sec. 2-7-20, *Code of the Town of Hilton Head Island, South Carolina*, (1983); and providing for severability and an effective date.

11) New Business

a. First Reading of Proposed Ordinance 2011-24

First Reading of Proposed Ordinance 2011-24 to amend Title 16, "The Land Management Ordinance," of the *Municipal Code of the Town of Hilton Head Island, South Carolina*, by amending Section 16-4-102, the Official Zoning Map with respect to those certain parcels identified as parcels 25, 25b and 25c on Beaufort County Tax Map 11, from OL (Office/Institutional Low Intensity) to the CC (Commercial Center) Zoning District; and providing for severability and an effective date.

b. Consideration of a Resolution denying Zoning Map Amendment ZMA11003 for South Island Square

Consideration of a Resolution by the Town Council of the Town Of Hilton Head Island denying the application for Zoning Map Amendment ZMA110003 which requests an amendment to Chapter 4 of Title 16, "The Land Management Ordinance" (LMO), of *The Municipal Code of the Town of Hilton Head Island, South Carolina*, by amending Section 16-4-102, the Official Zoning Map with respect to the certain parcels identified as Parcels 25, 25b and 25c on Beaufort County Tax Map 11 from OL (Office/Institutional Low Intensity) to the CC (Commercial Center) Zoning District.

c. Consideration of a Recommendation for the Port Security Grant Program

Consideration of a Recommendation that the Town Council of the Town of Hilton Head Island accept the US Department of Homeland Security (DHS) grant #EMW-2011-PU-APP-00148 in the amount of \$292,045 for the purpose of purchasing a fire-rescue boat.

d. Consideration of a Recommendation for Redistricting

Consideration of a Recommendation that the Town Council of the Town of Hilton Head Island select the plan to be brought to the November 15, 2011 Town Council meeting for formal adoption.

e. First Reading of Proposed Ordinance 2011-23

First Reading of Proposed Ordinance 2011-23 of The Town of Hilton Head Island adopting the “Beaufort County Hazard Mitigation Plan” as an appendix of the “Hilton Head Island Comprehensive Plan”; and to provide for severability and an effective date.

12) 5:30 P.M. – PUBLIC HEARING – ADOPTION OF THE BEAUFORT COUNTY HAZARDOUS MITIGATION PLAN

13) Executive Session

a. Land Acquisition

14) Adjournment

Proclamation

WHEREAS, dyslexia is a language-based learning disability which often limits a student's ability to succeed in a traditional classroom setting; and

WHEREAS, neurological in origin, dyslexia affects the way the brain processes information and is a leading cause of difficulties with reading, writing, and spelling; and

WHEREAS, special education opportunities, including highly-trained teachers, multi-sensory learning programs, and individualized instruction, are vital to a dyslexic person's future success; and

WHEREAS, early identification, alternative instruction, and extra support from teachers, families, and friends enable dyslexic students to achieve in school and excel in later employment.

*NOW, THEREFORE, I, Drew A. Laughlin, Mayor, of the Town of Hilton Head Island, South Carolina do hereby proclaim the month of **October, 2011** and every October henceforth as:*

DYSLEXIA AWARENESS MONTH

in the Town of Hilton Head Island, South Carolina and encourage all citizens to recognize the benefits of early identification and effective teaching to the quality of life of dyslexic students.

*IN TESTIMONY WHEREOF, I have hereunto set my hand and caused this seal of the Town of Hilton Head Island to be affixed this **Eighteenth day of October, in the Year of our Lord, Two Thousand and Eleven.***



Drew A. Laughlin, Mayor

Attest:

Cori Brock, Town Clerk

THE TOWN OF HILTON HEAD ISLAND
REGULAR TOWN COUNCIL MEETING

Date: Tuesday, October 4, 2011

Time: 4:00 P.M.

Present from Town Council: Drew A. Laughlin, *Mayor*; Ken Heitzke, *Mayor-Pro Tem*; Bill Ferguson; George Williams, Bill Harkins, Kim Likins, Lee Edwards, *Council Members*.

Present from Town Staff: Steve Riley, *Town Manager*; Greg DeLoach, *Assistant Town Manager*; Brian Hulbert, *Staff Attorney*; Lavarn Lucas, *Fire Chief*; Charles Cousins, *Director of Community Development*; Scott Liggett, *Director of Public Projects and Facilities/Chief Engineer*; Nancy Gasen, *Director of Human Resources*; Susan Simmons, *Director of Finance*; Tom Fultz, *Director of Administrative Services*; Brian Hulbert, *Staff Attorney*; Marcy Benson, *Senior Grants Administrator*; Heather Colin, *Development Review Administrator*; Shawn Colin, *Comprehensive Planning Manager*; Teri Lewis, *LMO Official*; Ed Boring, *Deputy Fire Chief – Support Services*; Brad Tadlock, *Deputy Fire Chief- Operations*; Joheida Fister, *Fire Marshall*; Cinda Seamon, *Public Education Officer*; Vicki Pfannenschmidt, *Executive Assistant*; numerous members of Town of Hilton Head Island Fire and Rescue

Present from Media: Grant Martin, *Island Packet*

1) CALL TO ORDER

Mayor Laughlin called the meeting to order at 4:00 p.m.

2) PLEDGE TO THE FLAG

3) INVOCATION

4) FOIA COMPLIANCE – Public notification of this meeting has been published, posted and mailed in compliance with the Freedom of Information Act and the Town of Hilton Head Island requirements.

5) Proclamations and Commendations

6) Approval of Minutes

a. Town Council Meeting – September 20, 2011

Mr. Heitzke moved to approve. Mr. Williams seconded. The September 20, 2011 minutes were approved by a vote of 7-0.

7) Report of the Town Manager

a. Semi-Annual Report of the Parks and Recreation Commission, Marc Stuckart, Chairman

Mr. Stuckart provided Town Council with an update on the Parks and Recreation Commission activities for the first half of 2011.

b. Update of the LMO Rewrite Committee, Tom Crews, Chairman

Mr. Crews stated the Committee has been meeting weekly, with the exception of one week, since mid-April. He noted that Mrs. Likins has been very helpful with her attendance and

participation. He commented on the magnitude of the task and said the Committee took two and one half months reviewing the existing Land Management Ordinance (LMO) and from that developed a report. He explained within the report is a list of specific tasks for a consultant and staff. Mr. Crews also commented on the participation of citizens and General Managers of many of the property owners associations. He stated the Committee is now at the point where a consultant is needed to complete the charge.

Mayor Laughlin thanked Mr. Crews and the Committee members for the time and effort they have placed in the project stating he was very pleased with their work.

c. Town Manager's Items of Interest

Mr. Riley reported on some Items of Interest.

d. Proposed 2012 Town Council meeting dates

Mr. Heitzke moved to approve. Mr. Williams seconded. The motion 2012 Town Council meeting dates were approved by a vote of 7-0.

e. Community Vision of Hilton Head

Mr. Riley referred to his memo within the agenda packet concerning the request from Community Vision of Hilton Head (CVHH) for \$75,000. He said if Town Council chooses to commit the funds spread over two fiscal years, Staff could likely find \$37,500 this fiscal year in the General Fund budget and budget the remainder for the next fiscal year. He commented this would take funds away from some other project and noted there are other unfunded projects that are being considered by Town Council.

Mr. Williams referred to the many other projects and requests Town Council was considering and stated he felt this would be a subject for discussion at the Town Council Workshop scheduled for the beginning of December. Mr. Williams moved to postpone any decision concerning this request until after the Workshop. Mr. Edwards seconded.

Mr. Harkins stated the CVHH is to be lauded for the work they have done so far concerning taking a long range view of what can be done to enhance the performing arts activity in the community. He noted there was a conspicuous absence of inclusion of board commitment from all of the performing arts entities. He said they need to take in to consideration they are requesting community dollars and community resources and this effort will have an impact on the entire Community and all of the groups should be included and have input. Mr. Harkins noted he has not heard an official response concerning this proposal from any board person speaking on behalf of their organization. He suggested this is something for the CVHH to address and come back to Town Council when that is accomplished.

Mrs. Likins spoke in support of Mr. Williams' motion. She stated it would not be advantageous for Town Council to commit the funds at this point with everything else they are considering. She stated she felt that if Town Council does move forward with supporting this effort that the project should be inclusive of more of the arts organizations throughout the Community.

Mr. Walt Graver, founder and current President of CVHH, stated he felt Town Council was jumping ahead of where Committee is in the process. He said they are nowhere near making decisions like the kind Council is asking them about. He stated the next phase of the program is the community engagement process. He explained they will go to the leaders and the leadership of the Town to "test in the water" pertaining to what the CVHH

has come up with to this point, so that in effect if a broadening of the base is what is wanted it will come out of that step. He explained they are not asking for support for a building or program but for money to help them continue their exploration of the merits of this idea. Mr. Graver said when they find out what the Community really wants and needs, CVHH will make a firm presentation which will conform to what the Community wants. Mr. Heitzke asked if the request is not approved whether the CVHH would go on with their study. Mr. Graver said they would continue to move forward with the project.

Mr. Edwards said he was glad the Committee would not give up on the project. He said he would not be voting in favor of approving the request due to the number of projects and requests Town Council has at this time for consideration.

Mr. Graver said he understood. He encouraged Town Council to go to the arts consulting group's website to understand the quality of the organization that they are working with.

Mayor Laughlin asked if there was any further public comment.

Mary Briggs, President and CEO of the Hilton Head Symphony Orchestra approached the dais. She introduced Principal Guest Conductor, John Morris Russell, who will open the 30th Season presenting a favorite symphony by Dvorak, Sibelius' challenging and masterful Violin Concerto and a Beethoven Overture. Conductor Russell addressed Town Council and invited them to attend the performance.

Mr. Paul Gibson, Treasurer of CVHH said in order to build a multi-use facility the cost would be 40-50% higher than the cost to build a concert hall. He said the consultant suggested that direction not be taken. Mr. Gibson explained all the changes that would have to take place in order to build a multi-use facility. Mr. Gibson said in order for it to be a multi-purpose building there would be a significant impact not only in funds but also in operations.

Mayor Laughlin said he places a high importance on support for the arts. He said he shares doubts concerning the feasibility of the project but he said he could not make a decision without the results of the next phase. He said he would like to move ahead and consider funding half of the request.

Mayor Laughlin asked for additional comments from the audience.

Kathi Bateson, President and CEO of the Arts Center of Coastal Carolina approached the dais and said there is a new Arts & Cultural Council of Hilton Head Island. She added that she is vice-chair of the group. She offered to suggest to the group that they review the proposal over the next couple months. She added she would excuse herself from the leadership of such discussion. Ms. Bateson stated she is concerned there have been no results published from the two rounds of interviews the CVHH conducted in the past. She stated that the Arts Center hired a consultant last year and received results and is working on changes at this time. She further stated she is concerned that the group CVHH is working with is not helping them in the best way they can.

Mr. Graver said the difference between the situation at the Arts Center and CVHH is that the Arts Center has an on-going operation and they can make very quick decisions about changes and improvements. He explained the CVHH is a planning group and they do not wish to reveal what they are in the process of doing in the middle of the study. He said when they get the complete study that is worthy of a complete presentation, they will do so.

The motion was approved by a vote of 5-2. (Mr. Heitzke and Mayor Laughlin were opposed.)

Reports from Members of Council

a. General Reports from Council

None.

b. Report of the Intergovernmental Relations Committee – George Williams, Chairman

Mr. Williams stated there is no meeting scheduled for October and the next scheduled meeting of the Intergovernmental Relations Committee is November 15, 2011.

c. Report of the Personnel Committee – Lee Edwards, Chairman

Mr. Edwards reported the Committee will be scheduling interviews for vacancies in the near future.

d. Report of the Planning & Development Standards Committee –Bill Ferguson, Chairman

Mr. Ferguson said the Committee met on September 26 to discuss economic development options for Hilton Head Island. He explained the meeting was Part 1 of the discussion and another special meeting will be scheduled in the near future to continue the discussion. He said the Committee held their regular meeting on Thursday, September 28 and reviewed an application for a zoning map amendment for South Island Square and their recommendation would be coming forward to Town Council at the November 18 regular meeting.

e. Report of the Public Facilities Committee – Kim Likins, Chairman

Mrs. Likins reported the Committee met earlier in the day and there was a presentation by the consultants of the master Plan for the Island Recreation Center. She said the plan would be coming before Town Council for discussion at a future date.

f. Report of the Public Safety Committee – Bill Harkins, Chairman

Mr. Harkins reported that at the last meeting there was discussion of illumination deficiencies at several commercial locations within the Town.

g. Report of the LMO Rewrite Committee – Kim Likins, Ex-Officio Member

Mrs. Likins thanked Mr. Crews for his leadership on the Committee. She stated there has been a tremendous amount of work done and it has been very successful. She also stated she wanted to recognize the efforts of Committee Member Jim Gant who was in attendance at the meeting.

Appearance by Citizens

None.

8) Unfinished Business

a. Second Reading of Proposed Ordinance 2011-25

Second Reading of Proposed Ordinance 2011-25 authorizing the execution of an amendment to lease with the Museum-Chamber Partnership for property owned by the Town of Hilton Head Island, South Carolina, pursuant to the authority of S.C. Code Ann.

Sec. 5-7-40 (Supp. 2006), and Sec. 2-7-20, *Code of the Town of Hilton Head Island, South Carolina*, (1983); and providing for severability and an effective date.

Mr. Heitzke moved to approve. Mr. Williams seconded. Mr. Riley stated Staff would like to suggest an amendment to the motion concerning the Proposed Ordinance that would change the participants from the Museum-Chamber Partnership to the Hilton Head Island-Bluffton Chamber of Commerce. He explained that the Museum has moved out of the building and the partnership has dissolved and because of that the Chamber has requested that only their name be on the lease. He said Staff was in support of the request. He referred to a Proposed Ordinance and Lease Amendment that was distributed for consideration. Mr. Riley noted there were no other changes and that due to the change the Proposed Ordinance will require a Revised Second Reading which would take place at the October 18, 2011 Town Council Meeting. Mr. Heitzke, the maker and Mr. Williams, who seconded the motion were in agreement to the amendment. The motion was approved by a vote of 7-0.

b. Second Reading of Proposed Ordinance 2011-27

Second Reading of Proposed Ordinance 2011-27 authorizing the Execution and delivery of easements encumbering Town owned real property, pursuant to the authority of S.C. Code Ann. Section 5-7-40 (Supp. 2010), and Section 2-7-20, *Code of the Town of Hilton Head Island, South Carolina*, (1983, As Amended); and providing for severability and an effective date.

Mr. Heitzke moved to approve. Mr. Williams seconded. The motion was approved by a vote of 7-0.

9) New Business

a. Consideration of a Recommendation for the LMO Rewrite Committee to obtain Consultant Services and approval of an Expanded Scope of Work

Mr. Crews informed Town Council that the Committee has developed a position that it is appropriate to hire a consultant to work with the Committee and Town Staff to undertake the rewrite of the Land Management Ordinance. He said it is a large task and involves a number of components in the Community, as well as quite a bit of legal work. He stated the Committee wants to make certain the level of quality that was in the original LMO is continued with the rewrite. Mr. Crews said the Committee and Staff have put together a Request for Proposals (RFP) for the consultant and would like Town Council to give them authority to release it. He said they are looking at a date of November 1, 2011 to release the RFP with hopes of having a consultant on board working with the Committee beginning the first of the year.

Mr. Crews also requested Town Council approve expanding the scope of services to include issues related to Ward 1. He said the Committee has talked at great length and realized there is great potential for creative solutions for some of the issues within Ward 1 which they feel should be part of the new LMO.

After discussion, Mr. Heitzke moved to expand the scope of services for the LMO Rewrite Committee to include issues related to Ward 1. Mr. Ferguson seconded. Mr. Tom Barnwell, Jr. addressed Town Council in support of the expanded scope of services for Ward 1. The motion was approved by a vote of 7-0.

After further discussion, Mr. Williams moved to request that the LMO Rewrite Committee develop a Request for Proposals (RFP) for consultants. Mrs. Likins seconded. Mr. Chet Williams addressed Town Council in support of a consultant to work with the LMO Rewrite Committee. The motion was approved by a vote of 7-0.

Mr. Edwards informed Town Council he is quite often asked questions concerning the airport. He suggested Town Council request that the Beaufort County Administrator or his designee be present at a future meeting to update Town Council. Mr. Riley said he would contact Mr. Kubic and extend the invitation.

10) Executive Session

Mr. Riley stated he needed an executive session for contractual matters pertaining to a request for an easement across town-owned land and contractual matters pertaining to a proposed cell tower lease at Fire Station 7.

At 5:10 p.m. Mr. Heitzke moved to go into Executive Session for the reasons stated by the Town Manager. Mr. Williams seconded. The motion was approved by a vote of 7-0.

Mayor Laughlin called the meeting back to order at 5:18 p.m. and asked if there was any business to take up as a result of executive session.

Mr. Edwards moved that the Town Council give approval on First Reading to an ordinance authorizing the Town to execute and deliver a lease of a portion of Town owned real property known as Fire Station 7, and easements encumbering Town owned real property in favor of American Towers, L. L. C., and that the Mayor and Town Manager be authorized to execute and deliver the lease and easements, and to take such other and further actions as may be necessary to complete the execution and delivery of the lease and conveyance of the easements. Mr. Heitzke seconded. The motion was approved by a vote of 7-0.

11) Adjournment

Mr. Williams moved to adjourn. Mr. Heitzke seconded. The motion was approved by a vote of 7-0. The meeting was adjourned at 5:20 p.m.

Vicki Pfannenschmidt, Secretary

Approved:

Drew A. Laughlin, Mayor



Items of Interest

October 18, 2011

1. Town News

Bob Klein, Building Official, has organized a conference for the Coastal Code Enforcement Association (CCEA) of South Carolina. It will be held at the Holiday Inn on December 4-7. This will be an excellent opportunity for building code, fire officials and contractors throughout the state and across the country to earn class credits (CEU's) for their respective licenses at this annual business meeting and educational conference. It is the first time this conference has been held on the Island.

(Contact: Bob Klein, Building Official, 341-4664)

Battalion Chief – Fire Marshal Joheida Fister has been appointed by the International Fire Service Training Association (IFSTA) to the *Fire Inspection and Code Enforcement* (8th edition) validation committee. IFSTA is an educational association and a part of the Oklahoma State University system. IFSTA is the industry leader in fire service training publications. Joheida will assist her other team members in rewriting, and then validating, the nation's leading textbook used to train fire personnel on the proper procedures involved in conducting fire safety inspections.

(Contact: Lavarn Lucas, Fire Chief, 682-5153)

Lieutenant David Britton has been appointed by the International Fire Service Training Association (IFSTA) to the *Fire and Emergency Services Company Officer* (5th edition) validation committee. IFSTA is an educational association and a part of the Oklahoma State University system. IFSTA is the industry leader in fire service training publications. Dave will assist his other team members in rewriting, and then validating, the nation's leading textbook used to train and certify fire service officers.

(Contact: Lavarn Lucas, Fire Chief, 682-5153)

Battalion Chief Michael Mayers has been appointed to the International Association of Fire Chiefs (IAFC) *On Scene* editorial board. With over 10 thousand members, the IAFC is the world's leading voice in fire and EMS issues. *On Scene* is IAFC's monthly magazine distributed to all members. Chief Mayers will be assisting other board members with setting the editorial schedule, writing occasional articles, suggesting possible authors, vetting the articles, and setting direction on controversial issues.

(Contact: Lavarn Lucas, Fire Chief, 682-5153)

2. Noteworthy Events

a) Some of the upcoming meetings at Town Hall:

- Planning Commission – October 19, 3:00 p.m.
- Board of Zoning Appeals – October 24, 9:00 a.m.
- Design Review Board – October 25, 1:15 p.m.
- Construction Board of Adjustment and Appeals, October 25, 5:30 p.m.
- Planning and Development Standards Committee – October 26, 4:00 p.m.
- Public Projects and Facilities Committees – November 1, 2:00 p.m.
- Town Council – November 1, 4:00 p.m.

(Meetings subject to change and/or cancellation. Please visit the Town of Hilton Head Island website at www.hiltonheadislandsc.gov for meeting agendas)

2011 Hilton Head Island Events

Fridays, thru Dec. 9, 2011 8:30am-1:00pm	Farmers Market	Honey Horn
Daily Thru December 31,2011 During Coastal Discovery Museum Hours	Public Art Exhibition	Honey Horn
October 21 & 22, 2011 5:00pm-11:00pm	Haunted Trail & Enchanted Forest	Honey Horn
October 22, 2011 8:00am-1:00pm	NAMI Walk	Coligny Beach
October 23,2011 8:00am-10:00am	Hilton Head Island Bridge Run	Cross Island Parkway/Bristol Sports Arena
October 28, 2011 4:30pm-8:00pm	Palmetto Dunes Pumpkin Patch	Shelter Cove Community Park

MEMORANDUM

TO: Town Council

FROM: Stephen G. Riley, CM, Town Manager

RE: Proposed Ordinance Number 2011-25/Execution of a Lease Amendment with the Museum-Chamber Partnership

DATE: October 5, 2011

CC: Gregory D. DeLoach, Esq., Assistant Town Manager for Administration
Brian E. Hulbert, Esq., Staff Attorney

At the second reading the ordinance was revised to replace the Museum-Chamber Partnership with the Hilton Head Island-Bluffton Chamber of Commerce as the tenant. The change was necessary because the Museum-Chamber Partnership dissolved on September 30, 2011. No other changes were made to Proposed Ordinance #2011-25 as a result of second reading on October 4, 2011.

AN ORDINANCE OF THE TOWN OF HILTON HEAD ISLAND

ORDINANCE NO.

PROPOSED ORDINANCE NO. 2011-25

AN ORDINANCE OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, AUTHORIZING THE EXECUTION OF AN AMENDMENT TO LEASE WITH THE HILTON HEAD ISLAND-BLUFFTON CHAMBER OF COMMERCE FOR PROPERTY OWNED BY THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, PURSUANT TO THE AUTHORITY OF S.C. CODE ANN. SEC. 5-7-40 (SUPP. 2010), AND SEC. 2-7-20, CODE OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, (1983); AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, the Town of Hilton Head Island, South Carolina, owns a parcel of real property which is located at 100 William Hilton Parkway, Hilton Head Island, South Carolina; and

WHEREAS, the Hilton Head Island-Bluffton Chamber of Commerce desires to continue to use and occupy Town Property located at 100 William Hilton Parkway, Hilton Head Island, South Carolina; and

WHEREAS, the Town Council for the Town of Hilton Head Island, South Carolina has determined that it is in the best interests of the Town to extend the Lease Agreement with the Hilton Head Island-Bluffton Chamber of Commerce for its continued use and occupation of Town Property located at 100 William Hilton Parkway, Hilton Head Island, South Carolina.

NOW, THEREFORE, BE IT ORDERED AND ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA; AND IT IS ORDAINED BY THE AUTHORITY OF THE SAID TOWN COUNCIL:

Section 1 Execution of Lease.

- (a) The Mayor and Town Manager are hereby authorized to execute and deliver the Lease Amendment, which is attached hereto as Exhibit "A", to the "Lease" which is attached hereto as Exhibit "B"; and
- (b) The Mayor and Town Manager are hereby authorized to take such other and further actions as may be necessary to complete the execution of the Lease Amendment as authorized hereby.

Section 2 Severability. If any section, phrase, sentence, or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

Section 3 Effective Date. This Ordinance shall be effective upon adoption thereof by the Town Council for the Town of Hilton Head Island, South Carolina.

PASSED, APPROVED, AND ADOPTED BY THE COUNCIL FOR THE TOWN OF HILTON HEAD ISLAND ON THIS _____ DAY OF _____, 2011

By: _____
Drew A. Laughlin, Mayor

ATTEST:

By: _____
Cori Brock, Town Clerk

First Reading: _____
Second Reading: _____

APPROVED AS TO FORM:

Gregory M. Alford, Town Attorney

Introduced by Council Member: _____



TOWN OF HILTON HEAD ISLAND

Community Development Department

TO: Town Council
FROM: Stephen G. Riley, *CM, Town Manager*
VIA: Shea Farrar, *Senior Planner*
DATE: October 6, 2011
SUBJECT: Proposed Ordinance No. 2011-26

Adoption of a Proposed Ordinance 2011-0026 will authorize the town of Hilton Head Island to enter into a long-term (thirty-year) lease of a portion of the Fire Station 7 Property with American Towers, LLC, for the purpose of the erection and operation of a telecommunications tower. Adoption of Proposed Ordinance 2011-0026 will also authorize the Town to grant easements for access and underground utilities to American Towers, LLC, encumbering portions of the Fire Station 7 Property.

Proposed Ordinance 2011-0026 was approved by Town Council on 1st reading on October 4, 2011, following executive session. No changes to the Proposed Ordinance were made during the first reading.

AN ORDINANCE OF THE TOWN OF HILTON HEAD ISLAND

ORDINANCE NO.

PROPOSED ORDINANCE NO. 2011- 26

AN ORDINANCE OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, AUTHORIZING THE EXECUTION OF A LEASE WITH AMERICAN TOWERS, L. L. C., FOR PROPERTY OWNED BY THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, AND AUTHORIZING THE EXECUTION OF TWO EASEMENTS IN FAVOR OF AMERICAN TOWERS, L. L. C., ENUMBERING TOWN OWNED LAND,PURSUANT TO THE AUTHORITY OF S.C. CODE ANN. SEC. 5-7-40 (SUPP. 2010), AND SEC. 2-7-20, CODE OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, (1983); AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, the Town of Hilton Head Island, South Carolina, owns a parcel of real property which is located at 1001 Marshland Road and generally known and described as the Fire Station Seven site; and

WHEREAS, American Tower desires to construct and operate a telecommunications tower on this Town-owned property; and

WHEREAS, the Town Council for the Town of Hilton Head Island, South Carolina has determined that it is in the best interests of the Town to enter into a Lease Agreement with American Tower for its operation of a telecommunications tower on the Town's Fire Station 7 property, and also to execute and deliver easements providing American Towers, L. L. C., with rights for parking and access, and with rights to install underground utilities at the Town's Fire Station 7 property.

NOW, THEREFORE, BE IT ORDERED AND ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA; AND ITS IS ORDAINED BY THE AUTHORITY OF THE SAID TOWN COUNCIL:

Section 1 Execution of Lease.

- (a) The Mayor and Town Manager are hereby authorized to execute and deliver the "Lease" which is attached hereto as Exhibit "A"; and
- (b) The Mayor and Town Manager are hereby authorized to take such other and further actions as may be necessary to complete the execution of the Lease as authorized hereby.

Section 2 Execution of Easements.

- (a) The Mayor and Town Manager are hereby authorized to execute and deliver the parking and access easement and the underground utilities

- easement which are attached as Exhibits "B" and "C" to the Lease that is attached hereto as Exhibit "A"; and,
- (b) The Mayor and Town Manager are hereby authorized to take such other and further actions as may be necessary to complete the execution of the easements as authorized hereby.

Section 3 Severability.

If any section, phrase, sentence, or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision, and such holding shall no affect the validity of the remaining portions thereof.

Section 3 Effective Date.

This Ordinance shall be effective upon adoption thereof by the Town Council for the Town of Hilton Head Island, South Carolina.

PASSED, APPROVED, AND ADOPTED BY THE COUNCIL FOR THE TOWN OF HILTON HEAD ISLAND ON THIS ___ DAY OF OCTOBER, 2011.

Drew A. Laughlin, Mayor

Cori Brock, Town Clerk

First Reading: _____

Second Reading: _____

Approved as to form:

By _____
Gregory M. Alford, Town Attorney

Introduced by Council Member: _____

EXHIBIT "A" TO PROPOSED ORDINANCE 2011-26

COMMUNICATION TOWER GROUND LEASE

By and Between

THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA

and

AMERICAN TOWERS, LLC

DATED: _____, 2011

TABLE OF CONTENTS

Fire Station 7 Property 2

The Leased Property 2

Subdivision of Leased Property 2

Access and Parking Easement 3

Underground Utility Line Easement 3

Representations and Warranties of the Town 4

American Tower Accepts the Property “As Is” 4

Limited Obligation of Town 5

Utilities and Other Services 5

Memorandum of Lease 5

Use Restrictions: 5

 Erection and Use of “Monopole” Tower 5

 Height Restriction 6

 Structures to House Equipment 6

 Fence 7

 Improvements to Leased Property 7

 Removal of Improvements 7

Permits 7

Mechanic’s or Other Liens Prohibited 8

 Property to Continue as Site of Fire Station 7 8

 Certain Restrictions Permitted 8

 Radio Frequency Interference 9

Construction of Monopole Tower and Other Improvements 9

 Notification to Town 10

 Schedule of Work 10

 Minimal Interference to Fire Station 7 10

Application of Laws and Other Matters 10

Lease Subordinate to Interests	11
No Other Interest In Real Property Created	11
Maintenance of Property And Compliance With Laws	11
Rules, Regulations and Restrictions	11
Maintenance of Leased Property and Improvements	11
Storage of Hazardous Substances Prohibited	12
Compliance with Laws	12
Waste Dumping or Disposal Prohibited:	13
Waste Storage Prohibited	13
Waste and Nuisances	13
Compliance with Restrictive Covenants	13
Additional Rules	14
American Tower Shall Obtain Town Business License	14
Initial Term	14
Renewal Terms	15
Restoration of Leased Property	15
Base Rent	15
Base Rent	15
Initial Term Base Rent	16
First Renewal Term	16
Second Renewal Term	16
Third Renewal Term	16
Fourth Renewal Term	16
Fifth Renewal Term	17
Co-Location Fee	17
Co-Location Fee	17
Initial Term Co-Location Fee	18
First Renewal Term	18
Second Renewal Term	18
Third Renewal Term	18
Fourth Renewal Term	18
Fifth Renewal Term Co-Location Fee	19
Taxes and Other Expenses	19

Quiet Enjoyment	19
Required Property Insurance	20
Required Liability Insurance	20
Policy Form:	20
Failure of American Tower to Obtain Insurance	21
Indemnification and Hold Harmless	21
Sublease of Leased Property	22
Tenants Bound by This Lease	22
American Tower to Remain Bound by This Lease	22
Reservation of Space on Monopole Tower for Town Use	22
Reservation of Space In Ground Level Equipment Structure:	23
Town Access to Leased Property	24
Other Encumbrances Prohibited	24
Notices	24
Events of Default Defined	25
As To American Tower	25
Failure to Observe Requirements	25
Failure to Pay Rent or Other Money Due	25
Failure to Observe any Other Requirement	25
Abandonment of Leased Property	25
As to the Town	25
Failure to Observe Requirements	25
Remedies on Default	26
As to the Town	26
As to American Tower	26
No Remedy Exclusive:	26
Waivers	27
Discontinuance of Proceedings	27

Force Majeure	27
Interest on Past Due Obligations	28
Binding Effect	28
Amendment, Changes and Modifications	28
Severability:	29
Execution in Counterparts	29
Applicable Law	29
Captions	29
Recording	29
No Agency:	29
Plural/Singular	29
No Third Party Beneficiaries	29
Sale of Station 7 Property	30
Assignment	30
By the Town	30
By American Tower	30

is authorized to enter into leases of town owned land under the authority of S. C. Code Ann. § 5-7-40 (Supp. 2010), and § 2-3-30 and § 2-7-20, *Code of The Town of Hilton Head Island, South Carolina* (1983, as amended).

NOW, THEREFORE, for and in consideration of the sum of One Dollar, and the full and faithful performance of the obligations, conditions and covenants contained in this Communication Tower Ground Lease (hereinafter, the "Lease"), the receipt and sufficiency of which are acknowledged by the Parties hereto, The Town of Hilton Head Island, South Carolina (hereinafter, the "Town"), and American Towers, L. L. C. Are here to continue your (hereinafter, "American Tower"), agree as follows:

ARTICLE 1

1.01 *Fire Station 7 Property:* The Town is the owner of a parcel of real property located within the town limits of the Town, and which consists of 3.5 acres, more or less, on Marshland Road, and which is the site of the Town's Fire Station 7 (hereinafter, the "Fire Station 7 Property"); and,

1.02 *The Leased Property:* The real property leased by American Tower pursuant to this Lease is a portion of the Fire Station 7 property, and which is known and described as follows:

All that certain parcel of land, containing 0.0552 acres, having dimensions, metes and bounds as are shown and described as the "Proposed Lease Area" on the Plat thereof prepared by Point to Point Land Surveyors, Roland McCann, S. C. R. L. S. 5193, a copy of which is attached hereto as Exhibit "A".(hereinafter, the "Leased Property").

1.03 *Subdivision of Leased Property:* American Tower shall obtain a subdivision approval from the Town so as to cause the Leased Property to be subdivided from the balance of the Fire Station 7 Property. American Tower shall take such steps as are

necessary to notify Beaufort County, South Carolina, of the subdivision of the parcel and to secure a separate tax parcel number from Beaufort County, South Carolina, for the Leased Property.

1.04 *Access and Parking Easement:* The Town shall grant to American Tower an easement for vehicular access to and from the Leased Property over the paved drives located on the Station 7 Property, as the same may exist from time to time. The Town shall grant an easement to American Tower allowing American Tower to utilize the parking areas on the Station 7 Property as the same may exist from time to time for the parking of service or other vehicles as the same may be needed to facilitate the construction, maintenance or operation of the Improvements authorized on the Leased Property under Article 2.01 below. The easements shall be temporary easements, having a duration equal to the Initial Term and any Renewal Term of this Lease. The Easements will be in a form and substance as appears in Exhibit "B" hereto.

1.05 *Underground Utility Line Easement:* The Town shall grant to American Tower an easement extending from the Leased Property to the right of way of Marshland Road for the purpose of installing underground electrical and communications lines necessary for the operation of the Monopole Tower and the equipment utilized in connection with it. The Town and American Tower will work together to identify a location for the underground utilities and will work with any utility providers to determine an acceptable location for the underground utilities and the Underground Utility Line Easement. The easement shall be a temporary easement, having a duration equal to the Initial Term and any Renewal Term of this Lease. The Easement will be in a form and substance as appears in Exhibit "C" hereto.

1.06 *Representations and Warranties of the Town:* To the knowledge of the Town:

(a) The Town has the full right, power and authority to execute this Lease;

(b) There are no pending or threatened administrative actions, including bankruptcy or insolvency proceedings under state or federal law, suits, claims or causes of action against the Town or which may otherwise affect the Leased Property;

(c) The Town has not, in violation of any statute or regulation, disposed of or spilled any contaminants, oils, PCBs, hazardous substances or wastes as defined by federal, state or local environmental laws, regulations or administrative orders or other materials the removal of which is required or the maintenance of which is prohibited by any federal, state or local government authority having jurisdiction over the Leased Property, on under or about the Leased Property.

1.07 *American Tower Accepts the Property "As Is":* American Tower represents and warrants that it has examined the Leased Property, title to the Leased Property, and the existing use restrictions on the Leased Property, and except as for those representations and warranties expressly set forth herein, accepts the Leased Property "as is", and without recourse to or against the Town as to the title thereto, availability of water, sewer, electricity or telecommunication services, the nature, condition or usability thereof, or the uses to which Leased Property may be put. In no event shall the Town have any liability to American Tower for any defect in the Leased Property, or the title to the Leased Property, or conditions existing in, on, under, over or about the Leased Property or any limitation on the uses which may be made of the Leased Property, except to the extent that any such

condition breaches an express representation or warranty made by the Town herein. American Tower accepts this limitation on the Town's liability and acknowledges that this limitation of the Town's liability is a material term of this Lease without which the Town would not have entered into this Lease.

1.08 *Limited Obligation of Town:* The Town shall not be required to furnish, and has no obligation to furnish, to American Tower any facilities or services of any kind, including, but not limited to, water, sewage disposal, sewage capacity, solid waste collection and disposal, recycling collection, electricity, light and power.

1.09 *Utilities and Other Services:* American Tower shall at its sole cost and expense arrange for the provision of any utilities needed by it or other services to the Leased Property. Any fees for reservation or use of utilities, or any other arrangements that must be made with the provider of any utility or any other service, shall be the sole responsibility of American Tower.

1.10 *Memorandum of Lease:* Simultaneously with the execution and delivery of this Lease, the Parties will execute and deliver a Memorandum of Lease which American Tower may record in the public records for Beaufort County, South Carolina.

ARTICLE 2

2.01 *Use Restrictions:* American Tower shall use the Leased Property for the following purposes, and no other:

(a) *Erection and Use of "Monopole" Tower:* American Tower may erect, maintain and operate a communications facility, including but not limited to, the construction or installation and maintenance of one "monopole" telecommunications tower on the Leased Property (hereinafter

the “Monopole Tower”), provided that American Tower secures the Town’s written approval for the plans for and design of the communications facility prior to commencing any installation or construction of any such communications facility, and thereafter erects the Monopole Tower, structural tower base, communications equipment, one or more buildings or equipment cabinets, radio transmitting and receiving antennas, one diesel generator, personal property and related improvements and facilities on the Leased Property, to facilitate the use of the Leased Property for the transmission and receipt of communication signals including, but not limited to, voice, data and internet transmissions and for any other uses which are incidental to the transmission and receipt of communication signals (hereinafter, the “Intended Use”).

(b) *Height Restriction:* The Monopole Tower to be erected on the Leased Property shall have a maximum height of One Hundred Forty (140) Feet above the grade elevation of the Leased Property.

(c) *Structures to House Equipment:* American Tower may erect structures to house electrical and communications equipment related to the operation of the communications equipment to be installed on the Monopole Tower, provided that American Tower secures the Town’s written approval for the plans for and design of the structure or structures prior to commencing any installation or construction of any such structure, and provided that American Tower thereafter erects the structure or structures in conformity with the Town’s written approval.

(d) *Fence:* American Tower may enclose the Leased Property with a fence, provided that American Tower secures the Town's written approval for the plans for and design of the fence prior to commencing any installation or construction of any such fence, and provided that American Tower thereafter erects the fence in conformity with the Town's written approval.

(e) *Improvements to Leased Property:* The Monopole Tower, any structures built to house electrical or communications equipment related to the communications facilities on the Monopole Tower, or any other structure, and the fence permitted under this Article 2.01 are collectively referred to herein as the "Improvements".

(f) *Removal of Improvements:* The Improvements erected or installed on the Leased Property by American Tower shall be the personal property of American Tower and shall be removed from the Leased Property at the termination of this Lease, as is provided in Article 3.03 below.

2.02 *Permits:* It shall be the sole responsibility of American Tower to procure and pay for any required municipal, state or federal or other governmental permits and authorizations of the various municipal departments and governmental subdivisions having jurisdiction over the Leased Property with respect to American Tower's installation of the Improvements permitted under Article 2.01 above. The Town will provide "owner's authorizations" indicating the Town's consent to any permit being sought by American Tower where such "owner's consent" is required under any applicable permitting regulations. The delivery of such "owner's consent" by the Town shall not be deemed a waiver of any applicable development standard or zoning or other requirement.

2.03 *Mechanic's or Other Liens Prohibited:* American Tower shall not suffer or permit any mechanic's lien or any other lien to be placed against the Leased Property arising out of any construction of Improvements permitted under Article 2.01, or the use or occupancy of the Leased Property by American Tower. In the event any such lien is filed, American Tower shall promptly cause the same to be discharged and removed of record, and shall further indemnify and hold the Town harmless from any costs or expenses, damages, suits or attorney's fees arising from the filing or enforcement of any mechanic's lien or any other lien affecting the Leased Property.

2.04 *Property to Continue as Site of Fire Station 7:* American Tower acknowledges that the Leased Property is, as of the date of the commencement of this Lease, a portion of the Fire Station 7 Property and is used by the Town for the operation of a public facility known as Fire Station 7. American Tower acknowledges and accepts that the Town shall at all times during any term of this Lease, continue the normal daily operations of Fire Station 7, and under no circumstance shall any act or occurrence resulting from the normal daily operations of Fire Station 7 be a breach of any term of this Lease or give rise to any claim or cause of action under the terms of this Lease. . Under no circumstances shall ingress and egress of the emergency vehicles stationed at Fire Station 7 be blocked or impeded in any manner by American Tower.

(a) *Certain Restrictions Permitted:* The foregoing language of Article 2.04 notwithstanding, American Tower is permitted to restrict the public's access to the Leased Property during the Initial Term or any Renewal; Term of this Lease, and may enclose the Leased Property with a fence, as is provided in Article 2.01(d) above.

(b) *Radio Frequency Interference:* The Town will not use, nor will the town permit its tenants, licensees, invitees or agents, to use any portion of the Fire Station 7 Property in any way which creates Radio Frequency Interference with the Monopole Tower, or the communications equipment installed in connection with the Monopole Tower; provided, however, that any existing radio or other signal generating equipment being used as of the date of this Lease by the Town, its tenants, licensees, invitees or agents on or about the Fire Station 7 Property is exempt from this requirement. Radio frequency interference in violation of this Article 2.04(b) will be deemed to be a material breach of this Lease by the Town, and the Town will have the responsibility to terminate such Radio Frequency Interference immediately upon written notice thereof from American Tower. Notwithstanding anything to the contrary in this Lease, if the Radio Frequency Interference does not cease or is not rectified as soon as is possible, but in no event longer than 24 hours after delivery of American Tower's written notice to the Town, the Town acknowledges that continuing Radio Frequency Interference will cause irreparable injury to American Tower, an American Tower will have the right, in addition to any other rights it may have at law or in equity or under this Lease, to bring an action to enjoin the Radio Frequency Interference.

2.05 *Construction of Monopole Tower and Other Improvements:* American Tower shall be solely responsible for the construction of the Monopole Tower and the other Improvements described in Article 2.01 above. In connection with the construction of the Monopole Tower and other Improvements, American Tower shall:

(a) *Notification to Town:* American Tower shall notify the Town in writing no less than seven (7) days prior to the commencement of any activity related to the construction of the Monopole Tower and other Improvements on the Leased Property.

(b) *Schedule of Work:* The notification required under Article 2.05(a) shall include a schedule of the work to be performed.

(c) *Minimal Interference to Fire Station 7:* American Tower acknowledges that the Leased Property is, as of the date of the commencement of this Lease, a portion of the Fire Station 7 Property and is used by the Town for the operation of a public facility known as Fire Station 7. American Tower acknowledges and accepts that the Town shall at all times during any term of this Lease, continue the normal daily operations of Fire Station 7, and under no circumstance shall any act or occurrence resulting from the normal daily operations of Fire Station 7 be a breach of any term of this Lease or give rise to any claim that the Town has interfered with the construction of the Monopole Tower or any other cause of action under the terms of this Lease. During the construction of the Monopole Tower, American Tower shall take such steps to ensure that its activities do not unreasonably interfere with the normal daily operations of Fire Station 7. Under no circumstances shall ingress and egress of the emergency vehicles stationed at Fire Station 7 be blocked or impeded in any manner by American Tower.

2.06 *Application of Laws and Other Matters:* This Lease is made by the Town and

accepted by American Tower subject to all existing ordinances, regulations, statutes, zoning ordinances and any restrictive covenants affecting the Leased Property which are now in force or which may be enacted in the future.

2.07 *Lease Subordinate to Interests of Hilton Head Public Service District:* American Tower acknowledges that Hilton Head Public Service District holds a permanent utility easement over a portion of the Fire Station 7 site that is shown and described on a Plat recorded in the Office of The Register of Deeds for Beaufort County, South Carolina, in Plat Book 123 at Page 141. American Tower shall exercise its rights under this Lease so as to not impair or impede the rights of Hilton Head Public Service District, and American Tower shall not cause any damage to any property of Hilton Head Public Service District.

2.08 *No Other Interest In Real Property Created:* Other than the leasehold interest and the ancillary easements as are expressly set forth herein, American Tower shall have no other interest in the Leased Property, nor any interest in any other part of the Fire Station 7 Property.

2.09 *Maintenance of Property And Compliance With Laws:* During the Initial Term and any Renewal Term of this Lease, American Tower shall, at its sole cost and expense, provide for the maintenance or upkeep of the Leased Property and the Improvements, and shall at all times comply with any and all applicable fire, building, health and sanitation codes as the same may from time to time be in effect.

2.10 *Rules, Regulations and Restrictions:* American Tower shall at all times during the Initial Term and any Renewal Term of this Lease, comply with the following:

- (a) *Maintenance of Leased Property and Improvements:* In keeping with the uses permitted on the Leased Property, American Tower shall

maintain the Leased Property and the Improvements on the Leased Property, in a sanitary condition, free of debris and trash, it being understood that no use shall be made or permitted of the Leased Property or any part thereof, nor any acts done, which will violate any statute, ordinance or regulation, or violate or make inoperative or otherwise impair any insurance policy at any time held by or in any way for the benefit of the Town pursuant to any provision of this Lease;

- (b) *Storage of Hazardous Substances Prohibited:* American Tower shall not, in violation of any applicable law or regulation, or the express provisions of this Lease, sell, or suffer or permit to be stored, kept, used or sold in, upon or about the Leased Property, or in any structure or building located on the Leased Property, any gasoline, distillate, any substance defined as a "Hazardous Substance" under any Federal, State or Local law, ordinance or regulation, or any other substance or material of an explosive, inflammable or radiological nature which may contaminate or endanger any part of the Leased Property, the Improvements, or any person on or about the Leased Property, or present any unusual fire, explosion or other damaging or dangerous hazard; and, American Tower shall, at its sole cost and expense, cause the removal and clean up of any hazardous substance allowed to contaminate the Leased Property by American Tower;
- (c) *Compliance with Laws:* American Tower shall comply with all

governmental rules, regulations, ordinances, statutes and laws now or hereafter in effect pertaining to the Leased Property or American Tower' use thereof;

- (d) *Waste Dumping or Disposal Prohibited:* American Tower shall refrain from dumping, disposal, reduction, incineration or other burning of any trash, hazardous material or substance, papers, refuse or garbage of any kind in, on, or about the Leased Property, in violation of any applicable statute, regulation or ordinance, or this Lease;
- (e) *Waste Storage Prohibited:* American Tower shall refrain from storing any trash, garbage or hazardous material or substance on the Leased Property or in the Improvements, and American Tower shall not create or permit the creation of any health or fire hazard, in violation of any applicable statute, regulation or ordinance;
- (f) *Waste and Nuisances:* American Tower shall refrain from committing or suffering to commit any waste upon, or making any unlawful, improper or offensive use of, the Leased Property or the Improvements, or creating any public or private nuisance or act or thing in or upon the Leased Property the Improvements; provided, however, that the use of the Leased Property as a telecommunications facility as described in this Lease shall not be considered to be a violation of this provision;
- (g) *Compliance with Restrictive Covenants:* American Tower shall

maintain the Leased Property and the Improvements so as to achieve compliance with and remain in compliance with any restrictive covenants encumbering the Leased Property and all local ordinances promulgated by the Town of Hilton Head Island, South Carolina, or any other applicable law, rule, regulation or agreement concerning the Leased Property and the Improvements.

2.11 *Additional Rules:* In addition to the foregoing, American Tower shall at all times during the Initial Term or any Renewal Term hereof comply with all other reasonable rules and regulations which the Town may at any time or from time to time establish concerning the use of the Leased Property; provided however, that any such rule or regulation so made shall not be inconsistent with any part of this Lease, and shall not unreasonably interfere with American Tower' use and enjoyment of the Leased Property.

2.12 *American Tower Shall Obtain Town Business License:* During the Initial Term or any Renewal Term of this Lease, American Tower shall obtain a Town business license, and shall keep its business license current and valid.

ARTICLE 3

3.01 *Initial Term:* The Initial Term of this Lease shall be for a period of five (5) years, commencing on the 1st day of _____, 2011, and ending on the 30th day of _____, 2016 (herein, the "Initial Term"), Unless terminated sooner by the Town under the provisions hereof.

(a) American Tower shall have a period of eighteen (18) months from the commencement date of this Lease to complete the construction of the Monopole Tower and other Improvements described in Article 2.01 above.

(b) In the event that American Tower does not complete the construction of the Monopole Tower and other Improvements described in Article 2.01 above within eighteen months from the commencement date of this Lease, then this Lease shall automatically terminate.

3.02 *Renewal Terms:* This Lease will automatically be renewed for up to five (5) successive five (5) year Renewal Terms, provided that American Tower is not in default of any of its obligations hereunder (herein, the “Renewal Term”, or “Renewal Terms”). Unless American Tower gives notice of its intention not to renew this Lease within One Hundred Eighty (180) Days of the last day of the Initial Term or within One Hundred Eighty days of the last day of any Renewal Term, this Lease shall automatically renew for the subsequent five (5) year Renewal Term. Unless terminated sooner by American Tower or by the Town under the provisions hereof, this Lease and all Terms hereof will terminate on the 30th day of _____, 2041.

3.03 *Restoration of Leased Property:* At such time as this Lease is terminated, irrespective of the reason for the termination, American Tower shall, within thirty (30) days of the termination, remove all of its personal property from the Leased Property and the associated easements to a depth of three feet below grade, and shall restore the Leased Property to its pre-existing condition, which is vacant, level, grassed, undeveloped property.

ARTICLE 4

4.01 *Base Rent:* American Tower shall pay Base Rent to the Town during the Initial Term or any renewal Term of this Lease as follows:

(a) *Base Rent:* For each year of the Initial Term of this Lease, and any Renewal Term of this Lease, American Tower shall pay the Town Base Rent

in the amounts set forth in Articles 4.01(a)(i)(ii)(iii)(iv)(v) and (vi) below. The Base Rent shall be paid to the Town annually, in advance, no later than January 15 of each year of the Initial Term of this Lease, or any Renewal Term of this Lease. The Base Rent shall be paid pro rata for any partial year, including the year that this Lease commences.

(i) *Initial Term Base Rent:* For each year of the Initial Term of this Lease, American Tower shall pay the Town Base Rent in the amount of Twelve Thousand and no/100 (\$12,000.00) Dollars per year.

(ii) *First Renewal Term:* For each year of the First Renewal Term of this Lease, American Tower shall pay the Town Base Rent in the amount of Thirteen Thousand Eight Hundred and no/100 (\$13,800.00) Dollars per year.

(iii) *Second Renewal Term:* For each year of the Second Renewal Term of this Lease, American Tower shall pay the Town Base Rent in the amount of Fifteen Thousand Eight Hundred Seventy and 00/100 (\$15,870.00) Dollars per year.

(iv) *Third Renewal Term:* For each year of the Third Renewal Term of this Lease, American Tower shall pay the Town Base Rent in the amount of Eighteen Thousand Two Hundred Fifty and no/100 (\$18,250.00) Dollars per year.

(v) *Fourth Renewal Term:* For each year of the Fourth Renewal Term of this Lease, American Tower shall pay the Town

Base Rent in the amount of Twenty Thousand Nine Hundred Eighty Seven and no/100 (\$20,987.00) Dollars per year.

(vi) *Fifth Renewal Term:* For each year of the Fifth Renewal Term of this Lease, American Tower shall pay the Town Base Rent in the amount of Twenty Four Thousand One Hundred Thirty Five and no/100 (\$24,135.00) Dollars per year.

4.02 *Co-Location Fee:* For each year of the Initial Term of this Lease, and any Renewal Term of this Lease American Tower shall pay the Town a Co-Location Fee for each sub-lease, license or other co-location agreement entered into between American Tower and any third-party for space on the Monopole Tower and any other part of the Leased Property, excluding one "Anchor Tenant" and the Town (herein, "Additional Co-locator").

(a) *Co-Location Fee:* American Tower shall pay the Town a Co-Location Fee in the amounts set forth in Articles 4.02(a)(i)(ii)(iii)(iv)(v) and (vi) below. American Tower shall pay the Co-Location Fee yearly, in arrears, no later than January 15 of the following year. The initial payment of the Co-Location Fee shall be due with the first annual rent installment payable after the commencement date (as defined therein) of each sub-lease, license or other co-location agreement with an Additional Co-locator. In the event a sub-lease, license or other co-location agreement with any Additional Co-locator expires or terminates, American Tower' obligation to pay the Co-location fee for such sub-lease, license or other co-location agreement shall terminate on the date of such termination or expiration. American Tower shall notify the Town in writing of such termination or expiration within fifteen (15) days of

the date of such termination or expiration. Notwithstanding anything contained herein, no Co-Location fee shall be due for any sub-lease, license or other co-Location agreement for any sub-lease or transfer to any subsidiary, parent or affiliate of American Tower, if such sub-lease or transfer does not result in additional equipment on the Monopole Tower.

- (i) *Initial Term Co-Location Fee:* For each year of the Initial Term of this Lease, American Tower shall pay the Town a Co-Location Fee of Four Hundred and no/100 (\$400.00) Dollars per month for each Additional Co-Locator .
- (ii) *First Renewal Term Co-Location Fee:* For each year of the First Renewal Term of this Lease, American Tower shall pay the Town a Co-Location Fee in the amount of Four Hundred Sixty and no/100 (\$460.00) Dollars per month for each Additional Co-Locator.
- (iii) *Second Renewal Term Co-Location Fee:* For each year of the Second Renewal Term of this Lease, American Tower shall pay the Town a Co-Location Fee in the amount of Five Hundred Twenty Nine and no/100 (\$529.00) Dollars per month for each Additional Co-Locator.
- (iv) *Third Renewal Term Co-Location Fee:* For each year of the Third Renewal Term of this Lease, American Tower shall pay the Town a Co-Location Fee in the amount of Six Hundred Eight and no/100 (\$608.00) Dollars per month for each Additional Co-Locator.
- (v) *Fourth Renewal Term Co-Location Fee:* For each year of

the Fourth Renewal Term of this Lease, American Tower shall pay the Town a Co-Location Fee in the amount of Six Hundred Ninety Nine and no/100 (\$699.00) Dollars per month for each Additional Co-Locator.

(vi) *Fifth Renewal Term Co-Location Fee:* For each year of the Fifth Renewal Term of this Lease, American Tower shall pay the Town a Co-Location Fee in the amount of Eight Hundred Three and no/100 (\$803.00) Dollars per month for each Additional Co-Locator.

4.03 *Taxes and Other Expenses:* American Tower shall fully and promptly pay any and all taxes, fees, charges and costs and expenses of any nature related to the Leased Property, the Improvements, and American Tower's use and occupancy thereof. In the event that American Tower fails to pay any tax or other expense as required by this Article 4, the Town may, but without obligation to do so, at any time from time to time without notice, pay such tax or other expense, in which event American Tower shall repay the Town all sums so paid by the Town, together with interest thereon as provided in Article 10 hereof, and any incidental costs or expenses incurred by the Town in connection therewith, within ten (10) days following the Town's written demand to American Tower for such payment.

ARTICLE 5

5.01 *Quiet Enjoyment:* The Town hereby covenants that American Tower shall have, during the Initial Term and any Renewal Term of this Lease, peaceable and quiet possession of the Leased Property, and shall have, hold and enjoy the Leased Property without suit, trouble or hindrance from the Town, except as expressly required or permitted by this Lease. The Town shall not interfere with the quiet use and enjoyment of the Leased Property by American Tower during the Initial Term or any Renewal Term of this Lease, so

long as the Initial Lease Term or Renewal Lease Terms shall be in effect and all obligations of American Tower hereunder have been fulfilled.

ARTICLE 6

6.01 *Required Property Insurance:* During the Initial Term and any Renewal Term hereof, American Tower shall keep the Improvements insured against loss or damage by fire, wind, flood (to the extent of any available federal flood insurance program) and all other perils as are typically insured against by commercial establishments operating in Beaufort County, South Carolina, to the extent of the value thereof. In the event of a casualty to any of the Improvements so insured, American Tower shall utilize the payments made under the policy to repair or replace the Improvements.

6.02 *Required Liability Insurance:* During the Initial Term and any Renewal Term of this Lease, American Tower shall maintain in full force a comprehensive general public liability insurance with minimum bodily injury, death and property damage limits, per occurrence, of THREE MILLION (\$3,000,000.00) DOLLARS insuring against any and all liability of American Tower or any tenant of American Tower with respect to their occupancy and use of the Leased Property and all of the Improvements, or arising out of the maintenance, use or occupancy thereof by American Tower or any tenant of American Tower. In addition to all other coverages, and if available, such insurance policy or policies shall specifically insure the performance by American Tower of the hold harmless and indemnity provisions set forth in Article 6.05 of this Lease.

6.03 *Policy Form:* All policies of insurance provided for herein shall be issued by insurance companies with a general policyholders' rating not less than A, and a financial rating of AAA as rated in the most current available "Best's Insurance Reports", and

qualified to do business in the State of South Carolina. The Town shall be named as an additional insured in any such policy. Such policies shall be for the mutual and joint benefit and protection of American Tower and the Town, and executed copies of such policies of insurance or certificates thereof shall be delivered to the Town within ten (10) business days after delivery of possession of the Leased Property to American Tower and thereafter within ten (10) business days of the issuance of any such policy, or within ten (10) business days of any request by the Town. All public liability and property damage policies shall contain a provision that the Town, although named as an insured, shall nevertheless be entitled to recovery under said policies for any loss occasioned to it, its servants, agents and employees or its property by reason of the negligence of American Tower. As often as any such policy shall expire or terminate, renewal or additional policies shall be procured and maintained by American Tower in like manner and to like extent. All public liability, property damage and other casualty shall be written as primary policies, not contributing with and not in excess of coverage which the Town may carry.

6.04 *Failure of American Tower to Obtain Insurance:* In the event that American Tower fails to procure and/or maintain any insurance required by this Article 6, or fails to carry insurance required by law or governmental regulations, the Town may, but without obligation to do so, at any time from time to time without notice, procure such insurance and pay the premiums therefor, in which event American Tower shall repay the Town all sums so paid by the Town, together with interest thereon as provided in Article 10 hereof, and any incidental costs or expenses incurred by the Town in connection therewith, within ten (10) days following the Town's written demand to American Tower for such payment.

6.05 *Indemnification and Hold Harmless:* American Tower shall indemnify and hold

the Town harmless from any claims for loss, damage or liability, including attorney's fees and costs incurred by the Town in responding to or defending any claim, arising out of or on account of any injury, death or damage to any person, or to the Leased Property of any person, arising from or in any manner relating to the use of the Leased Property by American Tower, or arising from any act or omission of American Tower with respect to the exercise of any of American Tower' rights hereunder.

ARTICLE 7

7.01 *Sublease of Leased Property:* The Town acknowledges that American Tower will lease space for antennae on the Monopole Tower to be erected on the Leased Property, and that American Tower will sub-let portions of the Leased Property, for the installation of electrical and communications equipment and the structures to house the same.

(a) *American Tower' Tenants Bound by This Lease:* Any lease of space on the Monopole Tower or any sub-lease of any other portion of the Leased Property shall contain terms requiring any tenant to be bound by the Terms of this Lease, excepting the provisions of Article 4 hereof concerning the payment of rent from American Tower to the Town, and requiring the tenant to comply with all requirements hereof.

(b) *American Tower to Remain Bound by This Lease:* American Tower shall remain fully, directly and primarily bound by the terms and conditions of this Lease regardless of any lease of space on the Monopole Tower or any sub lease of any part of the Leased Property.

7.02 *Reservation of Space on Monopole Tower for Town Use:* During the Initial Term and any Renewal Term of this Lease, American Tower shall provide the Town with space

for one antenna on the Monopole Tower and sufficient space for housing any ground based equipment related to the antenna for use by the Town for fire and rescue or other emergency or municipal communications needs, as the same may be determined by the Town. The space to be provided to the Town on the Monopole Tower shall be a minimum of 120 feet above the grade level of the Leased Property. American Tower shall provide the space at no charge to the Town; provided, however, that the space and the terms of use of the space shall be governed by a separate license agreement executed by the Town and American Tower, in a form and substance similar to that set forth on the attached Exhibit "D". American Tower authorized contractors hired by the Town shall have access to the Leased Property, the Monopole Tower and any structures built to house electrical or communications equipment related to the communications facilities on the Monopole Tower, for purpose of installing, using and maintaining its antennae and associated electrical and communications equipment, in the same manner as any other party to whom American Tower enters into a sublease under the authority of Article 7.01 above.

7.03 Reservation of Space In Ground Level Equipment Structure: During the Initial Term and any Renewal Term of this Lease, American Tower shall provide the Town with one standard full height server rack space, with a functional electrical connection, in the Ground Level structure built by American Tower to house equipment to serve the communications equipment to be installed on the Monopole Tower, such equipment to be described with more particularity in a separate license agreement executed by the Town and American Tower, which shall be in a form and substance similar to that set forth on the attached Exhibit "D"; provided, however, that in the event of any conflict between the terms of this Lease and the license agreement, the terms of this Lease shall control.

7.04 *Town Access to Leased Property:* Subject to the terms of a separate license agreement executed by the Town and American Tower, which shall be in a form and substance similar to that set forth on the attached Exhibit “D”, the Town shall have access to the Leased Property, the Monopole Tower and any structures built to house electrical or communications equipment related to the communications facilities on the Monopole Tower, for purpose of installing, using and maintaining its antennae and associated electrical and communications equipment, in the same manner as any other party to whom American Tower enters into a sublease under the authority of Article 7.01 above.

7.05 *Other Encumbrances Prohibited:* American Tower shall not grant any easements, licenses or rights-of-way or enter into any agreement which would in any way affect or encumber the title to the Leased Property; provided, however, that subleases or licenses made by American Tower under the authority of Article 7.01 above, are permitted.

ARTICLE 8

8.01 *Notices:* All notices, certificates or other communications required hereunder shall be deemed Delivered when delivered in person, or mailed by regular first class mail, postage prepaid, addressed as follows, or to such other addresses as may be designated, in writing, by the Parties:

To the Town: TOWN OF HILTON HEAD ISLAND
Town Manager
One Town Center Court
Hilton Head Island, SC 29928

To American Tower: American Towers, L. L. C.
10 Presidential Way
Woburn, MA 01801

ARTICLE 9

9.01 *Events of Default Defined:* The following shall be Events of Default under this Lease:

(1) As To American Tower:

(a) *Failure to Observe Requirements:* The failure of American Tower or any tenant of American Tower to observe or perform any covenant, requirement, term, condition, obligation or agreement contained in this Lease, required to be observed or performed on its part, as follows:

(i) *Failure to Pay Rent or Other Money Due:* The failure to pay Rent or any other money due under the terms of this Lease for a period of thirty (30) days after delivery of written notice from the Town specifying such failure and demand that it be remedied.

(ii) *Failure to Observe any Other Requirement:* The failure to observe or perform any other covenant, requirement, term, condition, obligation or agreement contained in this Lease, for a period of sixty (60) days after delivery of written notice from the Town specifying such failure and demand that it be remedied.

(b) *Abandonment of Leased Property:* The abandonment of the Leased Property by American Tower or the discontinuance of operations at the Leased Property by American Tower for a period of thirty (30) days.

(2) As to the Town:

(a) *Failure to Observe Requirements:* The failure of the Town to observe or perform any covenant, requirement, term, condition, obligation or agreement contained in this Lease, required to be observed or performed

on its part, for a period of sixty (60) days after delivery of written notice from the Town specifying such failure and demand that it be remedied.

9.02 *Remedies on Default:*

(a) *As to the Town:* Whenever any Event of Default described in Article 9.01(1)(a) or (b) of this Lease, shall have occurred and continues for a periods described in Article 9.01(1)(a)(i) and (ii), above, after Delivery of written Notice of Default from the Town Council to American Tower, or shall have occurred and continues for a periods described in Article 9.01(b), above, the Town shall have the right to terminate this Lease and shall give notice to American Tower to vacate the Leased Property. The Town may thereafter evict American Tower from the Leased Property and take possession thereof and also exercise all the rights and remedies provided herein.

(b) *As to American Tower:* Whenever any Event of Default described in Article 9.01(2) of this Lease, shall have occurred and continues for a periods described in Article 9.01(2)(a) above, after Delivery of written Notice of Default from American Tower to the Town, American Tower may terminate this Lease by delivery of written notice thereof to the Town, and upon delivery of such written notice, American Tower shall have no further obligation or liability under this Lease.

9.03 *No Remedy Exclusive:* No remedy conferred upon or reserved to the Town herein is intended to be exclusive, and every such remedy shall be cumulative and shall be in addition to every other remedy hereunder or now or hereafter existing at law or in equity. No delay or omission to exercise any right or power accruing upon any default shall impair

any such right and power and such right and power may be exercised from time to time and as often as may be deemed expedient in the sole discretion of the Town.

9.04 *Waivers:* In the event that any agreement contained herein should be breached by either Party and thereafter waived by the other Party, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other , further or subsequent breach hereunder.

9.05 *Discontinuance of Proceedings:* In case either Party hereto shall have proceeded to enforce any right under this Lease, and such proceedings shall have been discontinued or abandoned for any reason, then and in every such case the Town and American Tower shall be restored respectively to their several positions and rights hereunder and all rights, obligations, remedies and powers of the Town and American Tower shall continue as though no such proceeding had been taken.

9.06 *Agreement to Pay Attorney's Fees and Expenses:* In the event that either Party hereto shall default under any of the provisions hereof, and the non-defaulting Party shall employ attorneys, or incur other expenses for the enforcement of the performance or observance of any obligation or agreement on the part of the defaulting Party hereto contained, the defaulting Party agrees that it shall pay, on demand, the fees of such attorneys and such other expenses so incurred by the non-defaulting party in the enforcement of its rights hereunder.

9.07 *Force Majeure:* Upon thirty (30) days' written notice from American Tower to the Town that, because of changes in the laws or regulations governing the use of the Monopole Tower and the associated equipment, American Tower is unable to obtain, maintain, renew or reinstate any agreement, easement, permit, certificate, license, variance,

zoning approval or any other approval which may be required from any federal, state or local authority necessary to the construction, maintenance and operation of the Monopole Tower or the Intended Use.

ARTICLE 10

10.01 *Interest on Past Due Obligations:* Whenever under any provision of this Lease American Tower shall be obligated to make any payment or expenditure to the Town, or to do any act or thing, or to incur any liability whatsoever, and American Tower fails, refuses or neglects to perform as herein required, the Town shall be entitled but shall not be obligated to make any such payment or expenditure, or do any such act or thing, or to incur any such liability, all on behalf and at the cost and for the account of American Tower, and in such event the amount thereof with interest thereon as hereinafter provided shall be deemed due upon demand for payment thereof by the Town. Any amount due from American Tower to the Town under this Lease which is not paid when due shall bear interest at the lower of the rate of eighteen (18%) percent per annum or the highest rate then allowed under any applicable usury laws of the State of South Carolina from the date due until paid, unless otherwise specifically provided herein, but the payment of such interest shall not excuse or cure any default by American Tower under this Lease.

ARTICLE 11

11.01 *Binding Effect:* This Lease shall inure to the benefit of and shall be binding upon American Tower and the Town.

11.02 *Amendment, Changes and Modifications:* Except as otherwise provided herein, this Lease may not be effectively amended, changed, modified or altered without written consent of both Parties hereto.

11.03 *Severability*: In the event that any provision of this Lease shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof.

11.04 *Execution in Counterparts*: This Lease may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

11.05 *Applicable Law*: This Lease shall be governed by and construed in accordance with the laws of the State of South Carolina.

11.06 *Captions*: The captions or headings herein are for convenience only and in no way define, limit or describe the scope or intent of any provisions or sections of this Lease.

11.07 *Recording*: The Parties hereto may record this lease, or a short form Memorandum thereof, in the Office of the Register of Deeds for Beaufort County, South Carolina.

11.08 *No Agency*: The Parties hereto intend only to provide for a lease of real property as provided herein, and affirmatively state that no master/servant, principal/agent or employer/employee relationship is created by this Lease. Nothing herein created any relationship between the Town and American Tower other than that which is expressly stated herein. No employee, volunteer or agent of American Tower shall be considered an employee or agent of the Town for any purpose whatsoever and none shall have any status, right or benefit of employment with Town.

11.09 *Plural/Singular*: Where appropriate, the use of the singular herein shall include and be deemed to be the plural, and the use of the plural herein shall be deemed to include the singular.

11.10 *No Third Party Beneficiaries*: The Town and American Tower affirmatively

represent that this Lease is made solely for the benefit of the Parties hereto and not for the benefit of any third party who is not a signature party hereto. No party other than the signature parties hereto shall have any enforceable rights hereunder, or have any right to the enforcement hereof, or any claim for damages as a result of any alleged breach hereof.

ARTICLE 12

12.01 *Sale of Station 7 Property:* The Town may sell the station 7 property or a portion of the station 7 property to a 3rd party, provided: (i) the sale is made subject to the terms of this lease; and, (ii) if the sale does not include the assignment of the Town's full interest in this Lease, without requiring compensation from American Tower or any user of the Monopole Tower to be paid to such purchaser, the purchaser must agree to perform any obligation of the Town under this Lease that the Town would no longer have the legal right or ability to perform following the sale.

12.02 *Assignment:*

(a) *By the Town:* The Town may assign this Lease in its entirety to any third party in conjunction with any sale of the Fire Station 7 Property in accordance with Article 12.01 of this Lease. The Town will not otherwise assign less than the Town's full interest in this Lease, without the prior written consent of American Tower.

(b) *By American Tower:* American Tower may assign this Lease to any affiliate of American Tower without prior notice to or consent of the Town.

In Witness whereof, the Parties hereto, by and through their duly authorized officers, have set their hands and seals as of this ____ Day of _____, 2011.

WITNESSES:

**THE TOWN OF HILTON HEAD ISLAND,
SOUTH CAROLINA**

By: _____
Drew A. Laughlin, Mayor

Attest: _____
Stephen G. Riley, Town Manager

WITNESSES:

AMERICAN TOWERS, L. L. C.

By: _____

Attest: _____

STATE OF SOUTH CAROLINA)
)
COUNTY OF BEAUFORT) UNIFORM ACKNOWLEDGMENT
) S.C. CODE ANN. § 30-5-30 (Supp. 2010)

I, the undersigned Notary Public, do hereby certify that Drew A. Laughlin and Stephen G. Riley, personally appeared before me on this day and duly acknowledged the execution of the foregoing Communication Tower Ground Lease on behalf of The Town of Hilton Head Island, South Carolina.

Sworn to Before Me on this ____
Day of _____, 2011.

Notary Public for South Carolina
My Commission Expires:_____

STATE OF GEORGIA)
)
COUNTY OF _____) UNIFORM ACKNOWLEDGMENT
) S.C. CODE ANN. § 30-5-30 (Supp. 2010)

I, the undersigned Notary Public, do hereby certify that _____ a n d _____, personally appeared before me on this day and duly acknowledged the execution of the foregoing Communication Tower Ground Lease on behalf of American Towers, LLC.

Sworn to Before Me on this ____
Day of _____, 2011.

Notary Public for Georgia
My Commission Expires:_____

EXHIBIT "A" TO COMMUNICATION TOWER GROUND LEASE BY AND
BETWEEN THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA
AND AMERICAN TOWERS, LLC

LEGAL DESCRIPTION SHEET

PROPOSED LEASE AREA

ALL TRACT CORNERS OF LAND LOTS AND BEING IN THE BEACH HEAD ISLAND, BEAUFORT COUNTY, SOUTH CAROLINA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TO AND THE POINT OF BEGINNING, COMMENCE AT THE CENTERLINE INTERSECTION OF THE CROSS ISLAND EXPRESSWAY (HEREINAFTER REFERRED TO AS "ROAD AND ROAD EXTENSION") AND POINT TOWARD A SOUTH CAROLINA STATE PLANS COORDINATE VALUE OF 16,12669824, 5-2071108.17; THENCE LEAVING SAID INTERSECTION AND RUNNING ALONG A THE LINE, SOUTH 02°22'01" EAST, 338.88 FEET TO A POINT, THENCE, SOUTH 07°04'46" EAST, 82.89 FEET TO A POINT, THENCE, SOUTH 07°04'46" EAST, 338.88 FEET TO A POINT, THENCE, SOUTH 07°04'46" WEST, 114.50 FEET TO A POINT, THENCE, NORTH 07°04'46" WEST, 114.50 FEET TO A POINT, THENCE, SOUTH 07°04'46" WEST, 84.48 FEET TO A POINT, THENCE, NORTH 07°04'46" WEST, 14.22 FEET TO A POINT, THENCE, NORTH 07°04'46" WEST, 14.22 FEET TO A POINT, THENCE, SOUTH 07°04'46" WEST, 84.48 FEET TO A POINT, THENCE, NORTH 07°04'46" WEST, 14.22 FEET TO A POINT AND THE TRUE POINT OF BEGINNING.

SAID TRACT CONTAINS 0.6828 ACRES 24,403 SQUARE FEET, MORE OR LESS.

PROPOSED 20' INGRESS-EGRESS & UTILITY EASEMENT

TOGETHER WITH A PROPOSED 20' FOOT WIDE INGRESS-EGRESS AND UTILITY EASEMENT LINES AND BEINGS IN THE BEACH HEAD ISLAND, BEAUFORT COUNTY, SOUTH CAROLINA, BEING DESCRIBED BY THE FOLLOWING CENTERLINE DATA:

TO AND THE POINT OF BEGINNING, COMMENCE AT THE CENTERLINE INTERSECTION OF THE CROSS ISLAND EXPRESSWAY (HEREINAFTER REFERRED TO AS "ROAD AND ROAD EXTENSION") AND POINT TOWARD A SOUTH CAROLINA STATE PLANS COORDINATE VALUE OF 16,12669824, 5-2071108.17; THENCE LEAVING SAID INTERSECTION AND RUNNING ALONG A THE LINE, SOUTH 02°22'01" EAST, 338.88 FEET TO A POINT, THENCE, SOUTH 07°04'46" EAST, 82.89 FEET TO A POINT, THENCE, SOUTH 07°04'46" EAST, 338.88 FEET TO A POINT, THENCE, SOUTH 07°04'46" WEST, 114.50 FEET TO A POINT, THENCE, NORTH 07°04'46" WEST, 114.50 FEET TO A POINT, THENCE, SOUTH 07°04'46" WEST, 84.48 FEET TO A POINT, THENCE, NORTH 07°04'46" WEST, 14.22 FEET TO A POINT, THENCE, SOUTH 07°04'46" WEST, 84.48 FEET TO A POINT, THENCE, NORTH 07°04'46" WEST, 14.22 FEET TO A POINT AND THE TRUE POINT OF BEGINNING.

SAID TRACT CONTAINS 0.6828 ACRES 24,403 SQUARE FEET, MORE OR LESS.



POINT TO POINT
LAND SURVEYORS
810 Jackson Street
Locust Grove, Georgia 30248
(404) 678-5655 (404) 678-5655
www.pointtopointsurvey.com



AMERICAN TOWER
CORPORATION
"44" 16"

SITE NO.
410-415
12 THUNDER ISLAND
BEAUFORT COUNTY
SOUTH CAROLINA
DATE: 1/26/2010
DRAWN BY: JAC
CHECKED BY: JAC
SCALE: AS SHOWN
SHEET: 3

EXHIBIT "B" TO COMMUNICATION TOWER GROUND LEASE BY AND
BETWEEN THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA
AND AMERICAN TOWERS, LLC

STATE OF SOUTH CAROLINA
COUNTY OF BEAUFORT

)
)
)

EASEMENT

Know All Men By These Presents, that The Town of Hilton Head Island, South Carolina (hereinafter, the "Town"), for and in consideration of the Sum of One Dollar, the receipt and sufficiency of which is acknowledged, and in further consideration of the full and faithful performance of covenants and conditions expressed herein, does hereby grant, bargain and sell, and by these Presents does hereby grant, bargain and sell to American Towers, L.L.C., (hereinafter, the "American Tower"), a temporary, non-exclusive easement, across the below described real property (hereinafter, the "Easement"), for the purpose of:

1. For vehicular and pedestrian access to and from the Leased Property over the paved drives located on the Fire Station 7 Property, as the same may exist from time to time, and for the parking of service or other vehicles in the existing parking areas on the Station 7 Property as the same may exist from time to time, and for access from the paved drives and parking areas to the Leased Property.

The Easement is on, over and across the existing paved drives and parking areas as the same may exist from time to time and over the property lying between the paved drives and parking areas and the Leased Property on real property owned by the Town of Hilton Head Island, South Carolina, generally known as the Fire Station 7 property.

The grant of this Easement is subject to the following terms and conditions:

1. The Town hereby reserves the right to use or convey the property which is subject to this Easement in any manner whosoever which does not interfere with American Tower's use and enjoyment of the Easement.
2. That Town hereby reserves the right to change the location of the Easement and the lines installed under the authority of the Easement, from time to time, but solely at the

expense of the Town.

3. American Tower shall restore any property disturbed or damaged by the exercise of American Tower's rights hereunder to its pre-existing state.

4. The Town may alter the configuration of or relocate the paved drives and parking areas from time to time as the Town deems advisable in its discretion, and no such alteration or relocation by the Town shall be a breach of American Tower's rights under this easement.

5. This Easement shall remain valid and enforceable for such period as the "Communications Tower Ground Lease" of even date, by and between the Town and American Tower shall remain in force. Unless sooner terminated under its terms, the "Communications Tower Ground Lease" shall expire on _____, 2036, and upon termination of the "Communications Tower Ground Lease", for any reason, this Easement shall expire, and American Tower agrees to execute and deliver to the Town a recordable document acknowledging termination of this Easement

To have and to hold, all and singular, the rights, privileges and easements aforesaid unto the Town of Hilton Head, South Carolina, its successors and assigns, forever.

In Witness whereof, the parties hereto have caused the within Easement to be executed by their duly authorized officers on this ____ day of _____, 2011.

WITNESSES:

AMERICAN TOWERS, LLC

By: _____

Its: _____

**THE TOWN OF HILTON HEAD ISLAND,
SOUTH CAROLINA**

By: _____
Drew A. Laughlin, Mayor

Its: _____
Stephen G. Riley, Town Manager

STATE OF _____) UNIFORM ACKNOWLEDGMENT
)
COUNTY OF _____) S.C. CODE ANN. §30-5-30 (Supp. 2011)

I, the undersigned Notary Public do hereby certify that _____ personally appeared before me on this day and duly acknowledged the execution of the foregoing instrument on behalf of American Towers, LLC.

Sworn to and Subscribed before me
on this ____ day of _____, 2011.

Notary Public for Georgia
My Commission Expires: _____

STATE OF SOUTH CAROLINA) UNIFORM ACKNOWLEDGMENT
)
COUNTY OF BEAUFORT) S.C. CODE ANNO. §30-5-30 (Supp. 2011)

I, the undersigned Notary Public do hereby certify that Drew A. Laughlin and Stephen G. Riley personally appeared before me on this day and duly acknowledged the execution of the foregoing instrument on behalf of The Town of Hilton Head Island, South Carolina.

Sworn to and Subscribed before me
on this ____ day of _____, 2011.

Notary Public for South Carolina
My Commission Expires: _____

EXHIBIT "C" TO COMMUNICATION TOWER GROUND LEASE BY AND
BETWEEN THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA
AND AMERICAN TOWERS, LLC

STATE OF SOUTH CAROLINA

)

COUNTY OF BEAUFORT

)

)

EASEMENT

Know All Men By These Presents, that The Town of Hilton Head Island, South Carolina (hereinafter, the "Town"), for and in consideration of the Sum of One Dollar, the receipt and sufficiency of which is acknowledged, and in further consideration of the full and faithful performance of covenants and conditions expressed herein, does hereby grant, bargain and sell, and by these Presents does hereby grant, bargain and sell to American Towers, LLC, (hereinafter, the "American Tower"), a temporary, non-exclusive easement, across, under and through the below described real property (hereinafter, the "Easement"), for the purpose of:

- 1. Installing and maintaining underground electric lines and communication lines.

The Easement is ___ feet (___') wide and is across, under and though the following parcel of real property:

All that certain piece, parcel or lot of land, located on Hilton Head Island, Beaufort County, South Carolina, which is more particularly shown on that certain plat of survey entitled "_____", prepared by_____, and being dated _____, and being recorded in the Office of the Register of Deeds for Beaufort County, South Carolina, in Plat Book ___ at Page ____.

The grant of this Easement is subject to the following terms and conditions:

- 1. The Town hereby reserves the right to use or convey the property which is subject to this Easement in any manner whosoever which does not interfere with American Tower's use and enjoyment of the Easement.
- 2. That Town hereby reserves the right to change the location of the Easement and the lines installed under the authority of the Easement, from time to time, but solely at the

expense of the Town.

3. The Town agrees that landscaping shall not be planted within the boundaries of the Easement.

4. American Tower shall not cut any pavement in the exercise of its rights to install any underground electrical or communications lines, and to the extent that any such lines cross through or under any property covered by pavement, American Tower shall utilize a “jack and bore” method to install the lines.

5. American Tower shall restore any property disturbed or damaged by the exercise of American Tower’s rights hereunder to its pre-existing state.

6. This Easement shall remain valid and enforceable for such period as the “Communications Tower Ground Lease” of even date, by and between the Town and American Tower shall remain in force. Unless sooner terminated under its terms, the “Communications Tower Ground Lease” shall expire on _____, 2036, and upon termination of the “Communications Tower Ground Lease”, for any reason, this Easement shall expire, and American Tower agrees to execute and deliver to the Town a recordable document acknowledging termination of this Easement

To have and to hold, all and singular, the rights, privileges and easements aforesaid unto the Town of Hilton Head, South Carolina, its successors and assigns, forever.

In Witness whereof, the parties hereto have caused the within Easement to be executed by their duly authorized officers on this ____ day of _____, 2011.

WITNESSES:

AMERICAN TOWERS, LLC

By: _____

Its: _____

**THE TOWN OF HILTON HEAD ISLAND,
SOUTH CAROLINA**

By: _____
Drew A. Laughlin, Mayor

Its: _____
Stephen G. Riley, Town Manager

STATE OF _____) UNIFORM ACKNOWLEDGMENT
)
COUNTY OF _____) S.C. CODE ANN. §30-5-30 (Supp. 2011)

I, the undersigned Notary Public do hereby certify that _____ personally appeared before me on this day and duly acknowledged the execution of the foregoing instrument on behalf of American Tower, LLC.

Sworn to and Subscribed before me
on this ____ day of _____, 2011.

Notary Public for _____
My Commission Expires: _____

STATE OF SOUTH CAROLINA) UNIFORM ACKNOWLEDGMENT
)
COUNTY OF BEAUFORT) S.C. CODE ANNO. §30-5-30 (Supp. 2011)

I, the undersigned Notary Public do hereby certify that Drew A. Laughlin and Stephen G. Riley personally appeared before me on this day and duly acknowledged the execution of the foregoing instrument on behalf of The Town of Hilton Head Island, South Carolina.

Sworn to and Subscribed before me
on this ____ day of _____, 2011.

Notary Public for South Carolina
My Commission Expires: _____

EXHIBIT "D" TO COMMUNICATION TOWER GROUND LEASE BY AND
BETWEEN THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA
AND AMERICAN TOWERS, LLC

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

LICENSE AGREEMENT

ATC Contract No: _____

This LICENSE AGREEMENT ("Agreement") made as of the latter signature date hereof ("Effective Date") by and between _____, a _____ [corporation/limited partnership], with a place of business at 10 Presidential Way, Woburn, MA 01801 ("Licensor") and _____, a _____ [corporation/limited liability company/limited partnership], with a place of business at _____ ("Licensee").

I. TOWER FACILITY INFORMATION:

Site Name:

Site Number:

Address and/or location of Tower Facility: _____

Tower Facility Coordinates: Lat. _____ Long. _____

II. NOTICE & EMERGENCY CONTACTS:

- Licensee's local emergency contact (name and number): _____
 - Licensor's local emergency contact: Network Operations Communications Center (800) 830-3365.
 - Notices to Licensee shall be sent to the address above to the attention of _____
 - Notices to Licensor shall be sent to the address above to the attention of Contracts Manager.
 - Licensor's Remittance Address: American Tower Corporation, Dept. 5305, P.O. Box 30000, Hartford, CT, 06150-5305; all payments shall include a reference to the Site Name and Site Number as identified above in Section I.
 - Or – For SSI SITES:
 - Licensor's Remittance Address: SpectraSite Communications, LLC., P. O. Box 751760, Charlotte, NC 28275-1760, Attn: Property Management; all payments shall include a reference to the Site Name and Site Number as identified above in Section I.
- USE HARTFORD ADDRESS FOR ATC TOWERS / CHARLOTTE ADDRESS FOR SSI TOWERS

III. PERMITTED USE OF TOWER FACILITY BY LICENSEE:

Permitted Frequencies: Transmitting and Receiving Frequencies - See Exhibit A for specific frequencies

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

Antenna mount height on tower: See Exhibit A for specific location.

All other permitted uses of the Tower Facility including Licensee's Approved Equipment, and the Licensed Space are further described in section 4 of this Agreement and Exhibits A and B attached hereto.

IV. TERM

This License Agreement shall have a Term that is the same as the "Communication Tower Ground Lease by and Between the Town of Hilton Head Island, South Carolina and American Towers, LLC," executed by and between The Town of Hilton Head Island, South Carolina, and American Towers, dated _____, 2011.

Electricity for operation of Approved Equipment is to be provided by (check one):

- Licensor, with the cost of such electricity to be paid by Licensee at the initial rate of \$_____ per month ("Utility Fee") subject adjustment pursuant to Section 5(b), OR
- Licensee, at its sole expense

V. TERMS & CONDITIONS

The attached terms and conditions are incorporated herein by this reference.

VI. OTHER PROVISIONS:

Other provisions: (check one): None As listed below

[Signatures appear on next page]

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

IN WITNESS WHEREOF, each Party in consideration of the mutual covenants contained herein, and for other good and valuable consideration, intending to be legally bound, has caused this Agreement to be executed by its duly authorized representative as of the date and year written below; provided, however, that this Agreement shall not become effective as to either Party until executed by both Parties.

LICENSOR

LICENSEE

By: _____

By: _____

Print Name: Richard Rossi

Print Name: _____

Its: Director, Contract Management

Its: _____

Date: _____

Date _____

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

TERMS AND CONDITIONS

1. **DEFINITIONS.** Capitalized terms defined in the body of this Agreement are indexed by location on Appendix I attached hereto. Capitalized terms used in Agreement but not defined herein are defined in Appendix I.

2. **GRANT OF LICENSE.** Subject to the terms of this Agreement, Licensor hereby grants Licensee a non-exclusive license to install, maintain and operate the Approved Equipment at the Licensed Space. All Approved Equipment shall be and remain Licensee's personal property throughout the Term of this Agreement. Licensor shall maintain the Tower Facility in good order and repair, wear and tear, damage by fire, the elements or other casualty excepted. In no event shall Licensee's license as granted herein include rights to use the air space above the Approved Equipment, and Licensor reserves the right to install, construct and/or operate additional improvements or equipment of Licensor or others above Licensee's Approved Equipment, including Licensee's shelter (commonly referred to as "stacking"), provided that such additional improvements or equipment do not materially and adversely interfere with the access to or operation of the Approved Equipment, including Licensee's shelter. Licensee is not required to utilize a stackable shelter, provided that, if Licensee opts to install a shelter that is not stackable and if Licensor receives an offer to license the air space above Licensee's non-stackable shelter by a proposed subsequent user, Licensor may, at its election, upon 30 days prior written notice require Licensee to replace such non-stackable shelter with a stackable shelter of a comparable size, provided that the proposed subsequent user agrees in writing to be wholly responsible for the cost of Licensee's shelter replacement. Subject to any limitations contained in the Ground Lease, Licensor grants Licensee a right of access to the Tower Facility 24 hours per day, 7 days per week during the Term. Licensor grants Licensee a designated location for the installation of Licensee's utilities over, under or across the Tower Facility (collectively, "License"). Licensee shall be responsible for any and all Damage or loss that results from the installation of any cables or utility wires by Licensee or any company or person retained by Licensee (including a public utility company), including, without limitation, any damage or loss that results from the accidental cutting of utility wires or cables of any other party operating at the Tower Facility. Licensor shall provide Licensee with one set of keys and/or codes to access the Tower Facility. Licensee shall be responsible for ensuring that Licensor has, at all times, a complete and accurate written list of all employees and agents of Licensee who have been provided the keys or access codes to the Tower Facility. Licensor shall have the right to continue to occupy the Tower Facility and to grant rights to others to the Tower Facility in its sole discretion. Licensee shall have no property rights or interest in the Tower Facility or the Easement by virtue of this Agreement. If Licensor's right to license space on the Tower Facility to Licensee is subject to a right of first refusal for the benefit of a third party and if such third party exercises its right of first refusal prior to the Commencement Date, Licensor may terminate this Agreement upon written notice to Licensee.

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

3. EXHIBITS. Within 45 days following the commencement of the installation of the Approved Equipment, Licensee shall provide Licensor with as-built or construction drawings showing the Approved Equipment as installed [in both hard copy and electronic form] ("Construction Drawings"); such Construction Drawings shall include the location of any shelters, cabinets, grounding rings, cables, and utility lines associated with Licensee's use of the Tower Facility. Upon receipt, Licensor shall attach hereto the Construction Drawings as Exhibit C hereto. In the event of inconsistency or discrepancy between (a) Exhibit A and Exhibit B hereto, Exhibit A shall govern, and (b) between Exhibit A (with respect to Approved Equipment and antenna locations) together with Exhibit B (with respect to Ground Space installation locations) and Exhibit C hereto, Exhibits A and B shall govern, notwithstanding any approval or signature by Licensor or its agents. Licensee hereby acknowledges and agrees that installation of the Approved Equipment must be in strict accordance with the approved Construction Drawings and Exhibit A and B. Notwithstanding the forgoing, Licensee shall not infer nor shall acceptance of the Construction Drawings by Licensor be deemed to be a representation by Licensor that (i) such Construction Drawings or the plans and specifications described therein are in compliance with federal, state or local laws, ordinances, rules or regulations, (ii) that such installation shall not cause impermissible or unlawful interference, or (iii) that such installation is consistent with Licensee's permitted installation as specifically set forth in Exhibits A and B hereto.

4. USE. Subject to the terms of the Ground Lease, Licensee shall be permitted the non-exclusive right to install, maintain, operate, service, modify and/or replace its Approved Equipment at the Licensed Space, which Approved Equipment shall be utilized for the transmission and reception of wireless voice and data communications signals (such transmission and reception to be solely within the Permitted Frequencies, and, if the Permitted Frequencies include licensed spectrum, within the spectrum licensed to Licensee by the FCC). If as of the Effective Date, Licensee's wireless business consists of a one-way network which requires only that signals be transmitted from the Tower Facility, then notwithstanding the foregoing sentence, Licensee's use of Tower Facility under this Agreement shall be limited to the transmission of wireless voice and data communications signals. Licensee's permitted use with respect to the Licensed Space shall be limited solely to that enumerated in this section, and, except pursuant to separate agreement with Licensor, no person or entity other than Licensee shall have the right to install, maintain or operate its equipment or transmit or receive communications at, or otherwise use, the Licensed Space.

5. UTILITY CHARGES, FEES; TAXES; ASSESSMENTS.

(a) Utilities. [Delete paragraph which does not apply.]

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

All utility services installed on the Tower Facility for the use or benefit of Licensee shall be made at the sole cost and expense of Licensee and shall be separately metered from Licensor's utilities. Licensee shall be solely responsible for extending utilities to the Tower Facility as necessary for the operation of the Approved Equipment and for the payment of utility charges including connection charges and security deposits incurred by Licensee. Licensee shall obtain and pay the cost of telephone connections, the installation of which shall be in compliance with the procedures for installation and maintenance of Approved Equipment set forth herein.

Licensee agrees to install a separate meter on and connect to Licensor's multi-gang meter rack on or before the Commencement Date. Licensee shall pay the cost of all utility service necessary, including the Utility Fee and Connection Fee, to install, maintain and operate the Approved Equipment. The Utility Fee shall be payable in advance on the first day of each calendar month during the Term beginning upon the Commencement Date. Licensee agrees to enter into a monitoring agreement with a third party to monitor Licensee's utility usage at the Tower Facility. Licensee shall provide to Licensor an annual report of its utility usage at the Tower Facility during the Term of this Agreement prepared by the third party monitoring company. Licensor shall review the annual usage report, and, if Licensor determines, in its sole discretion, that Licensee's utility usage increased by more than 10% over Licensee's utility usage as of the Commencement Date, or as of the date of the last Utility Fee increase resulting from increased utility usage, Licensor may, but is not required, to modify the Utility Fee by an amount equal to Licensor's actual increased costs incurred due to Licensee's increased utility usage. If such a modification in the Utility Fee is imposed, Licensor shall notify Licensee in writing of such increase in the Utility Fee. Any such change in the Utility Fee resulting from an increase in Licensee's utility usage will take effect with the next payment of the Utility Fee coming due after Licensee's receipt of such notice. Licensee shall obtain and pay the cost of telephone connections, the installation of which shall be in compliance with the procedures for installation and maintenance of Approved Equipment set forth herein.

(c) Taxes. Licensee shall be responsible for the payment of any applicable taxes, fees or governmental assessments against any equipment, personal property and/or improvements owned, leased or operated by Licensee or directly associated with Licensee's use of the Licensed Space. Except as provided immediately hereinafter, Licensor shall pay all real property taxes Licensor is obligated to pay under the Ground Lease. Licensee shall reimburse Licensor for any increases in real property taxes which are assessed as a direct result of Licensee's improvements to or Approved Equipment located on the Tower Facility within 30 days of Licensor's request for such reimbursement. Upon Licensee's request, Licensor shall provide to Licensee copies of the documentation from the taxing authority, reasonably acceptable to Licensee, indicating that the increase results from Licensee's improvements or Approved Equipment.

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

(d) Federal Use Fees & Assessments. Licensee agrees to pay directly or reimburse Licensor for any and all taxes, fees, or other costs and expenses assessed upon or paid by Licensor to the United States Forest Service or Bureau of Land Management attributable to Licensee's Approved Equipment, Licensee's use of or Licensee's presence at the Tower Facility.

(e) Payment Address. All payments due to Licensor under this Agreement shall be made to Licensor at Licensor's Remittance Address shown on page 1 of this Agreement or such other address as Licensor may notify Licensee of in writing.

(f) No Set-Off. All payments due under this Agreement shall be due without set-off, notice, counterclaim or demand from Licensor to Licensee.

(g) Effect of Partial Payment. No endorsement or statement on any check or letter accompanying a check for payment of any monies due and payable under the terms of this Agreement shall be deemed an accord and satisfaction, and Licensor may accept such check or payment without prejudice to its right to recover the balance of such monies or to pursue any other remedy provided by law or in this Agreement.

6. TERM.

This License Agreement shall have an Initial Term and any Renewal Terms that are the same as the "Communication Tower Ground Lease by and Between the Town of Hilton Head Island, South Carolina and American Towers, LLC," executed by and between The Town of Hilton Head Island, South Carolina, and American Towers, dated _____, 2011.

7. LABELING. Licensee shall identify its Approved Equipment, including its equipment cabinets and coaxial cable (at the top and bottom of the Tower) (unless such cabinet is located in a building or cabinet owned by Licensee) by labels with Licensee's name, contact phone number and date of installation. In the event that Licensee fails to comply with this provision and fails to cure such deficiency within 10 days of Licensor's written notice of such failure, Licensor may, but is not obligated to, in addition to any other rights it may have hereunder, label the Approved Equipment and assess against Licensee a fee of \$1,500 which shall be payable to Licensor upon receipt of an invoice therefor. Licensor shall not be responsible to Licensee for any expenses or Damages incurred by Licensee arising from the interruption of Licensee's service caused by Licensor, if Licensor is unable to identify the Approved Equipment as belonging to Licensee as a result of Licensee's failure to label such Approved Equipment.

8. IMPROVEMENTS BY LICENSEE.

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

(a) Installation and Approved Vendors. Prior to the commencement of any Work on the Tower Facility, Licensee shall submit to Licensor for review and approval, which approval shall not be unreasonably withheld, detailed plans and specifications accurately describing all aspects of the proposed Work. Licensee shall provide notice to Licensor no less than 5 days prior to the date upon which Licensee intends to commence Work at the Tower Facility, together with a construction schedule, so Licensor has the opportunity to be present during any such Work. Licensee shall not commence Work on the Tower Facility until Licensor issues to Licensee a NTP. Licensor shall issue a NTP only upon request from Licensee and receipt of the following complete and accurate documentation: (1) evidence that any contingencies set forth in the approval of Licensee's Application have been satisfied; (2) evidence that Licensee has obtained all required governmental approvals including, but not limited to, zoning approvals, building permits, and any applicable environmental approvals including copies of the same; (3) a copy of the plans and specifications that have been approved by Licensor for the proposed equipment installation; (4) evidence that any contractors, other than Licensor, that will be performing the Work are on Licensor's approved vendor list, with valid and current worker's compensation and general liability insurance certificates on file with Licensor naming Licensor as an additional insured and which otherwise satisfy the insurance coverage requirements set forth in section 15(d) of this Agreement; and (5) a construction schedule. Notwithstanding anything to the contrary in this Agreement, Licensor reserves the right, in its sole discretion, to refuse to permit any person or company to climb the Tower.

(b) Structural Analysis/Interference Analysis. Prior to the commencement of any Work on the Tower Facility by or for the benefit of Licensee, Licensor may, in its reasonable discretion, perform or cause to be performed a structural analysis or require a professional engineer's certified letter to determine the availability of capacity at the Tower Facility for the installation or modification of any Approved Equipment and/or additional equipment at the Licensed Space by Licensee. In the event a structural analysis is performed after the execution of this Agreement but prior to the initial installation of the Approved Equipment, and such analysis indicates that the existing Tower cannot accommodate the proposed installation of Licensee's Approved Equipment thereon, Licensor shall notify Licensee that modification of the Tower is required and inform Licensee of the fee Licensor will charge Licensee to complete such modification (which fee shall be a reasonable estimate of Licensor's actual cost of making such modifications). Such modification shall become part of the Tower Facility and Be Licensor's sole property. If Licensee elects not to pay such fee, and Licensee and Licensor do not otherwise reach an agreement regarding the costs of such modification, Licensee may terminate this Agreement upon written notice to Licensor. Prior to the commencement of any initial or subsequent construction or installation on the Tower Facility by or for the benefit of Licensee and/or the modification of Licensee's Permitted Frequencies propagated from the Licensed Space, Licensor may elect to perform a shared site interference study ("SSIS"). In the event a SSIS is performed after the execution of this Agreement by Licensor but prior to the installation of Licensee's

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

Approved Equipment, and such SSIS indicates that the proposed installation of Licensee's Approved Equipment on the Tower is acceptable, such an indication in no way relieves Licensee of its obligations under section 11 herein.

(c) **Equipment; Relocation, Modification, Removal.** Licensor hereby grants Licensee reasonable access to the Licensed Space for the purpose of installing and maintaining the Approved Equipment and its appurtenances. Except as otherwise provided, Licensee shall be responsible for all site Work to be done on the Licensed Space or the Easement pursuant to this Agreement. Licensee shall provide all materials and shall pay for all labor for the construction, installation, operation, maintenance and repair of the Approved Equipment. Licensee shall not construct, install or operate any equipment or improvements on the Tower Facility other than those which are described on Exhibit A, alter the Permitted Frequencies, or alter the operation of the Approved Equipment. Licensee shall submit an Application, utilizing Licensor's then current form, to request the right to replace or modify its Approved Equipment, alter the Permitted Frequencies or increase the Ground Space, which Application shall be accompanied by a Relocation Application Fee. Licensor shall evaluate for approval the feasibility of Licensee's request, which approval shall be in Licensor's sole discretion. An amendment to this Agreement shall be prepared to reflect each addition or modification to Licensee's Approved Equipment to which Licensor has given its written consent. Licensee shall have the right to remove all Approved Equipment at Licensee's sole expense on or before the expiration or earlier termination of the License provided Licensee repairs any damage to the Tower Facility or the Tower caused by such removal. Within 30 days of the expiration or termination of this Agreement for any reason, Licensee shall: (i) remove the Approved Equipment and any other property of Licensee at the Tower Facility at Licensee's sole risk, cost, and expense; (ii) deliver the Licensed Space in substantially the same and in as good a condition as received (ordinary wear and tear excepted); and (iii) repair any damage caused by the removal of the Approved Equipment within 10 days of the occurrence of such damage. If Licensee fails to remove its Approved Equipment within 30 days after the expiration or termination of this Agreement, (i) the Approved Equipment shall be deemed conclusively and absolutely abandoned by Licensee and anyone claiming by, through, or under Licensee except for Hazardous Materials and waste and Approved Equipment containing Hazardous Materials and waste; and (ii) Licensor shall have the right to remove the Approved Equipment at Licensee's sole expense and dispose of such Approved Equipment in any manner Licensor so elects, and Licensee shall reimburse Licensor for its expenses upon demand without off-set.

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

11. RF INTERFERENCE/ USER PRIORITY.

(a) Definitions. For purposes of this section 11, the following capitalized terms shall have the meanings set forth herein:

(i) Interference includes any performance degradation, misinterpretation, or loss of information to a radio communications system caused by unwanted energy emissions, radiations, or inductions, but shall not include permissible interference as defined by the FCC, and in addition, with regard to Unlicensed Frequencies, congestion.

(ii) Licensed Frequencies are those certain channels or frequencies of the radio frequency spectrum that are licensed by the FCC in the geographic area where the Tower Facility is located.

(iii) A Licensed User is any user of the Tower Facility, including Licensee, which transmits and/or receives Licensed Frequencies at the Tower Facility, but only with respect to such Licensed Frequencies.

(iv) A Priority User is any Licensed User of the Tower Facility that holds a priority position in relationship to Licensee for protection from Interference, as determined in this section 11, which status is subject to change as set forth herein.

(v) A Subsequent User is any user of the Tower Facility that holds a subordinate position in relationship to Licensee for protection from Interference, as determined in this section 11, which status is subject to change as set forth herein.

(vi) Unlicensed Frequencies are those certain channels or frequencies of the radio frequency spectrum that are not licensed by the FCC and are available for use by the general public in the geographic area where the Tower Facility is located.

(vii) An Unlicensed User is any user of the Tower Facility, including Licensee, which transmits and/or receives Unlicensed Frequencies at the Tower Facility, but only with respect to such Unlicensed Frequencies.

(b) Information. Licensee shall cooperate with Licensor and with other lessees, licensees or occupants of the Tower Facility for purposes of avoiding Interference and/or investigating claims of Interference. Upon request, Licensee, within 10 days of Licensor's request, shall provide Licensor with a list of Licensee's transmit and receive frequencies and

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

Approved Equipment specifications necessary to resolve or investigate claims of Interference.

(c) Unlicensed Frequencies. Notwithstanding any other provision contained herein, as among Licensor, Licensee and other users of the Tower or Tower Facility, (i) an Unlicensed User shall have no priority with respect to any other FCC Unlicensed Users with respect to Interference; and (ii) an Unlicensed User's rights and obligations with respect to such Interference shall be determined and governed by FCC Rules and Regulations and any other Applicable Law. Licensor expressly disclaims any and all warranties and accepts no responsibility for management, mediation, mitigation or resolution of Interference among FCC Unlicensed Users operating at the Tower Facility and shall have no liability therefor.

(d) Licensed Frequencies. Subject to FCC Rules and Regulations and other Applicable Law, the Parties acknowledge and agree that the accepted industry standard for priority protection from Interference between multiple Licensed Users has been based on the priority of occupancy of each user to another user of the Tower or Tower Facility, which priority has been based on the order of submittal of its collocation Application by each user of the Tower or Tower Facility. Should Application of FCC Rules and Regulations and other Applicable Law not resolve any claims of Interference consistent with subsections 11(e), 11(f) and 11(g) below, as among Licensor, Licensee and other users of the Tower Facility, (i) each Licensed User's priority shall be maintained so long as the Licensed User does not change the equipment and/or frequency that it is entitled to use at the Tower Facility at the time of its initial occupancy; and (ii) Licensee acknowledges and agrees that if Licensee replaces its Approved Equipment or alters the radio frequency of the Approved Equipment to a frequency range other than as described on page 1 of this Agreement, Licensee will lose its priority position for protection from Interference with regard to Approved Equipment operating at the new frequency in its relationship to other Licensed Users which are in place as of the date Licensee replaces its Approved Equipment or alters its radio frequency, consistent with this section 11.

(e) Correction.

(i) Licensee. Licensee agrees not to cause Interference with the operations of any other user of the Tower or Tower Facility and to comply with all other terms and provisions of this section 11 imposed upon Licensee. If Licensor determines, in its reasonable discretion based on standard and accepted engineering practices, that Licensee's Approved Equipment is causing Interference to the installations of Licensor or a Priority User, Licensee shall, within 48 hours of notification from Licensor, commence such actions as are necessary to mitigate or eliminate the Interference, with the exception of ceasing Licensee's operations. If Licensee cannot mitigate or eliminate such Interference within the 48 hour period, Licensor may file a

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

complaint with the FCC (currently the FCC's Enforcement Bureau, Spectrum Enforcement Division) or if such other user of the Tower Facility which is subject to Interference from Licensee's Approved Equipment is a Priority User, then upon the request of such Priority User consistent with Licensor's contractual obligations owed to the Priority User, Licensor may require that Licensee turn off or power down its interfering Approved Equipment and only power up or use such Approved Equipment during off-peak hours specified by Licensor in order to test whether such Interference continues or has been satisfactorily eliminated. If Licensee is unable to resolve or eliminate, to the satisfaction of Licensor, such Interference within 30 days from Licensee's initial notification thereof, Licensee will immediately remove or cease operations of the interfering Approved Equipment.

(ii) Licensor. Upon the request of Licensee, Licensor hereby covenants to take commercially reasonable efforts to prohibit a Subsequent User from causing Interference with the operations of Licensee to the extent Licensee is a Priority User pursuant this section 11. If Licensor determines, in its reasonable discretion based on standard and accepted engineering practices, that a Subsequent User's equipment is causing Interference to the installations of Licensee, upon Licensee's request, Licensor shall, within 48 hours of request, commence such actions as are necessary to mitigate or eliminate the Interference, with the exception of ceasing Subsequent User's operations.

(iii) Government Users. Notwithstanding the foregoing, if another user of the Tower or Tower Facility is a governmental entity, Licensor shall give such governmental entity written notice of the Interference within 5 Business Days of Licensor's determination that such action is reasonably necessary. Licensor shall have the right to give the governmental entity 5 Business Days, or more as specified in the governmental site or occupancy agreement or as required by Applicable Law, from the receipt of such notice prior to Licensor being required to take any actions required by this subsection 11 (e) to cure such Interference.

(f) FCC Requirements Regarding Interference. Nothing herein shall prejudice, limit or impair Licensee's rights under Applicable Law, including, but not limited to, FCC Rules and Regulations to redress any Interference independently of the terms of this section 11. Notwithstanding anything herein to the contrary, the provisions set forth in this section 11 shall be interpreted in a manner so as not to be inconsistent with Applicable Law, including, but not limited to, FCC Rules and Regulations and nothing herein relieves Licensee from complying with all Applicable Laws governing the propagation of radio frequencies and/or radio frequency interference. The Parties acknowledge that currently FCC Rules and

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

Regulations govern the obligations of wireless telecommunication service providers with respect to the operation of equipment and use of frequencies. Consequently, the provisions set forth in this section 11 are expressly subject to CFR, Title 47, including but not limited to Part 15, et seq, governing Radio Frequency Devices; Part 20, et seq, governing commercial mobile radio services; Part 24, et seq, governing personal communications services; and Part 90, et seq, governing private land mobile radio services. In addition, in accordance with good engineering practice and standard industry protocols, licensees employ a wide range of techniques and practices, including those involving the use of proper types of equipment as well those related to the adjustment of operating parameters, in a mutually cooperative effort to identify and mitigate sources of Interference. The obligation of Part 20 licensees, including, but not limited to, private paging, specialized mobile radio services, cellular radiotelephone service and personal communications services, to avoid Interference is set forth in 47 CFR Part 90, Subpart N – Operating Requirements, §90.403(e). Claims of Interference are ultimately cognizable before the FCC’s Enforcement Bureau, Spectrum Enforcement Division. Licensee shall observe good engineering practice and standard industry protocols, applying such commercially reasonable techniques as constitute best practices among licensees, in the deployment of their frequencies and the operation of the Approved Equipment. If Licensee deploys its frequencies or operates the Approved Equipment in a manner which prevents any other user of the Tower or Tower Facility from decoding signal imbedded in their licensed frequencies such that the Spectrum Enforcement Division makes a determination that Licensee is the cause of the Interference and Licensee fails or refuses to mitigate or eliminate the Interference within the time and manner proscribed by the Spectrum Enforcement Division, Licensee shall be in default of this Agreement and the remedies set forth in section 22 shall apply.

(g) Public Safety Interference. As of the Commencement Date, Licensor and Licensee are aware of the publication of FCC Final Rule, Private Land Mobile Services; 800 MHz Public Safety Interference Proceeding, Federal Register: November 22, 2004 (Volume 69, Number 224), Rules and Regulations, Page 67823-67853 (“Final Rule”). Claims of Interference made by or against users which are public safety entities shall be in compliance with the Final Rule as and when effective, or otherwise in accordance with FCC Rules and Regulations.

(h) AM Detuning. The parties acknowledge that the FCC Rules and Regulations govern the obligations of Licensee with respect to the operation of the Approved Equipment. Consequently, the provisions set forth in this Agreement are expressly subject to the FCC Rules and Regulations, including, but not limited to 47 C.F.R. §§ 27.63, 22.371 and 73.1692. Licensee agrees, at Licensee’s sole cost, to comply with the foregoing as well as any and all other FCC Rules, Regulations and public guidance relating to AM detuning as such provisions currently exist or are hereafter modified. Licensee shall be fully responsible for any pre and/or post installation testing for AM interference at the Tower Facility and for

Licensors Site Name/Number: _____

Licensee Site Name/Number: _____

the installation of any new detuning apparatus or the adjustment of any existing detuning apparatus that may be necessary to prevent adverse effects on the radiation pattern of any AM station caused by the installation of the Approved Equipment. Licensee shall provide Licensors with written proof of such compliance. In the event that Licensee determines that pre or post-installation testing for AM interference is not required at the Tower Facility, such a determination shall be at Licensee's sole risk. If Licensee or Licensors receives a complaint of interference from an AM broadcast station after the Approved Equipment is added to a Tower or a Tower is modified to accommodate Licensee, Licensee shall eliminate such interference within 30 calendar days of the receipt of such complaint. Licensee's failure to eliminate such interference within such 30 day period shall constitute a default under this Agreement and Licensors shall have the right to eliminate such interference at Licensee's expense. Licensee further agrees to indemnify Licensors in the event that Licensee's failure to comply with the FCC Rules and Regulations prior to installation/modification of the Approved Equipment results in any administrative investigation, proceeding or adjudication with respect to Licensors.

12. SITE RULES AND REGULATIONS.

Licensee agrees to comply with the reasonable rules and regulations established from time to time at the Tower Facility by Licensors, which may be modified by Licensors from time to time upon receipt by Licensee of such revised rules and regulations. Such rules and regulations will not unreasonably interfere with Licensee's use of the Licensed Space under this Agreement.

13. DESTRUCTION; CONDEMNATION.

(a) Destruction. If the Tower or other portions of the improvements at the Tower Facility owned by Licensors are destroyed or so damaged as to materially interfere with Licensee's use and benefits from the Licensed Space, Licensors or Licensee shall be entitled to elect to cancel and terminate this Agreement on the date of such casualty and any unearned Monthly License Fee paid in advance of such date shall be refunded by Licensors to Licensee within 30 days of such termination date. Notwithstanding the foregoing, Licensors may elect, in its sole discretion, to restore the damaged improvements, in which case Licensee and Licensors shall remain bound to the terms of this Agreement but Licensee shall be entitled to an abatement of the Monthly License Fee during the loss of use. If the Tower is so damaged that reconstruction or repair cannot reasonably be undertaken without removing the Approved Equipment, then (i) Licensors may, upon giving written notice to Licensee, remove any of the Approved Equipment and interrupt the signal activity of Licensee, (ii) Licensee may, at Licensee's sole cost and expense, install temporary facilities pending such reconstruction or repair, provided such temporary facilities do not interfere with the construction, rebuilding or operation of the Tower, (iii) Licensors agrees to provide Licensee alternative space, if available, on the Tower or at the Tower Facility

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

during such reconstruction/repair period and (iv) should Licensor not substantially restore or replace the Tower in a fashion sufficient to allow Licensee to resume operations thereon within 6 months of the date of casualty, provided that such 6 month period shall be automatically extended for so long as Licensor has commenced and diligently continues to restore or replace such Tower, and Licensee's operation has been materially disrupted for 60 or more consecutive days, then Licensee, upon 30 days' prior written notice to Licensor, may terminate this Agreement.

(b) Condemnation. If the whole or any substantial part of the Tower Facility shall be taken by any public authority under the power of eminent domain or in deed or conveyance in lieu of condemnation so as to materially interfere with Licensee's use thereof and benefits from the Licensed Space, then this Agreement shall terminate on the part so taken on the date of possession by such authority of that part, and Licensor or Licensee shall have the right to terminate this Agreement and any unearned Monthly License Fee paid in advance of such termination shall be refunded by Licensor to Licensee within 30 days following such termination. Notwithstanding the foregoing, Licensor may elect to rebuild the Tower or other improvements affected by such condemnation at an alternate location or property owned, leased or managed by Licensor, in which case Licensee and Licensor shall remain bound hereby. Upon such relocation of the Tower or improvements, the Licensed Space shall be modified to include the new Tower or improvements and the property on which the same are located and this Agreement shall be amended accordingly to clarify the rights of Licensor and Licensee with respect to the Licensed Space. Licensee agrees not to make a claim to the condemning authority for any condemnation award to the extent such claim shall diminish or affect the award made to Licensor with regard to such condemnation.

14. COMPLIANCE WITH LAWS.

Licensor shall be responsible for compliance with any marking and lighting requirements of the FAA and the FCC applicable to the Tower Facility, provided that if the requirement for compliance results from the presence of the Approved Equipment on the Tower, Licensee shall pay the costs and expenses therefor (including any lighting automated alarm system so required). Licensee has the responsibility of carrying out the terms of Licensee's FCC license with respect to tower light observation and notification to the FAA if those requirements imposed on Licensee are in excess of those required of Licensor. Notwithstanding anything to the contrary in this Agreement, Licensee shall at all times comply with all Applicable Laws and ordinances and all rules and regulations of municipal, state and federal governmental authorities relating to the installation, maintenance, location, use, operation, and removal of the Approved Equipment and other alterations or improvements authorized pursuant to the provisions of this Agreement.

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

15. INSURANCE.

(a) Insurance. Licensor shall keep in full force and effect, during the Term of this Agreement, insurance coverage in accordance with "Communication Tower Ground Lease by and Between the Town of Hilton Head Island, South Carolina and American Towers, LLC," and such other insurance as is described on "Appendix II, Insurance" hereto. Licensee shall keep in full force and effect statutorily required insurance and such other insurance as is described on "Appendix II, Insurance" hereto.

16. LIMITATION OF PARTIES' LIABILITY.

NEITHER LICENSOR NOR LICENSEE SHALL BE RESPONSIBLE FOR, AND HEREBY WAIVES ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCURRED RESULTING FROM (i) LICENSEE'S USE OR LICENSEE'S INABILITY TO USE THE TOWER FACILITY, OR (ii) DAMAGE TO THE OTHER'S EQUIPMENT. If Licensor shall fail to perform or observe any term, condition, covenant or obligation required to be performed or observed by it under this Agreement or is charged with an indemnity obligation hereunder, and if Licensee shall, as a consequence thereof, recover a money judgment against Licensor (whether compensatory or punitive in nature), Licensee agrees that it shall look solely to Licensor's right, title and interest in and to the Tower Facility and the Tower for the collection of such judgment, and Licensee further agrees that no other assets of Licensor shall be subject to levy, execution or other process for the satisfaction of Licensee's judgment, and that Licensor shall not be personally liable for any deficiency.

17. DISCLAIMER OF WARRANTY.

LICENSOR HEREBY EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ASSOCIATED WITH THE TOWER FACILITY OR THE TOWER. LICENSEE HEREBY ACCEPTS THE TOWER FACILITY "AS IS, WHERE IS, WITH ALL FAULTS."

18. NOTICES.

All notices, demands, approvals, requests and other communications shall be in writing to such Party at the address listed in the introductory paragraph of this Agreement (and in each case, in the event of notice to Licensor, with a copy of such notice to American Towers, Inc., 116 Huntington Avenue, Boston, MA 02116, Attention: General Counsel) or at such other address as such Party shall designate by notice to the other party hereto in accordance with this section 18 (the "Notice Address") and may be personally delivered; mailed, via United States certified mail, return receipt requested; or transmitted by overnight courier for next Business Day delivery, and, if not delivered personally, shall be deemed to be duly given or made 2 Business Days after deposit with the applicable carrier or courier. Notices

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

will be deemed to have been given upon either receipt or rejection. Notwithstanding the foregoing, (i) any notice that is given by a party may be given by the attorneys for that party and shall be deemed effective for all purposes herein, and (ii) only notices, letters, documents, or instruments threatening to declare or declaring such addressee or recipient in default under this Agreement shall be required to be sent to the attorneys representing such addressee or recipient, if the name and address of such attorney is provided for herein.

19. ASSIGNMENT; SUBLEASING.

Licensee may not assign this Agreement as a whole, or any portion of Licensee's rights, title and interests hereunder without Licensor's prior written consent; provided, however, that Licensor's consent will not be required for an assignment to (i) any person or entity which is directly or indirectly (through one or more subsidiaries) controlled by, controlling or under common control with Licensee, (ii) is the successor or surviving entity by a merger or consolidation of such entity pursuant to Applicable Law, or (iii) purchases substantially all the assets of Licensee (collectively, "Permitted Affiliate"). For the purpose of this section 19, "control" means ownership, directly or indirectly, of 50% or more of the voting stock, equity or beneficial interest or a general partner of any partnership, and the ability to effectively control or direct the business of Licensee. In no event may Licensee sublet, sublease, or permit any use of the Tower Facility or Licensed Space by any other party. Any permitted assignee shall expressly assume, and become bound by, all of Licensee's obligations under this Agreement. Licensor may freely assign, transfer, or sublease this Agreement and, in such event, Licensor shall be relieved of all of its obligations under this Agreement from and after the date of such assignment or transfer. Notwithstanding anything to the contrary, Licensor may condition its consent to any assignment, on among other things, (i) requiring that the assignee execute a new form of license agreement so long as the Monthly License Fee and Initial and Renewal Terms of such agreement are consistent with those set forth in this Agreement, and (ii) requiring the assignee to demonstrate that it maintains at the time of such assignment, as evidenced by current financial statements provided to Licensor, a financial position reasonably demonstrating the ability of such assignee to meet and perform the obligations of Licensee hereunder through the unexpired balance of the then current Initial Term or Renewal Term. Any purported assignment by Licensee in violation of the terms of this Agreement shall be void. This Agreement shall be binding upon the successors and permitted assigns of both Parties.

20. SUBORDINATION TO GROUND LEASE.

The Parties acknowledge and agree that Licensor's rights in the Licensed Space and/or any part of the Tower Facility is derived in whole or part pursuant to an underlying "Communication Tower Ground Lease by and Between the Town of Hilton Head Island, South Carolina and American Towers, LLC" (the "Ground Lease") , and all terms, conditions and covenants contained in this Agreement shall be specifically subject to and

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

subordinate to the terms and conditions of the applicable Ground Lease. In the event that any of the provisions of the Ground Lease are in conflict with any of the provisions of this Agreement, the terms of the Ground Lease shall control. Further, Licensee agrees to comply with the terms of such Ground Lease as applicable to the access and occupancy of the Licensed Space. Notwithstanding anything contained in this Agreement to the contrary, if the Ground Lease expires or is terminated for any reason, this Agreement shall terminate on the effective date of such termination and Licensor shall have no liability to Licensee as a result of the termination of this Agreement. Licensor is under no obligation to extend the term of or renew the Ground Lease. Licensor shall give Licensee written notice of such termination or expiration of this Agreement as a result of the termination or expiration of the Ground Lease as soon as practicable. Unless prohibited by the terms of such Ground Lease, upon Licensee's written request, Licensor shall provide a copy of any applicable Ground Lease with the economic terms and other terms that Licensor deems reasonably confidential redacted.

21. DEFAULT.

The occurrence of any of the following instances shall be considered to be a default or a breach of this Agreement by Licensee: (i) any failure of Licensee to pay any charge for which Licensee has the responsibility of payment under this Agreement, within 10 Business Days of the date following written notice to Licensee from Licensor, or its designee, of such delinquency, it being understood, however, that Licensor is obligated to provide such notice only two times in each calendar year, and the third instance of the failure to pay any charge shall be an immediate default without notice to Licensee if not paid within 10 Business Days of the date when due; (ii) any failure of Licensee to perform or observe any term, covenant, provision or condition of this Agreement which failure is not corrected or cured by Licensee within 30 days of receipt by Licensee of written notice from Licensor, or its designee, of the existence of such a default; except such 30 day cure period shall be extended as reasonably necessary to permit Licensee to complete a cure so long as Licensee commences the cure within such 30 day cure period and thereafter continuously and diligently pursues and completes such cure; (iii) failure of Licensee to abide by the Interference provisions as set forth in section 11; (iv) Licensee shall become bankrupt, insolvent or file a voluntary petition in bankruptcy, have an involuntary petition in bankruptcy filed against Licensee which cannot be or is not dismissed by Licensee within 60 days of the date of the filing of the involuntary petition, file for reorganization or arrange for the appointment of a receiver or trustee in bankruptcy or reorganization of all or a substantial portion of Licensee's assets, or Licensee makes an assignment for such purposes for the benefit of creditors; (v) this Agreement or Licensee's interest herein or Licensee's interest in the Tower Facility are executed upon or attached; (vi) Licensee commits or fails to perform an act which results in a default under or nonconformance with the Ground Lease by Licensor and the same shall not be cured within 5 Business Days (or such shorter time as permitted under the Ground Lease to cure) of the date following written notice to Licensee from Licensor, or its

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

designee, of such default; or (vii) the imposition of any lien on the Approved Equipment except as may be expressly authorized by this License, or an attempt by Licensee or anyone claiming through Licensee to encumber Licensor's interest in the Tower Facility, and the same shall not be dismissed or otherwise removed within 10 Business Days of written notice from Licensor to Licensee.

22. REMEDIES.

In the event of a default or a breach of this Agreement by Licensee and after Licensee's failure to cure the same within the time allowed Licensee to cure such default, if applicable, then Licensor may, in addition to all other rights or remedies Licensor may have hereunder at law or in equity, (i) terminate this Agreement by giving written notice to Licensee, stating the date upon which such termination shall be effective, (ii) terminate electrical power to the Approved Equipment, and/or (iii) remove the Approved Equipment without being deemed liable for trespass or conversion and store the same at Licensee's sole cost and expense for a period of 30 days after which the Approved Equipment, other than Hazardous Materials, will be deemed conclusively abandoned if not claimed by Licensee. In the event that either Party hereto shall default under any of the provisions hereof, and the non-defaulting Party shall employ attorneys, or incur other expenses for the enforcement of the performance or observance of any obligation or agreement on the part of the defaulting Party hereto contained, the defaulting Party agrees that it shall pay, on demand, the fees of such attorneys and such other expenses so incurred by the non-defaulting party in the enforcement of its rights hereunder. Licensee shall not be permitted to claim the Approved Equipment until Licensor has been reimbursed for removal and storage fees.

23. GOVERNMENTAL APPROVALS; PERMITS.

In the event that any governmental permit, approval or authorization required for Licensor's use of, operation of, or right to license space to Licensee at the Tower Facility is terminated or withdrawn by any governmental authority or third party as part of any governmental, regulatory, or legal proceeding, Licensor may terminate this Agreement. Licensee hereby agrees that in the event of a governmental or legal order requiring the removal of the Approved Equipment from the Tower, the modification of the Tower, or the removal of the Tower, Licensee shall remove the Approved Equipment promptly, but in no event later than the date required by such order, at Licensee's sole cost and expense. Licensor shall cooperate with Licensee in Licensee's efforts to obtain any permits or other approvals that may be necessary for Licensee's installation and operation of the Approved Equipment, provided that Licensor shall not be required to expend any funds or undertake any liability or obligation in connection with such cooperation. Licensor may elect to obtain such required approvals or permits on Licensee's behalf, at Licensee's sole cost and expense. In no event may Licensee encourage, suggest, participate in or permit the imposition of any restrictions or additional obligations whatsoever on the Tower Facility or Licensor's current

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

or future use or ability to license space at the Tower Facility as part of or in exchange for obtaining any such approval or permit. In the event that Licensee's shelter or cabinets are installed above a third-party or Licensor-owned shelter or building, Licensee shall be solely responsible for obtaining any required approvals, or permits in connection with such shelter or cabinet installation, excepting the consent of other users at the Tower Facility and/or the ground landlord which shall remain the sole responsibility of Licensor where required.

24. REPLACEMENT OF TOWER/RELOCATION OF APPROVED EQUIPMENT.

(a) Replacement of Tower. Licensor may, at its election, replace or rebuild the Tower or a portion thereof. Such replacement will (i) be at Licensor's sole cost and (ii) not result in an interruption of Licensee's communications services beyond that which is necessary to replace the new Tower. If Licensee, in Licensee's reasonable discretion, cannot operate the Approved Equipment from the existing Tower during such replacement or rebuild of the Tower, Licensee may establish, at Licensee's sole cost, a temporary facility on the Tower Facility to provide such services as Licensee deems necessary during any such construction by Licensor so long as adequate space is then available. The location of such temporary facilities shall be subject to Licensor's approval. At the request of either Party, Licensor and Licensee shall enter into an amendment to this Agreement to clarify the rights of Licensor and Licensee to the new Tower Facility.

(b) Tower Removal: If during the term of this Agreement Licensor determines based on engineering structural standards generally applied to communications towers that the Tower is or has become structurally unsound such that pursuant to generally accepted industry safety standards the Tower or a portion thereof must be removed, then, upon 90 days prior written notice to Licensee, Licensor may, in its sole discretion either (i) remove the Tower and terminate this Agreement effective as of the date of such removal, or (ii) modify the Tower and relocate Licensee's Approved Equipment to an alternative location on the modified Tower, subject, however to the height and space requirements of Article 7.02 of the "Communication Tower Ground Lease by and Between the Town of Hilton Head Island, South Carolina and American Towers, LLC". If Licensee and Licensor are not able to agree on an alternative location on the modified Tower for the installation of Licensee's Approved Equipment within the foregoing 90 day notice period, then Licensee or Licensor may elect to terminate the Agreement.

25. EMMISIONS.

If antenna power output ("RF Emissions") is presently or hereafter becomes subject to any restrictions imposed by the FCC or other governmental agency for RF Emissions standards on Maximum Permissible Exposure ("MPE") limits, or if the Tower Facility otherwise becomes subject to federal, state or local rules, regulations, restrictions or ordinances, Licensee shall comply with Licensor's reasonable requests for modifications to the

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

Approved Equipment which are reasonably necessary for Licensor to comply with such limits, rules, regulations, restrictions or ordinances and Licensor shall use commercially reasonable efforts to cause all other licensees of the Tower Facility to promptly comply. If Licensor requires an engineering evaluation or other power density study be performed to evaluate RF Emissions compliance with MPE limits, then all reasonable costs of such an evaluation or study shall be paid proportionately by Licensee and all other licensees of the Tower within 30 days of Licensor's request therefor. If said study or a study sponsored by any governmental agency indicates that RF Emissions at the Tower Facility do not comply with MPE limits, then Licensee and Licensor, each for itself, shall immediately take any and all steps necessary to ensure that it is individually in compliance with such limits, up to and including cessation of operation, until a maintenance program or other mitigating measures can be implemented to comply with MPE and in addition, Licensor shall use commercially reasonable efforts to cause all other licensees of the Tower to take similar steps necessary to ensure that they are individually in compliance with such limits.

26. ENVIRONMENTAL.

Licensee covenants that it will not use, store, dispose, or release any Hazardous Substances on the Tower Facility in violation of Applicable Law.

27. GOVERNING LAW.

This Agreement shall be governed by the laws of the state in which the Tower Facility is located, with the exception of its choice of laws provisions. If any provision of this Agreement is found invalid or unenforceable under judicial decree or decision, the remaining provisions of this Agreement shall remain in full force and effect. Any approval, consent, decision, or election to be made or given by a Party may be made or given in such Party's sole judgment and discretion, unless a different standard (such as reasonableness or good faith) is provided for explicitly.

28. FINANCING AGREEMENT.

Licensee may, upon written notice to Licensor, mortgage or grant a security interest in the Approved Equipment to any such mortgagees or holders of security interests including their successors and assigns. No such security interest shall extend to, affect or encumber in any way the interests or property of Licensor.

30. MISCELLANEOUS.

Upon Licensor's written request, Licensee shall promptly furnish Licensor with complete and accurate information in response to any reasonable request by Licensor for information about any of the Approved Equipment or utilities utilized by Licensee at the Tower Facility

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

or any of the channels and frequencies utilized by Licensee thereon. In the event that this Agreement is executed by Licensor, its Affiliates or any trade name utilized by Licensor or its Affiliates and such signatory does not hold the real Tower Facility or leasehold interest in the affected Tower Facility, the execution of this Agreement shall be deemed to have been properly executed by Licensor or Licensor's Affiliate which properly holds such interest in the affected Tower Facility. Upon the termination or expiration of this Agreement, Licensee shall immediately upon the request of Licensor deliver a release of any instruments of record evidencing such Agreement. Notwithstanding the expiration or earlier termination of this Agreement, sections 15, 16, 17, and 26 shall survive the expiration or earlier termination of the Agreement. No waiver of any of the provisions of this Agreement shall constitute a waiver of any other provision herein (whether or not similar), nor shall such waiver constitute a continuing waiver unless expressly agreed to in writing by the affected Party. This Agreement constitutes the entire agreement of the Parties hereto concerning the subject matter herein and shall supersede all prior offers, negotiations and agreements, whether written or oral. No revision of the Agreement shall be valid unless made in writing and signed by authorized representatives of both Parties. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute but one instrument. The Parties agree that a scanned or electronically reproduced copy or image of this Agreement shall be deemed an original and may be introduced or submitted in any action or proceeding as a competent evidence of the execution, terms and existence of this Agreement notwithstanding the failure or inability to produce or tender an original, executed counterpart of this Agreement and without the requirement that the unavailability of such original, executed counterpart of this first be proven.

The offer of license expressed in this Agreement shall automatically expire and become void if two unaltered counterparts of this Agreement, executed by Licensee, are not delivered to Licensor within 30 days of the Effective Date.

ATTACHED EXHIBITS:

Exhibit A: List of Approved Equipment and location of the Licensed Space

Exhibit B: Site Drawing indicating the location of Ground Space for Licensee's equipment shelter or space in Licensor's building (as applicable)

Exhibit C: As-Built Drawings or Construction Drawings to be attached within 45 days after Commencement Date in accordance with Section 3

Appendix I: Definitions

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

Exhibit A

List of Approved Equipment and location of the Licensed Space

Exhibit B

Site Drawing indicating the location of Ground Space for Licensee's equipment shelter or space in Licensor's building (as applicable)

Licensee shall not commence installation until Licensor has approved in writing said drawing and attached it hereto.

Exhibit C

As Built Drawings or Construction Drawings

To be attached hereto within 45 days after the Commencement Date.

Appendix I
Defined Terms

Affiliate(s): Any corporation, partnership, limited liability company or other entity that (i) is controlled directly or indirectly (through one or more subsidiaries) by Licensee, or (ii) is the successor or surviving entity by a merger or consolidation of Licensee pursuant to Applicable Law, (iii) purchases all or substantially all of the assets of Licensee. For purposes of this definition, "control" means the possession of the right through the ownership of 50% or more of the shares with voting rights to effectively direct the business decisions of the subject entity.

Agreement: defined in the introductory paragraph.

Applicable Law: All applicable statutes, ordinances, laws, regulations and directives of any federal, state or local governmental unit, authority or agency having jurisdiction over a Licensed Space or affecting the rights and obligations of Licensor or Licensee under this Agreement, including without limitation, the Communications Act of 1934, as amended from time to time, FCC Rules and Regulations, and the rules, regulations and written policies and decisions of the FAA.

Application: defined in section IV on page 1.

Approved Equipment: the communications system, including antennas, radio equipment, cabling and conduits, shelter and/or cabinets and other personal property owned or operated by Licensee at the Licensed Space, as defined in Exhibit A or B to this Agreement.

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

Business Day: a day other than a Saturday, Sunday or legal holiday for commercial banks under the laws of the United States or the Commonwealth of Massachusetts.

Claims: demands, claims, suits, actions, proceedings or investigations brought against a person by an unrelated or unaffiliated Person.

Commencement Date: defined in section IV on page 1.

Construction Drawings: defined in section 3.

Damages: debts, liabilities, obligations, losses, damages, excluding consequential or punitive damages, costs and expenses, interest (including, without limitation, prejudgment interest), penalties, reasonable legal fees, court costs, disbursements and costs of investigations, deficiencies, levies, duties and imposts.

Effective Date: defined in the introductory paragraph.

FAA: the United States Federal Aviation Administration or any successor federal agency established for the same or similar purpose.

FCC: the United States Federal Communications Commission or any successor federal agency established for the same or similar purpose.

FCC Rules and Regulations: All of the rules, regulations, public guidance, written policies and decisions governing telecommunications generally and wireless telecommunications specifically as promulgated and administered by the FCC, which on the Effective Date includes, but is not limited to, those administered by the Wireless Telecommunications Bureau of the FCC and more specifically referenced as the Code of Federal Regulations, title 47, parts 0 through 101, as amended.

Ground Lease: defined in section 20.

Ground Space: The portion of the Tower Facility licensed for use by Licensee to locate a portion of the Approved Equipment thereon, in the square footage amount depicted on exhibit B of this Agreement. In no event shall the Ground Space include the air space or rights above the Approved Equipment located in the Ground Space.

Hazardous Substances: Any hazardous material or substance which is or becomes defined as a hazardous substance, pollutant or contaminant subject to reporting, investigation or remediation pursuant to Applicable Law; any substance which is or becomes regulated by any federal, state or local governmental authority; and any oil, petroleum products and their by-products.

Initial Term: defined in subsection 6(a).

Interference: defined in subsection 11(a)(i).

Licensed Frequencies: defined in subsection 11(a)(ii).

Licensed Space: Location of the Approved Equipment on the Tower and at the Ground Space as more specifically described in Exhibits A and B attached hereto.

Licensed User: defined in subsection 11(a)(iii).

Licensee: defined in the introductory paragraph.

Licensor: defined in the introductory paragraph.

Monthly License Fee: defined in subsection 5(a).

MPE: defined in section 25.

Notice Address: defined in section 18.

Licensor Site Name/Number: _____
Licensee Site Name/Number: _____

NTP (Notice to Proceed): Written notice from Licensor to Licensee acknowledging that all required documentation for the construction and installation of the Approved Equipment has been received and approved by Licensor and Licensee is authorized to commence its installation of the Approved Equipment at the Licensed Space, as more particularly set forth in section 10(a) of this Agreement.

Party(ies): Licensor or Licensee.

Permitted Affiliate: defined in section 19.

Permitted Frequencies: defined in section III on page 1.

Priority User: defined in subsection 11(a)(iv).

Remittance Address: defined in section II of page 1.

Renewal Term(s): defined in subsection 6(b).

RF Emissions: defined in section 25.

SSIS: defined in subsection 10(b).

Subsequent User: defined in subsection 11 (a)(v).

Term: Initial Term and each Renewal Term which is effected pursuant to section 6 of this Agreement.

Tower: A communications or broadcast tower owned and operated by Licensor and located at the Tower Facility.

Tower Facility: Certain real property owned, leased, subleased, licensed or managed by Licensor shown on page 1 of this Agreement, on which a Tower owned, leased, licensed or managed by Licensor is located.

Unlicensed Frequencies: defined in subsection 11(a)(vi).

Unlicensed User: defined in subsection 11(a)(vii).

Utility Fee: defined in section IV on page 1.

Work: all work relating to the construction, installation, relocation and reconfiguration of Licensee's Approved Equipment on the Tower Facility, including without limitation, construction management, construction of an equipment pad, installation or modification of lines, antennas, shelters and equipment cabinets.

Appendix II Insurance

A. LICENSOR shall maintain in full force during the Term of this Agreement the following insurance:

1. Licensor shall keep in full force and effect, during the Term of this Agreement, insurance coverage in accordance with "Communication Tower Ground Lease by and Between the Town of Hilton Head Island, South Carolina and American Towers, LLC."
2. Worker's Compensation Insurance with statutory limits in accordance with all

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

applicable state, federal and maritime laws, and Employers' Liability Insurance with minimum limits of \$500,000.00 per accident/occurrence, or in accordance with all applicable state, federal and maritime laws.

2. Commercial General Liability Insurance (Bodily Injury and Tower Facility Damage), the limits of liability of which shall not be less than \$1,000,000.00 per occurrence.
3. An umbrella policy of not less than Five Million Dollars (\$5,000,000.00).

The above insurance shall provide that LICENSEE will receive not less than 30 days written notice prior to any cancellation of, or material change in coverage. The insurance specified in this Item A shall contain a waiver of subrogation against LICENSEE and shall name LICENSEE as an additional insured, and shall be primary over any insurance coverage in favor of LICENSEE but only with respect to and to the extent of the insured liabilities assumed by LICENSOR under this Agreement and shall contain a standard cross-liability endorsement.

B. LICENSEE shall maintain in full force during the Term of this Agreement all statutorily required insurance for governmental entities in the State of South Carolina. Licensee shall cause all contractors or subcontractors performing Work on any Licensed Space prior to the commencement of any such Work on behalf of Licensee to maintain the following insurance:

1. Worker's Compensation Insurance with statutory limits in accordance with all applicable state, federal and maritime laws, and Employers' Liability Insurance with minimum limits of \$500,000.00 per accident/occurrence, or in accordance with all applicable state, federal and maritime laws.
2. Commercial General Liability Insurance (Bodily Injury and Tower Facility Damage), the limits of liability of which shall not be less than \$1,000,000.00 per occurrence.
3. An umbrella policy of not less than Five Million Dollars (\$5,000,000.00).

The above insurance shall provide that LICENSOR will receive not less than 30 days written notice prior to any cancellation of, or material change in coverage. The insurance specified in this Item B shall contain a waiver of subrogation against LICENSOR and shall name LICENSOR as additional insured, and shall be primary over any insurance coverage in favor of LICENSOR but only with respect to and to the extent of the insured liabilities assumed by LICENSEE under this Agreement and shall contain a standard cross-liability endorsement.

C. Notwithstanding the foregoing insurance requirements, (a) the insolvency,

Licensor Site Name/Number: _____

Licensee Site Name/Number: _____

bankruptcy, or failure of any insurance company carrying insurance for either Party, or failure of any such insurance company to pay Claims accruing, shall not be held to waive any of the provisions of this Agreement or relieve either Party from any obligations under this Agreement, and (b) Licensor reserves the right, from time to time, to increase the required liability limits described above in Items A and/or B in accordance with then-current customary insurance requirements in the tower industry nationally.



TOWN OF HILTON HEAD ISLAND

Community Development Department

TO: Stephen G. Riley, C.M., *Town Manager*
VIA: Teri Lewis, AICP, *LMO Official*
FROM: Nicole Dixon, CFM, *Senior Planner*
CC: Charles Cousins, AICP, *Director of Community Development*
DATE: September 30, 2011
SUBJECT: Proposed Ordinance No. 2011-24
ZMA110003 – South Island Square

Recommendation: The Planning and Development Standards Committee met on September 28, 2011 to review the attached application for Zoning Map Amendment (ZMA110003) and voted unanimously to recommend that Town Council approve the proposed application for rezoning.

The Planning Commission met on September 7, 2011 to review the application for ZMA110003 and after a public hearing voted unanimously to recommend that Town Council approve the proposed application for rezoning.

Staff recommends that Town Council approve the application for the proposed rezoning.

Summary: The purpose of this application is to amend the Official Zoning Map by changing the zoning designation of three properties located at 841, 843 and 845 William Hilton Parkway, also known as South Island Square, from the OL (Office Institutional Low Intensity) Zoning District to the CC (Commercial Center) Zoning District. The properties proposed to be rezoned contain a shopping center, a vacant building and a building with office uses and vacant space.

Background: The Town received this request from Dale Johnson, on behalf of the property owners, to rezone the three parcels from OL to CC, in order to have more uses available to redevelop the property and to occupy currently vacant office space on the property. The parcel which contains the shopping center is currently nonconforming because the use is not permitted in the OL zoning district. The proposed rezoning will make the shopping center parcel conforming. Staff reviewed this request and determined that the application is consistent with the Comprehensive Plan and the Land Management Ordinance (LMO).

The existing OL zoning district in this area was established after many of the properties had already been developed with commercial uses. The intent of the creation of the OL district was that once these commercial uses were no longer in business, the area would develop with office uses, and concentrate the development of commercial uses in other areas of the Island. But the commercial uses never left and the area does not function as an OL zoning district. The proposed rezoning will make current nonconforming uses conforming, will improve the marketability of the properties and will meet current market demands by permitting uses that are already developed on the properties and uses that are more common in this vicinity. The rezoning will also allow for existing office space which has been vacant for years to be redeveloped or leased with new expanded use opportunities while still allowing office type uses.

AN ORDINANCE OF THE TOWN OF HILTON HEAD ISLAND

ORDINANCE NO. 2011-

PROPOSED ORDINANCE NO. 2011-24

AN ORDINANCE TO AMEND TITLE 16, "THE LAND MANAGEMENT ORDINANCE," OF THE MUNICIPAL CODE OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, BY AMENDING SECTION 16-4-102, THE OFFICIAL ZONING MAP WITH RESPECT TO THOSE CERTAIN PARCELS IDENTIFIED AS PARCELS 25, 25B AND 25C ON BEAUFORT COUNTY TAX MAP 11, FROM OL (OFFICE/INSTITUTIONAL LOW INTENSITY) TO THE CC (COMMERCIAL CENTER) ZONING DISTRICT; AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, on July 21, 1998, the Town Council did amend Title 16 of the Municipal Code of the Town of Hilton Head Island by enacting a revised Land Management Ordinance ("LMO"); and

WHEREAS, the Planning Commission held a public hearing on said zoning map amendment application on September 7, 2011, at which time a presentation was made by staff and an opportunity was given for the public to comment on the rezoning request; and

WHEREAS, the Planning Commission, after consideration of the staff report, public comments, and the criteria set forth in Section 16-3-1505 of the LMO, voted unanimously to find the application consistent with the Comprehensive Plan and serves to carry out the purposes of the LMO; and

WHEREAS, the Planning and Development Standards Committee held a public meeting on September 28, 2011 to review said zoning map amendment application, at which time a presentation was made by staff and an opportunity was given for the public to comment on the rezoning request; and

WHEREAS, the Planning and Development Standards Committee, after consideration of the staff report, public comments, and the criteria set forth in Section 16-3-1505 of the LMO, voted unanimously to recommend that Town Council approve the proposed zoning map amendment application; and

WHEREAS, after due consideration of said zoning map amendment application and the recommendations of the Planning Commission and the Planning and Development Standards Committee, the Town Council, upon further review, finds it is in the public interest to approve the proposed application.

NOW, THEREFORE, BE IT ORDERED AND ORDAINED BY THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, AND IT IS ORDAINED BY THE AUTHORITY OF THE SAID COUNCIL:

Section 1. Amendment. That the Official Zoning Map of the Town of Hilton Head Island, as referred to in Section 16-4-102 of the LMO, be hereby amended to modify the zoning designation of those certain parcels identified as parcels 25, 25B and 25C on Beaufort County

Tax Map 11, from OL to the CC Zoning District. The attached Vicinity Map shows the location of the subject property.

Section 2. Severability. If any section, phrase, sentence or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

Section 3. Effective Date. This Ordinance shall be effective upon its adoption by the Town Council of the Town of Hilton Head Island, South Carolina.

PASSED, APPROVED, AND ADOPTED BY THE TOWN COUNCIL FOR THE TOWN OF HILTON HEAD ISLAND ON THIS _____ DAY OF _____, 2011.

Drew A. Laughlin, Mayor

ATTEST:

Cori Brock, Town Clerk

Public Hearing: September 7, 2011
First Reading: October 18, 2011
Second Reading:

Approved as to form:

Gregory M. Alford, Town Attorney

Introduced by Council Member: _____



**TOWN OF HILTON HEAD ISLAND
COMMUNITY DEVELOPMENT DEPARTMENT**

One Town Center Court	Hilton Head Island, SC 29928	843-341-4757	FAX 843-842-8908
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**STAFF REPORT
ZONING MAP AMENDMENT**

Case #:	Name of Project:	Public Hearing Date:
ZMA110003	South Island Square	September 7, 2011

Parcel Data or Location:	Property Owners	Applicant/Agent
<u>Existing Zoning District:</u> OL (Office Institutional Low Intensity) <u>Proposed Zoning District:</u> CC (Commercial Center) <u>Applicable Overlay District(s):</u> Corridor Overlay <u>Parcels Affected:</u> Beaufort County Tax Map 11, Parcels 25, 25B and 25C	Wayne Johnson 2 Marshland Road Hilton Head Island, SC 29926 Southcoast Community Bank 534 Johnnie Dodds Blvd. Mt. Pleasant, SC 29464 South Island Square LLC PO Box 6958 Hilton Head Island, SC 29938	Dale Johnson The Johnson Partnership 32 Office Park Road #104 Hilton Head Island, SC 29928

Application Summary:

Dale Johnson, on behalf of Wayne Johnson, Southcoast Community Bank and South Island Square LLC, is proposing to amend the Official Zoning Map by changing the zoning designation of three properties located at 841, 843 and 845 William Hilton Parkway from the OL (Office Institutional Low Intensity) Zoning District to the CC (Commercial Center) Zoning District.

For a complete list of changes in use that will result from the proposed rezoning, see Attachment C, Use Table.

Staff Recommendation:

Staff recommends that the Planning Commission find this application to be consistent with the Town's Comprehensive Plan and does serve to carry out the purposes of the LMO, based on those Findings of Facts and Conclusions of Law as determined by the LMO Official and enclosed herein.

Background:

The applicant is proposing to change the zoning designation of the subject properties from OL to the CC zoning district.

There is a shopping center on one of the lots proposed to be rezoned, a vacant building on the second property and a building with office uses on the third property.

The subject properties are surrounded on three sides by Palmetto Dunes, with a mix of uses across William Hilton Parkway: a hotel, a gas station/convenience store, a restaurant, and a bank.

Applicant’s Grounds for ZMA:

The applicant states in the narrative that the proposed application to rezone the subject properties from OL to the CC zoning district is more in character with the existing commercial uses in the surrounding area. The applicant feels that the requested CC zoning is in conformance with the objectives of the Comprehensive Plan, to have commercial property situated where it serves the Island residents and guests in a safe and efficient manner and to focus future development on infill development. The applicant also believes that by rezoning the properties to allow for retail possibilities, the marketability of the properties will increase.

Summary of Facts and Conclusions of Law:

Findings of Facts:

- o Notice of the Application was published in the Island Packet on July 31, 2011 as set forth in LMO (Land Management Ordinance) Sections 16-3-110 and 16-3-111.
- o Notice of the Application was posted and mailed as set forth in LMO Sections 16-3-110 and 16-3-111.
- o A public hearing will be held on September 7, 2011 as set forth in LMO 16-3-1504A.
- o The Commission has authority to render their decision reached here in LMO Section 16-3-1504.

Conclusion of Law:

- o The application, notice requirements, and public hearing comply with the legal requirements as set forth in LMO 16-3-110, 16-3-111 and 16-3-1504.

As set forth in Section 16-3-1505, Zoning Map Amendment Review Criteria, Planning Staff has based its recommendation on analysis of the following criteria:

Summary of Facts and Conclusions of Law:

Criteria 1: Consistency (or lack thereof) with the Comprehensive Plan (LMO Section 16-3-1505A):

Findings of Facts:

The Comprehensive Plan addresses this application in the following areas:

Economic Development Element:

Section 7.5 – Potential Risks for Future Economy with Comprehensive Plan Implications

“Flexibility” (where reasonable people may disagree but must find a solution) in the application of historic regulation and ordinance was called for to improve existing nonconformities and future redevelopment.

Section 7.6 – Potential Strategies with Implication for Comprehensive Plan

Identify and prioritize areas in need of redevelopment, including any obsolete or run down commercial buildings. Incentivize the development of flexibility of streamlining in regulation of density caps, setbacks (and other controls) that enable a qualitative, principle based, asset revitalization that enhances the Island’s positive legacies.

Land Use Element:

An Implication for Nonconforming Parcels by Use

Current zoning classifications should be reviewed along with the associated regulations for each use. Areas that have high instances of nonconforming uses should be reviewed closely and revisions should be made where necessary. Creative alternatives to traditional zoning classifications should be considered, such as form based and smart codes to reflect current building and development trends that are indicative of our Island character.

An Implication for Zoning Changes

Future land use decisions and requests for zoning changes will be determined using the background information contained in this plan as well as the future land use map, currently represented by the Town’s Official Zoning Map.

An Implication for Building Permit Trends

Redevelopment of our existing built environment and infill development should be a focus for the future development of our community, while the Town has entered a more mature level of development.

Goal 8.1 – Existing Land Use

A. The goal is to have an appropriate mix of land uses to meet the needs of existing and future populations.

Goal 8.4 – Existing Zoning Allocation

A. An appropriate mix of land uses to accommodate permanent and seasonal populations and existing market demands is important to sustain the Town’s high quality of life and should be considered when amending the Town’s Official Zoning Map.

Goal 8.5 – Land Use Per Capita

A. The goal is to have an appropriate mix and availability of land uses to meet the needs of the existing and future populations.

Goal 8.8 – Nonconforming Parcels by Use

B. The goal is to evaluate the locations of nonconforming uses to determine areas to consider for Zoning Map Amendments.

Goal 8.9 – Age of Structures

B. The goal is to encourage redevelopment of properties with aging structures or that no longer meet current market demands.

Goal 8.10 – Zoning Changes

A. The goal is to provide appropriate modifications to the zoning designations to meet market demands while maintaining the character of the Island.

Implementation Strategy 8.6 – Build-out

A. Consider flexibility within the Land Management Ordinance to address future development and redevelopment needs.

Conclusions of Law:

- Staff concludes that this application is consistent with the Comprehensive Plan, as set forth in LMO Section 16-3-1505A. The proposed rezoning will increase the potential of redevelopment by making non-conforming uses conforming and by approving commercially oriented uses for the property that are compatible with those existing.
- The proposed rezoning would provide an appropriate mix of land uses to meet the needs of the population and improve the quality of life on the Island as well as help to improve the marketability of the properties and meet current market demands by permitting uses that are already developed on the properties and uses that are common in this vicinity.

Summary of Facts and Conclusions of Law:

Criteria 2: Compatibility with the present zoning and conforming uses of nearby property and with the character of the neighborhood (LMO Section 16-3-1505B):

Findings of Facts:

- LMO Section 16-4-216 describes the purpose of the existing OL zoning district as being: *“established between major commercial areas of the Island and intended to limit the types of nonresidential uses permitted. Land uses permitted are office and institutional in order to minimize travel impacts on the street system, encourage better compatibility in and among land uses on the Island, provide balance among land use types in major corridors and improve visual appearance along major corridors.”*
- There are three properties subject to the proposed rezoning; one which contains a vacant building and one which contains a building with several office use tenants, both of which are conforming to the OL zoning district. The third property contains a shopping center which is not a permitted use in the OL zoning district.
- The conforming uses of nearby property are the bank and the restaurant.
- As currently zoned, one of the existing structures has remained vacant for years.

Conclusions of Law:

- Staff concludes that one of the three properties subject to the rezoning application is compatible with the present zoning, the conforming uses of nearby property and with the character of the neighborhood as set forth in LMO Section 16-3-1505B because the property contains a use that is currently permitted in the OL district and is compatible with the conforming bank and restaurant nearby and with the character of the neighborhood.
- The property that contains a shopping center is not compatible with the OL zoning district because it is not a permitted use in that district and it would benefit from the proposed rezoning to the CC zoning district because it would be made conforming.
- The property that contains the vacant building could also benefit from the proposed rezoning. Although the previous use of the building was a medical office, which is permitted in the OL zoning district, once that use was vacated, the building has remained unoccupied for years. The rezoning would allow the property owner to redevelop or lease the building with new commercial use opportunities.

Summary of Facts and Conclusions of Law:

Criteria 3: Suitability of the property affected by the amendment for uses permitted by the district that would be made applicable by the proposed amendment (LMO Section 16-3-1505C):

Findings of Facts:

- LMO Section 16-4-217 describes the purpose of the CC zoning district as: *“to provide for moderate to high intensity commercial development, especially office and general retail development. Residential development as a component of a PUD is allowed, and traffic and pedestrian interconnections throughout this district are strongly encouraged.”*
- One of the properties proposed to be rezoned contains a shopping center, which is currently not permitted in the OL zoning district, but is permitted in the CC zoning district.
- The two other properties proposed to be rezoned contain a vacant building and a building with several office uses, both of which will remain conforming if rezoned to the CC zoning district.
- There are currently several non-conforming commercial uses in the vicinity that existed prior to the area being zoned OL. The area was zoned OL to eventually eliminate these commercial uses, but throughout the years, these uses were not eliminated and there is currently a higher demand for commercial uses in this vicinity.
- Town Council recently rezoned two properties a little further down William Hilton Parkway at 2 and 4 Marina Side Drive, from the OL zoning district to the CC zoning district because the OL zoning district in this area isn’t functioning as an OL district and is essentially a mix of existing commercial uses.
- The CC zoning is intended for moderate to high intensity commercial development, especially office and retail development, which currently already exists in this vicinity.

Conclusion of Law:

- Staff concludes that the affected properties are suitable for the uses that would be

permitted by the proposed rezoning as set forth in LMO Section 16-3-1505C because one of the properties would be made conforming by the proposed rezoning and the remaining two parcels would remain conforming and/or could redevelop with other commercial opportunities.

Summary of Facts and Conclusions of Law:

Criteria 4: Suitability of the property affected by the amendment for uses permitted by the district applicable to the property at the time of the proposed amendment (LMO Section 16-3-1505D):

Findings of Facts:

- LMO Section 16-4-218 describes the purpose of the existing OL zoning district as being: “established between major commercial areas of the Island and intended to limit the types of nonresidential uses permitted. Land uses permitted are office and institutional in order to minimize travel impacts on the street system, encourage better compatibility in and among land uses on the Island, provide balance among land use types in major corridors and improve visual appearance along major corridors.”
- One of the properties proposed to be rezoned contains a shopping center, which is currently not permitted in the OL zoning district.
- The two other properties proposed to be rezoned contain a vacant building and a building with several office uses, both of which are permitted in the OL zoning district.

Conclusion of Law:

- Staff concludes that two of the three properties proposed to be rezoned are suitable for the uses permitted by the OL zoning district as set forth in LMO Section 16-3-1505D because they are both developed with office uses which are permitted uses in the OL zoning district.

Summary of Facts and Conclusions of Law:

Criteria 5: Marketability of the property affected by the amendment for uses permitted by the district applicable to the property at the time of the proposed amendment (LMO Section 16-3-1505E):

Finding of Fact:

- There will be additional uses and development opportunities available to the property owners to develop or redevelop should the properties be rezoned to the CC district.

Conclusion of Law:

- Staff concludes that the marketability of the properties will be improved as set forth in LMO Section 16-3-1505E because the property owners will have more uses available to market the properties to buyers or leasers.

Summary of Facts and Conclusions of Law:

Criteria 6: Availability of sewer, water and stormwater facilities generally suitable and adequate for the

proposed use (LMO Section 16-3-1505F):

Finding of Fact:

- The affected properties already have existing water, sewer and stormwater facilities serving the development.

Conclusion of Law:

- Staff concludes that these properties have available water, sewer and stormwater facilities suitable for the proposed uses as set forth in LMO Section 16-3-1505F.

LMO Official Determination

Determination: Staff determines that this application is consistent with the Comprehensive Plan and does serve to carry out the purposes of the LMO as based on the Findings of Fact and Conclusions of Law detailed in this report.

Note: If the proposed amendment is approved by Town Council, such action shall be by ordinance to amend the Official Zoning Map. If it is denied by Town Council, such action shall be by resolution.

PREPARED BY:

N.D.

Nicole Dixon, CFM
Senior Planner

August 23, 2011

DATE

REVIEWED BY:

TBL

Teri B. Lewis, AICP
LMO Official

August 23, 2011

DATE

REVIEWED BY:

JL

Jayne Lopko, AICP
Senior Planner & Planning Commission Board Coordinator

August 23, 2011

DATE

ATTACHMENTS:

- A) Vicinity Map
- B) Zoning Map
- C) Use Table Comparison
- D) Applicant's Narrative
- E) Boundary Survey



Proposed Rezoning - Properties Highlighted in Red



TOWN OF HILTON HEAD ISLAND
ONE TOWN CENTER COURT
HILTON HEAD ISLAND, S.C. 29928
PHONE (843) 341-6000

Town of Hilton Head Island
ZMA110003 - ATTACHMENT A

Vicinity Map



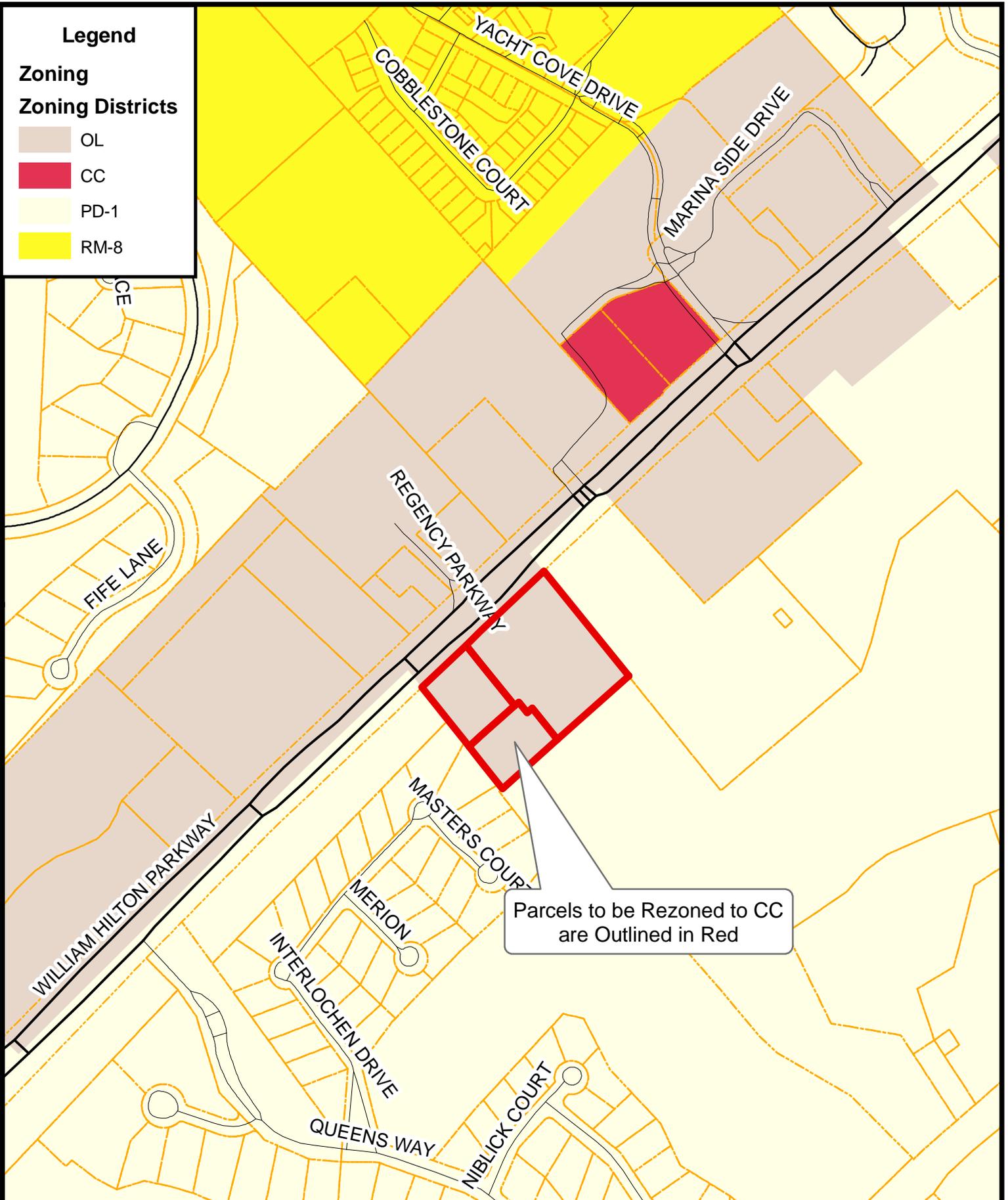
This information has been compiled from a variety of unverified general sources at various times and as such is intended to be used only as a guide. The Town of Hilton Head Island assumes no liability for its accuracy or state of completion.

Legend

Zoning

Zoning Districts

- OL
- CC
- PD-1
- RM-8



Parcels to be Rezoned to CC are Outlined in Red



ATTACHMENT C

Specific Use	OL	CC
Residential Uses		
Group Living		
Household Living		
Single Family	P	P
Multifamily Residential	PC	PC
Mixed Use	PC	PC
Manufactured Housing Park		
Public and Civic Uses		
Aviation/Surface Passenger Terminal		
Community Service		P
Day Care	P	PC
Educational Facilities		
Colleges		P
Schools, Public or Private		P
Government Facilities	P	P
Hospitals		
Institutions		
Religious Institutions	P	P
Other Institutions	SE	SE
Parks and Open Areas		
Cemetery		
Park, Community	SE	SE
Park, Linear	P	
Park, Mini	P	P
Park, Neighborhood		
Park, Regional		
Park, Special Use		P
Utilities		
Major Utility	SE	SE
Minor Utility	P	P
Telecommunications Facility	PC	PC
Waste Treatment Plant		SE
Commercial Uses		
Eating Establishments		
With Drive-thru		SE
With Seating, High Turnover	PC	P
With Seating, Low Turnover	PC	P
Without Seating	PC	P
Indoor Recreation/Entertainment		
Indoor Recreation		SE
Indoor Entertainment		SE
Outdoor Recreation/Entertainment		
Outdoor Recreation		

ATTACHMENT C

Outdoor Entertainment		
Water Parks		
Office		
Health Services Except Hospitals	P	P
Real Estate Sales/Rental	P	P
Other Offices	P	P
Parking, Commercial		SE
Resort Accommodation		
Bed and Breakfast Inn		
Central Reception or Check-in Facility		
Divisible Dwelling Unit		
Hotel or Motel		
Inn		
Interval Occupancy		
RV Park		SE
Retail Sales and Service		
Adult Entertainment		SE
Bank or Financial Institution	PC	P
Bicycle Shop (with outdoor storage)		PC
Community Theater		PC
Dance Studio		PC
Convenience Store		PC
Department or Discount Store		PC
Funeral Home		P
Furniture Store		P
Hardware, Paint, Glass, Wallpaper or Flooring Store		P
Health Club or Spa		P
Kennel, Boarding		SE
Landscape Nursery		
Liquor Store		SE
Nightclub or Bar		PC
Open Air Sales		
Pet Store		
Shopping Center		PC
Souvenir or T-Shirt Store		PC
Supermarket		PC
Tattoo Facility		PC
Veterinary Hospital		PC
Watercraft Sales, Rental or Service		
Other Retail Sales or Service	SE	P
Vehicle Sales and Services		
Auto Rental		PC
Auto Repair		SE
Auto Sales		PC

ATTACHMENT C

Car Wash		P
Gas Sales		SE
Taxicab Service		SE
Towing Service		SE
Truck or Trailer Rental		
Industrial Uses		
Aviation Services		
Light Industrial Services		
Contractor's Office		PC
Other Light Industrial Service		SE
Manufacturing and Production		
Seafood Processing		
Other Manufacturing and Production		
Limited Manufacturing		
Warehouse and Freight Movement		
Moving and Storage		
Self-Service Storage		SE
Warehousing		
Waste Related Service		
Wholesale Sales		
Contractor's Materials		
Wholesale Business		SE
Wholesale Business with Accessory Retail Outlet		SE
Other Uses		
Agriculture	P	
Water Oriented Facilities		
Docking Facility and Boat Ramp		
Marina		
Other Water Oriented Uses		

ATTACHMENT D

NARRATIVE IN SUPPORT OF REZONING OF SOUTH ISLAND SQUARE COMPLEX

July 22, 2011

Community Development Department

One Town Center Court

Hilton Head Island, SC 29928

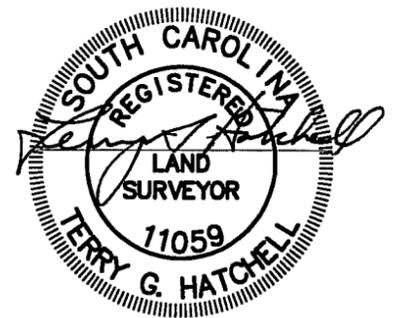
This is a request for rezoning of three properties shown on the attached plat. Current zoning is OL. The request is to change to CC.

- A. Consistency with the Comprehensive Plan. This request for a zoning change to CC is consistent with the Comprehensive Plan. CC zoning is more in keeping with the commercial uses in the surrounding William Hilton Parkway area. CC use fits the Comprehensive Plan's objective of having commercial property situated where it serves the Island residents and guests in a safe and efficient manner.
- B. Compatibility with the present zoning and conforming uses of nearby property and to the character of the neighborhood. Nearby properties include gas station-convenience store, bakery, hotel, restaurant, bank and utility company. Rezoning the subject parcels to CC would be in compliance with the neighborhood.
All three lots lend themselves to CC zoning which is more consistent with that of nearby properties. It is the highest and best zoning for use since it would produce a higher value in employment and tax revenues. There are three accesses from William Hilton Parkway assisting in maintaining limited traffic congestion which is consistent with the Comprehensive Plan.
- C. Suitability of the property affected by the amendment for uses permitted by the district that would be made applicable by the proposed Amendment. Uses of nearby properties are all consistent with CC zoning.
- D. Suitability of the property affected by the amendment for uses permitted by the district applicable to the property at the time of the proposed amendment. Subject property is currently a shopping center with mixed use occupancies.
- E. Marketability of the property affected by the amendment for uses permitted by the district applicable to the property at the time of the proposed amendment. There is currently a glut of empty commercial space on the island and rents have decreased in this economic climate. Expanding occupancy opportunities through rezoning will increase marketability.
- F. Availability of sewer, water and storm water facilities generally suitable and adequate for the proposed use. Sewer, water and storm water facilities currently exist on the properties.

ATTACHMENT E

BOUNDARY SURVEY OF
PHASE I & II
 OF
SOUTH ISLAND
SQUARE &
PARKWAY MEDICAL
PARCEL
U.S. HIGHWAY 278

HILTON HEAD ISLAND
 BEAUFORT COUNTY
 SOUTH CAROLINA



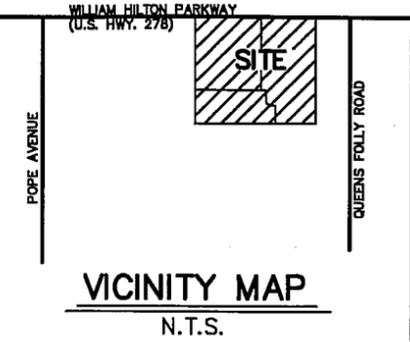
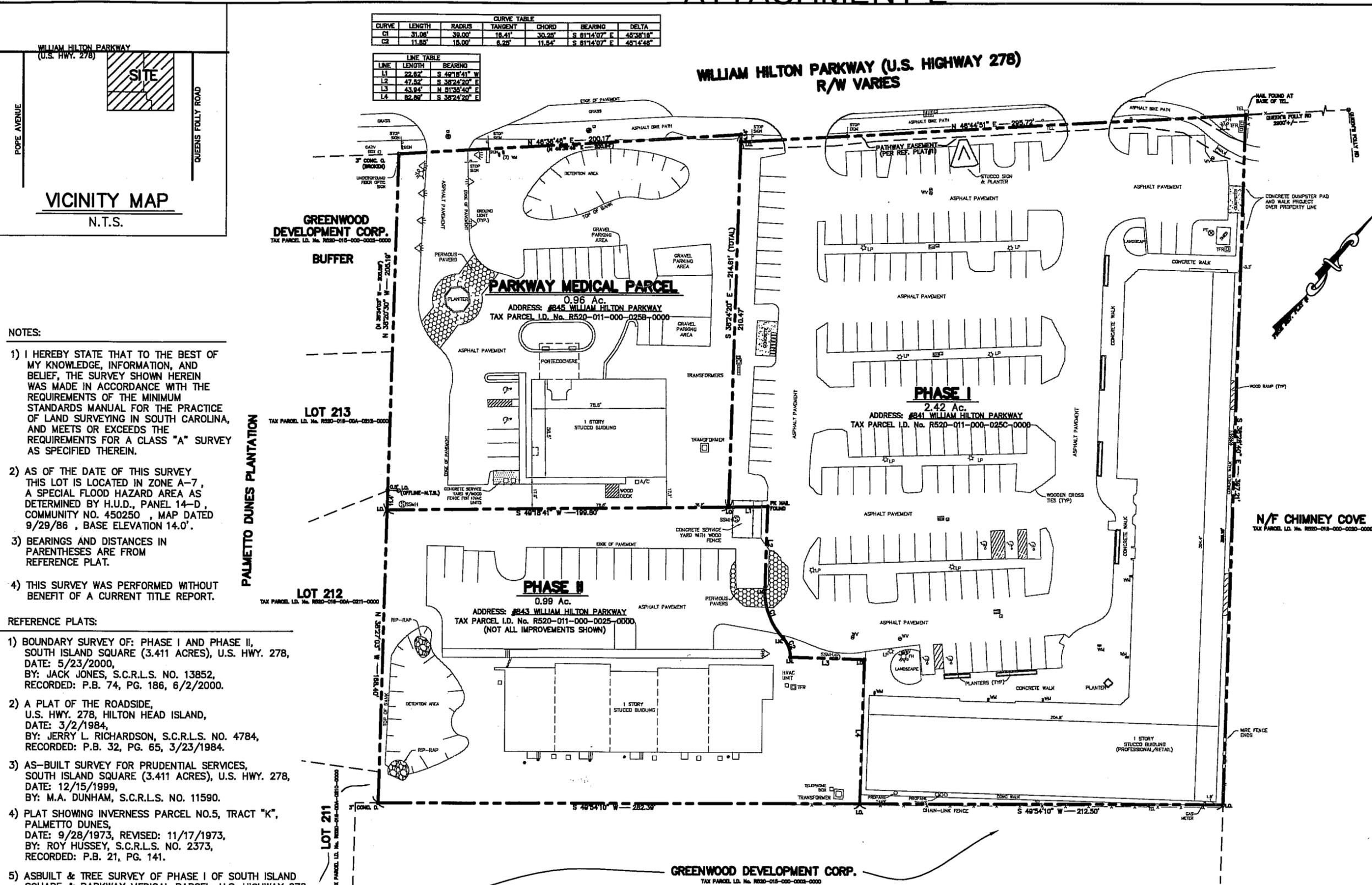
SURVEYING CONSULTANTS

17 Sherington Drive, Suite C
 Bluffton, SC 29910
 SC TELEPHONE: (843) 815-3304
 FAX: (843) 815-3305
 GA TELEPHONE: (912) 826-2775

SCALE: 1" = 60'
 DATE: 7/18/2011
 JOB NO: SC07123B

CREW: MP/CP
 CAD: RGL/AJ

COPYRIGHT © BY SURVEYING CONSULTANTS



NOTES:

- I HEREBY STATE THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREIN WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MINIMUM STANDARDS MANUAL FOR THE PRACTICE OF LAND SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.
- AS OF THE DATE OF THIS SURVEY THIS LOT IS LOCATED IN ZONE A-7, A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY H.U.D., PANEL 14-D, COMMUNITY NO. 450250, MAP DATED 9/29/86, BASE ELEVATION 14.0'.
- BEARINGS AND DISTANCES IN PARENTHESES ARE FROM REFERENCE PLAT.
- THIS SURVEY WAS PERFORMED WITHOUT BENEFIT OF A CURRENT TITLE REPORT.

REFERENCE PLATS:

- BOUNDARY SURVEY OF: PHASE I AND PHASE II, SOUTH ISLAND SQUARE (3.411 ACRES), U.S. HWY. 278, DATE: 5/23/2000, BY: JACK JONES, S.C.R.L.S. NO. 13852, RECORDED: P.B. 74, PG. 186, 6/2/2000.
- A PLAT OF THE ROADSIDE, U.S. HWY. 278, HILTON HEAD ISLAND, DATE: 3/2/1984, BY: JERRY L. RICHARDSON, S.C.R.L.S. NO. 4784, RECORDED: P.B. 32, PG. 65, 3/23/1984.
- AS-BUILT SURVEY FOR PRUDENTIAL SERVICES, SOUTH ISLAND SQUARE (3.411 ACRES), U.S. HWY. 278, DATE: 12/15/1999, BY: M.A. DUNHAM, S.C.R.L.S. NO. 11590.
- PLAT SHOWING INVERNESS PARCEL NO.5, TRACT "K", PALMETTO DUNES, DATE: 9/28/1973, REVISED: 11/17/1973, BY: ROY HUSSEY, S.C.R.L.S. NO. 2373, RECORDED: P.B. 21, PG. 141.
- ASBUILT & TREE SURVEY OF PHASE I OF SOUTH ISLAND SQUARE & PARKWAY MEDICAL PARCEL, U.S. HIGHWAY 278, DATE: 8/27/2007, BY: TERRY G. HATCHELL, S.C.R.L.S. NO. 11059.
- BOUNDARY & ASBUILT SURVEY OF 0.96 ACRE, PARKWAY MEDICAL CENTER, WILLIAM HILTON PARKWAY, DATE: 10/30/2007, BY: TERRY G. HATCHELL, S.C.R.L.S. NO. 11059, RECORDED: P.B. 123, PG. 51, 12/18/2007.

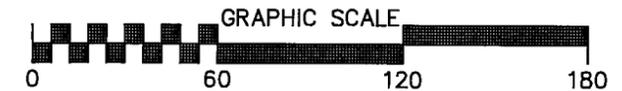
PREPARED FOR: **SOUTHEASTERN COMMERCIAL SERVICES, INC.**

CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	CHORD	BEARING	DELTA
C1	31.06'	39.00'	18.41'	30.28'	S 81°14'07" E	48°38'18"
C2	11.85'	18.00'	6.26'	11.84'	S 81°14'07" E	48°14'48"

LINE TABLE		
LINE	LENGTH	BEARING
L1	22.82'	S 49°18'41" W
L2	47.35'	S 38°24'20" E
L3	43.84'	N 81°35'40" E
L4	82.86'	S 38°24'20" E

AREA TABLE	
PHASE I	= 2.42 Ac.
PHASE II	= 0.99 Ac.
PARKWAY MEDICAL PARCEL	= 0.96 Ac.
TOTAL AREA	= 4.37 ACRES

ADDRESS: #841 & #845 WILLIAM HILTON PARKWAY
 TAX PARCEL I.D. NO. R520-011-000-025B&025C-0000





TOWN OF HILTON HEAD ISLAND

Community Development Department

TO: Stephen G. Riley, C.M., *Town Manager*
VIA: Teri Lewis, AICP, *LMO Official*
FROM: Nicole Dixon, CFM, *Senior Planner*
CC: Charles Cousins, AICP, *Director of Community Development*
DATE: September 30, 2011
SUBJECT: Proposed Resolution
ZMA110003 – South Island Square

The Town's Land Management Ordinance (LMO), specifically Section 16-3-1506, requires that the denial of a rezoning request be done by resolution. The attached resolution has been prepared in the event that Town Council votes to deny ZMA110003. If the proposed amendment is adopted then the attached resolution becomes null and void.

A RESOLUTION BY THE TOWN COUNCIL OF THE TOWN OF HILTON HEAD ISLAND DENYING THE APPLICATION FOR ZONING MAP AMENDMENT ZMA110003 WHICH REQUESTS AN AMENDMENT TO CHAPTER 4 OF TITLE 16, "THE LAND MANAGEMENT ORDINANCE" (LMO), OF THE MUNICIPAL CODE OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, BY AMENDING SECTION 16-4-102, THE OFFICIAL ZONING MAP WITH RESPECT TO THE CERTAIN PARCELS IDENTIFIED AS PARCELS 25, 25B AND 25C ON BEAUFORT COUNTY TAX MAP 11 FROM OL (OFFICE/INSTITUTIONAL LOW INTENSITY) TO THE CC (COMMERCIAL CENTER) ZONING DISTRICT.

WHEREAS, on July 21, 1998, the Town Council did amend Title 16 of the Municipal Code of the Town of Hilton Head Island by enacting a revised Land Management Ordinance ("LMO"); and

WHEREAS, the Planning Commission held a public hearing on said zoning map amendment application on September 7, 2011, at which time a presentation was made by staff and an opportunity was given for the public to comment on the rezoning request; and

WHEREAS, the Planning Commission, after consideration of the staff report, public comments, and the criteria set forth in Section 16-3-1505 of the LMO, voted unanimously to find the application consistent with the Comprehensive Plan and serves to carry out the purposes of the LMO; and

WHEREAS, the Planning and Development Standards Committee held a public meeting on September 28, 2011 to review said zoning map amendment application, at which time a presentation was made by staff and an opportunity was given for the public to comment on the rezoning request; and

WHEREAS, the Planning and Development Standards Committee, after consideration of the staff report, public comments, and the criteria set forth in Section 16-3-1505 of the LMO, voted unanimously to recommend that Town Council approve the proposed zoning map amendment application; and

WHEREAS, after due consideration of said zoning map amendment application and the recommendations of the Planning Commission and the Planning and Development Standards Committee, the Town Council, upon further review, now finds that the requested zoning map amendment does not meet the criteria as set forth in Section 16-3-1505 of the LMO.

NOW, THEREFORE, BE IT, AND HEREBY IT IS, RESOLVED BY THE TOWN COUNCIL FOR THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA, THAT THE TOWN COUNCIL HEREBY DENIES APPLICATION FOR REZONING ZMA110003.

MOVED, APPROVED, AND ADOPTED ON THIS _____ DAY OF _____, 2011.

Drew A. Laughlin, Mayor

ATTEST:

Cori Brock, Town Clerk

Approved as to form:

Gregory M. Alford, Town Attorney

Introduced by Council Member: _____



Hilton Head Island Fire & Rescue

Office of the Fire Chief
40 Summit Drive
Hilton Head Island, SC 29926
843.682.5153



TO: Town Council, Town of Hilton Head Island
FROM: Lavarn Lucas, Fire Chief
VIA: Stephen Riley, CM, Town Manager
DATE: October 3, 2011
SUBJECT: Port Security Grant Program – Fire Rescue Boat

Recommendation:

Town Council should accept the US Department of Homeland Security (DHS) grant #EMW-2011-PU-APP-00148 in the amount of \$292,045 for the purpose of purchasing a fire-rescue boat.

Summary:

The Town submitted a grant request in the amount of \$292,045 through the US DHS Port Security Grant Program in June of 2011 to support the purchase of a fire-rescue boat. Its design and construction would make it a multi-use unit specifically providing capabilities for suppressing boat fires as well as land based fires accessible only from the water; suitable for the rescue, treatment, and transport of critically injured or ill patients; and provide the ability to mitigate hazardous materials/WMD incidents on the waters in and around the Town limits. The grant is a 100% grant with no matching funds required by the Town.

The mission statement for Fire & Rescue is: *To provide fire, rescue, emergency medical and emergency services to our community and our visitors through an innovative, cost effective and efficient delivery system designed to enhance a safe environment for the public.* Fire & Rescue cannot comply with this mission statement because it cannot provide fire, rescue, or emergency care within the town limits of Hilton Head Island when the event happens in the marine environment. There is a recommendation in the Master Plan for the purchase of two boats *capable of providing* both the dive platforms and fire flow capabilities needed to comply with the stated mission. One boat will provide basic capabilities critical to Fire & Rescue's mission. This Master Plan recommendation has never been funded.

Ancillary cost that will be incurred upon acceptance of this recommendation would include costs associated with training, storage, maintenance, and operations. Existing personnel will be utilized resulting in no increase in staff. Initial training and certification costs are anticipated to be approximately \$20K and recur at a reduced amount annually. Initially the boat will be stored at a fire station (no cost) and towed to the closest available access point when a response is needed. A long-term storage location has not been determined but could range from in-water docking at a marina to a permanent waterside facility. Routine maintenance costs are estimated at \$3K per year. Operational costs are expected to be \$6K for fuel and an undetermined overtime cost which will depend on the number and duration of special events in which the boat may be placed into service.

Background:

Fire & Rescue's 1998 Master Plan included a recommendation for the purchase of a fire-rescue boat. The recommendation was not funded. Fire & Rescue then requested grant funds through the Assistance to Firefighters Grant (AFG) in 2003. The grant was not awarded. The 2004 Fire & Rescue Master Plan includes a recommendation for 2 fire-rescue boats. The boats were not funded. A 2nd AFG grant was requested in the 2004 AFG grant cycle but the grant was not awarded. Fire & Rescue stopped requesting AFG grant funding due to the programs financial limitations. In 2010, Fire & Rescue submitted a grant request under the Port Security Grant Program and was successful.

Justification of Need

Fire & Rescue provides fire protection, emergency medical services, rescue, and hazardous materials responses for the Town of Hilton Head Island. In addition to the Town's 53 square land miles, there is an additional 21 square miles of tidal water including the Atlantic Ocean, a significant portion of Port Royal and Calibogue Sounds, 8.5 miles of the Inter-Coastal Waterway, and 2 tidal creeks.

In the past 10 years (2001-2011) Fire & Rescue has responded to over 90 incidents of persons in the water, almost 80 water vehicle (boat, barge, etc.) fires, and more than 60 hazardous materials and special assistance calls totaling 238 incidents.

Beaufort County Sheriff's Office (BCSO) data indicates that they responded to a little over 80 emergency calls for assistance from boaters in the water in 2010. It is difficult to gather exact numbers on water emergencies within the boundaries of the Town because unlike fire and EMS responses, our E911 center is not the central receiving point for these requests for service. A call for water related emergencies could be initiated through a number of sources such as Beaufort County Dispatch, the US Coast Guard, Shore Beach Services, or Hilton Head Island E-911. Calls for water related service are numerous and Fire & Rescue is an integral component in mitigating these emergencies whether appropriately equipped or not.

There are 14 marinas within the Town, providing in-water berthing spaces for over 1,300 boats. A recent survey of the Broad Creek Marina alone, which is considered to be the smallest commercial marina, revealed that 25 of their slips were occupied (rented) and the total estimated fuel sitting in the water in these slipped boats was in excess of 5,000 gallons. This presents a significant Hazardous Materials risk. The safe handling of a spill or leak requires the use of a boat with HM technicians to mitigate and protect the environment. Considering the total number of berthed boats Island-wide, the potential is enormous.

Ferry traffic initiating from within the Town limits include:

- 13 round trips per day from Haig Point Embarkation to Daufuskie Island
- 10 round trips per day from Harbour Town to Daufuskie Island
- 3 round trips per day from Broad Creek Marina to Daufuskie Island
- Harbour Town (HHI) to Savannah – 4 round trip days a week (total trips per day vary)

Within our coastal water response area there are 10 barge trips per week to Daufuskie Island that includes propane to maintain the 18,000 gallon propane farm located on the Island, 3,000 gallons of gas, an undetermined amount of chlorine, and all food stuffs, medical equipment and consumables for the Daufuskie Island Community. The majority of these trips enter the Town limits enroute to Daufuskie.

Additional relevant information regarding boating and shipping traffic include:

- 2,760 vessels traverse the Savannah port annually
- Hilton Head Island is 4 miles from the Tybee Roads entrance to the Savannah port
- Calibogue Sound is an alternate entrance for vessels to enter the Savannah port
- Shipments of aircraft fuel (estimated at 375,000 gallons weekly) are shipped VIA the Intracoastal Waterway to MCAS Beaufort (exact quantities are classified)
- Beaufort County has over 12,000 registered boats (2010) many of which traverse the waters in and around the Town
- The anchorage point for vessels travelling in and out of the Savannah port awaiting approval for passage through the port is 4 miles from Hilton Head Island
- Hilton Head Island, SC waters is the United States Coast Guard's second busiest Search and Rescue location with Charleston Harbor being the first busiest
- The only bridge on and off Hilton Head Island spans the Intracoastal Waterway

Over the past several years, Fire & Rescue has relied upon the following entities to provide marine services but the capabilities of those agencies are limited.

- Shore Beach Services provides a quality service but they operate contractually only on the beaches of the Town between Fish Haul Creek to Braddock Cove. That leaves the majority of the Town's shore line, to include all marsh areas, inland creeks, and sounds, uncovered. During the beach season, Shore Beach Services has personal watercraft (PWC) available to affect rescues of people with limited or no injuries.
- The Beaufort County Sheriff's Office (BCSO) conducts marine patrols utilizing their own boats during most daytime hours and will conduct search and rescue missions. However, the BCSO has no capability to fight fires nor do they possess any hazardous material control capabilities.
- The US Coast Guard is tasked with conducting search and rescue operations but must come from Tybee or Charleston delaying their response. The US Coast Guard will not fight a marine or land based fire unless there are persons trapped. Their practice is to allow the fire to burn until the fire self-extinguishes. This can be disastrous to boats in marinas and our surrounding marshes.
- SC Department of Natural Resources (DNR) boat availability is limited due to serious state budget cuts. DNR has no capability to fight fires nor do they possess any hazardous material control capabilities.

The PWC and boats available from all of these agencies do not meet Fire & Rescue's needs. They are not designed to safely extricate injured patients from the water, cannot provide cervical spine immobilization for transport of spinal injuries, do not carry medical supplies, are not staffed by certified EMTs (except Coast Guard), are not capable of fighting fires, and have no hazardous materials control capabilities.

Ancillary Cost

Training:

Initial Training Cost

Six (6) Fire & Rescue personnel (two per shift) will be trained to the United States Coast Guard (USCG) Operator level (54 hours each). Nine (9) Fire & Rescue personnel (three per shift) will be trained in shipboard firefighting.

USCG Operator	6 @ \$1,000.00 ea.	\$ 6,000.00
Shipboard FF	9 @ \$1,000.00 ea.	\$ 9,000.00
Incidentals & Travel		<u>\$ 5,000.00</u>
		\$20,000.00

To accommodate turnover and professional development it is anticipated that three (3) additional Fire & Rescue personnel will be trained to USCG Operator and six (6) will be trained as shipboard firefighters.

Possible Recurring Training Cost

USCG Operator	3 @ \$1,000.00 ea.	\$ 3,000.00
Shipboard FF	6 @ \$1,000.00 ea.	\$ 6,000.00
Incidentals & Travel		<u>\$ 5,000.00</u>
		\$14,000.00

Operations and maintenance training will be provided by the vendor as a part of the purchase price without additional charge to the Town.

Storage:

Initially it is expected that the boat would be stored at a fire station until a suitable "in water" site is determined. Fire Station storage has minimal cost if any. Long term solutions include commercial rental of dock space at a marina in the water, or preferably a Town owned site with a covered lift to keep the unit immediately available but out of the water.

Dock space at a commercial marina is estimated at \$5,000 per year

A covered lift at a Town owned waterside facility is estimated at \$45,000

Routine Maintenance:

Regular servicing and Preventative Maintenance is estimated at \$3,000 per year.

Miscellaneous:

Fuel (1,200 gallons) is estimated at \$6,000 per year

Miscellaneous equipment (one time purchase) estimated at \$2,500.00

Insurance is estimated to be \$5,900 per year



TOWN OF HILTON HEAD ISLAND

Community Development Department

TO: Town Council
FROM: Stephen G. Riley, CM, *Town Manager*
DATE: October 7, 2011
RE: Proposed Redistricting Plan #3 (Modified Redistricting Plan #2)

RECOMMENDATION

Staff recommends Town Council review the attached proposed redistricting plans #2 and #3 and select the plan to be brought to the November 15, 2011 Town Council meeting for formal adoption.

SUMMARY

At the September 28, 2011 Intergovernmental Committee meeting proposed redistricting plan #2 was the plan selected for recommendation to Town Council for approval and submittal to the US Department of Justice. Following that meeting a Town Council member suggested to the Town Manager that the Town should explore a slight modification to the proposed redistricting plan #2. These modifications were made and proposed redistricting plan #3 was developed.

BACKGROUND

During the September 28, 2011 Intergovernmental Committee meeting staff presented proposed redistricting plan #1 and plan #2 for review. Public comments were taken on both proposed plans and Will Roberts of the South Carolina Office of Research and Statistics for the State Budget and Control Board addressed questions regarding redistricting procedures. The Intergovernmental Committee voted unanimously to recommend proposed redistricting plan #2 to Town Council as the preferred plan for Town Council to approve for submittal, via ordinance, to the US Department of Justice for consideration.

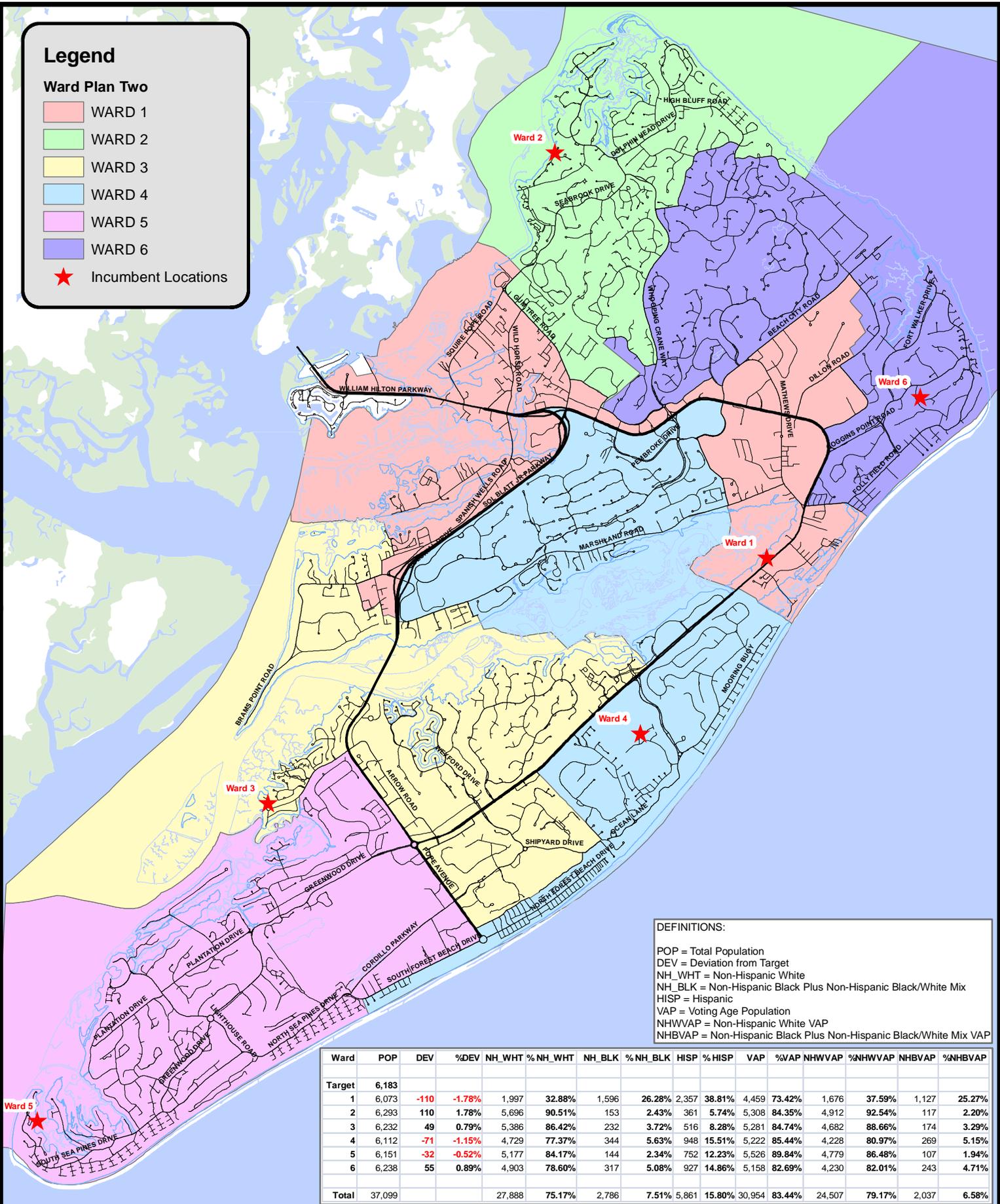
After the September 28, 2011 Intergovernmental Committee meeting a Town Council member suggested exploring slight modifications to proposed redistricting plan #2. Modifications were made to proposed redistricting plan #2 that did not adversely affect the statistical counts. The minority percentage in Ward 1 in fact increased from 26.28% to 26.43%. The target population count for all wards is 6,183. The two wards affected by the modifications are Ward 1 and Ward 4. In proposed plan #2 the Ward 1 population was 6,073 and the Ward 4 population was 6,112. In the modified plan, now referred to as proposed redistricting plan #3 the Ward 1 population increases by 53 to 6,126 and the Ward 4 population decreases by 53 to 6,059.

First reading of the proposed redistricting plans is scheduled for the November 15, 2011 Town Council meeting. During this meeting the three proposed redistricting plans must be considered prior to selecting one plan as the official recommendation to be submitted to the US Department of Justice.

Legend

Ward Plan Two

- WARD 1
- WARD 2
- WARD 3
- WARD 4
- WARD 5
- WARD 6
- ★ Incumbent Locations



DEFINITIONS:

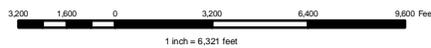
POP = Total Population
 DEV = Deviation from Target
 NH_WHT = Non-Hispanic White
 NH_BLK = Non-Hispanic Black Plus Non-Hispanic Black/White Mix
 HISP = Hispanic
 VAP = Voting Age Population
 NHWVAP = Non-Hispanic White VAP
 NHBVAP = Non-Hispanic Black Plus Non-Hispanic Black/White Mix VAP

Ward	POP	DEV	%DEV	NH_WHT	%NH_WHT	NH_BLK	%NH_BLK	HISP	%HISP	VAP	%VAP	NHWVAP	%NHWVAP	NHBVAP	%NHBVAP
Target	6,183														
1	6,073	-110	-1.78%	1,997	32.88%	1,596	26.28%	2,357	38.81%	4,459	73.42%	1,676	37.59%	1,127	25.27%
2	6,293	110	1.78%	5,696	90.51%	153	2.43%	361	5.74%	5,308	84.35%	4,912	92.54%	117	2.20%
3	6,232	49	0.79%	5,386	86.42%	232	3.72%	516	8.28%	5,281	84.74%	4,682	88.66%	174	3.29%
4	6,112	-71	-1.15%	4,729	77.37%	344	5.63%	948	15.51%	5,222	85.44%	4,228	80.97%	269	5.15%
5	6,151	-32	-0.52%	5,177	84.17%	144	2.34%	752	12.23%	5,526	89.84%	4,779	86.48%	107	1.94%
6	6,238	55	0.89%	4,903	78.60%	317	5.08%	927	14.86%	5,158	82.69%	4,230	82.01%	243	4.71%
Total	37,099			27,888	75.17%	2,786	7.51%	5,861	15.80%	30,954	83.44%	24,507	79.17%	2,037	6.58%



TOWN OF HILTON HEAD ISLAND
 ONE TOWN CENTER COURT
 HILTON HEAD ISLAND, S.C. 29928
 PHONE (843) 341-4600
 Date Created: June 9, 2011
 Project: Ward2011_Plan2_Split_ward (v01)

Town of Hilton Head Island Redistricting 2011 - Ward Plan Two June 9, 2011

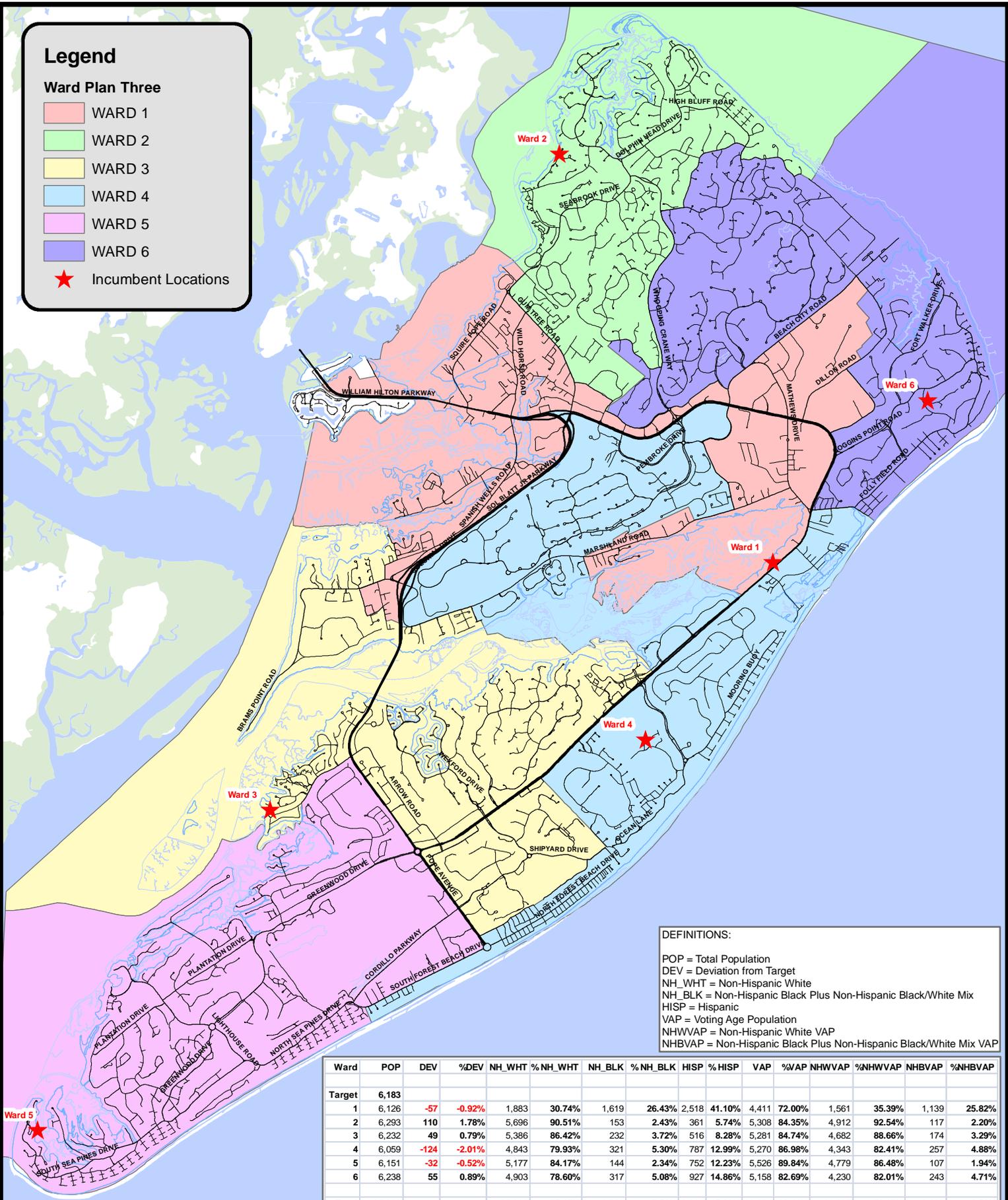


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Legend

Ward Plan Three

- WARD 1
- WARD 2
- WARD 3
- WARD 4
- WARD 5
- WARD 6
- Incumbent Locations

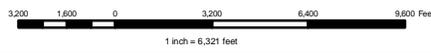


DEFINITIONS:

POP = Total Population
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Ward	POP	DEV	%DEV	NH_WHT	%NH_WHT	NH_BLK	%NH_BLK	HISP	%HISP	VAP	%VAP	NHWVAP	%NHWVAP	NHBVAP	%NHBVAP
Target	6,183														
1	6,126	-57	-0.92%	1,883	30.74%	1,619	26.43%	2,518	41.10%	4,411	72.00%	1,561	35.39%	1,139	25.82%
2	6,293	110	1.78%	5,696	90.51%	153	2.43%	361	5.74%	5,308	84.35%	4,912	92.54%	117	2.20%
3	6,232	49	0.79%	5,386	86.42%	232	3.72%	516	8.28%	5,281	84.74%	4,682	88.66%	174	3.29%
4	6,059	-124	-2.01%	4,843	79.93%	321	5.30%	787	12.99%	5,270	86.98%	4,343	82.41%	257	4.88%
5	6,151	-32	-0.52%	5,177	84.17%	144	2.34%	752	12.23%	5,526	89.84%	4,779	86.48%	107	1.94%
6	6,238	55	0.89%	4,903	78.60%	317	5.08%	927	14.86%	5,158	82.69%	4,230	82.01%	243	4.71%
Total	37,099			27,888	75.17%	2,786	7.51%	5,861	15.80%	30,954	83.44%	24,507	79.17%	2,037	6.58%

Town of Hilton Head Island Redistricting 2011 - Ward Plan Three October 6, 2011



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TOWN OF HILTON HEAD ISLAND

Community Development Department

TO: Steve Riley, CM, Town Manager
VIA: Shawn Colin, AICP, Comprehensive Planning Manager
FROM: Trudie Johnson, NCARB, CBO, CFM, Floodplain Administrator
CC: Charles Cousins, Director of Community Development
DATE: August 30, 2011
SUBJECT: Adoption of the Beaufort County Hazard Mitigation Plan, Appendix to the Comprehensive Plan

Recommendation: At their August 24, 2011 meeting, the Planning and Development Standards Committee moved to forward the attached ordinance and the 2009 Beaufort County Hazard Mitigation Plan Update to the Town Council with a recommendation to adopt the Plan as an Appendix of the Comprehensive Plan.

Summary: Beaufort County, South Carolina and its incorporated communities prepared this Hazard Mitigation Plan to assess the communities' vulnerabilities to natural hazards, to prepare a long term strategy to address these hazards and to prevent future damage and loss of life. This Plan was created through participation from county and municipal officials, residents and business owners and, as such, represents the community's consensus. The modified Plan has been approved by both State and Federal reviewing agencies.

Background: The 2009 update to the Beaufort County Hazard Mitigation Plan will replace the original Beaufort County Hazard Mitigation Plan prepared in 2004 as required by the Disaster Mitigation Act of 2000. The adoption of the updated 2009 Plan will fulfill the continuing requirements that qualify the Town of Hilton Head Islands for FEMA pre disaster mitigation grants, post disaster reconstruction assistance and continued participation in the Community Rating System.

AN ORDINANCE OF THE TOWN OF HILTON HEAD ISLAND

ORDINANCE NO. 2011-_____ PROPOSED ORDINANCE NO. 2011- 23_____

**AN ORDINANCE OF THE TOWN OF HILTON HEAD ISLAND
ADOPTING THE “BEAUFORT COUNTY HAZARD MITIGATION
PLAN” AS AN APPENDIX OF THE “HILTON HEAD ISLAND
COMPREHENSIVE PLAN”; AND TO PROVIDE FOR SEVERABILITY
AND AN EFFECTIVE DATE.**

WHEREAS, in 2010, the Town Council of the Town of Hilton Head Island, South Carolina adopted the Hilton Head Island Comprehensive Plan; and

WHEREAS, the Beaufort County Hazard Mitigation Plan was adopted as an Appendix to the 2005 Hilton Head Island Comprehensive Plan; and

WHEREAS, the Beaufort County Hazard Mitigation Plan is required to be re-evaluated by the Disaster Mitigation Act of 2000 every five years to assess the communities’ vulnerabilities to natural hazards and to prepare a long term strategy to address these hazards and prevent future damage and loss of life; and

WHEREAS, the Beaufort County Hazard Mitigation Plan was re-evaluated and revised through participation from county and municipal officials, residents and business owners and represents the community’s consensus; and

WHEREAS, the adoption of the Beaufort County Hazard Mitigation Plan will fulfill the requirements for continued participation in the Community Rating System as well as qualify the Town of Hilton Head Island for FEMA pre disaster grants and post disaster reconstruction assistance; and

WHEREAS, the Comprehensive Plan Committee of the Hilton Head Island Planning Commission reviewed the Beaufort County Hazard Mitigation Plan at their meeting of June 15, 2011 and recommended that the Plan be sent to the Hilton Head Island Planning Commission for their consideration; and

WHEREAS, the Hilton Head Island Planning Commission held a public hearing on July 20, 2011 to receive comments from the public about the Beaufort County Hazard Mitigation Plan and recommended that the Plan be sent to the Planning and Development Standards Committee of the Town Council for their consideration; and

WHEREAS, on August 24, 2011, the Planning and Development Standards Committee voted to recommend to the Town Council the adoption of the Beaufort County Hazard Mitigation Plan; and

WHEREAS, Town Council now desires to adopt the Beaufort County Hazard Mitigation Plan as an appendix to the Town of Hilton Head Island Comprehensive Plan as recommended by the Planning and Development Standards Committee.

NOW, THEREFORE, BE IT ORDERED AND ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA; AND IT IS ORDAINED BY SAID AUTHORITY OF COUNCIL:

Section 1. Adoption. That the Beaufort County Hazard Mitigation Plan is hereby adopted as an appendix to the Town of Hilton Head Island Comprehensive Plan of the Town of Hilton Head Island, South Carolina.

Section 2. Severability. If any section, phrase, sentence or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

Section 3. Effective Date. This Ordinance shall be effective upon its adoption by the Town Council of the Town of Hilton Head Island, South Carolina.

PASSED, APPROVED, AND ADOPTED BY THE COUNCIL FOR THE TOWN OF HILTON HEAD ISLAND ON THIS _____ DAY OF _____ 2011.

Drew Laughlin, Mayor

ATTEST:

Cori Brock, Town Clerk

Public Hearing: 7-20-2011 and 10-18-2011
First Reading: 10-18-2011
Second Reading:

APPROVED AS TO FORM:

Gregory M. Alford, Town Attorney

Introduced by Council Member: _____



What is a Hazard Mitigation Plan ?

“...a forward thinking assessment of the Community’s vulnerability to natural hazards with long term strategies to address the hazards so that future property damage and loss of life is prevented.”



Why must we have a Hazard Mitigation Plan?

The Federal Disaster Mitigation Act of 2000 required that the Hazard Mitigation Plan be prepared, adopted, implemented, evaluated and updated every five years as a condition of certain Federal Programs:

- Hazard Mitigation Grant Program (HMGP)
- Pre Disaster Mitigation (PDM) funds
- Post Disaster Public Assistance Programs
- National Flood Insurance Program's Community Rating System (CRS)



**Beaufort County, South Carolina
Hazard Mitigation Plan**

for
Unincorporated Beaufort County
The City of Beaufort
The Town of Bluffton
The Town of Hilton Head Island
The Town of Port Royal

FINAL
JULY 2004

Prepared for:
**Beaufort County
Building Codes**
100 Ribaut Road
Beaufort, SC

Prepared by:
Greenhorne & O'Mara, Inc.
9001 Edmonston Road
Greenbelt, MD 20770

In Cooperation with:
The Mitigation Assistance Corporation
Boulder, CO



Elements of the 2004 Hazard Mitigation Plan

- Organize the Community's Resources
- Identify the Community's Historic Hazards
 - Hurricanes and Tropical Storms
 - Flooding
 - Wind Storms and Tornadoes
 - Earthquakes
 - Wildfires
 - Drought
 - Erosion
- Assess the Community's Vulnerability to the Hazards
- Assess the Community's current capacity to Mitigate Hazards
- Develop Goals and Objectives to prevent Loss of Life and Property and avoid Economic Disruption
- Prepare an Action Plan to implement the Goals and Objectives



What is required for the 2009 Hazard Mitigation Plan?

- Plan has been Monitored and Evaluated Yearly since 2004
- Plan assesses the Success of 2004 Goals and Actions Items
- Integrate Mitigation Priorities into the Update of the Comprehensive Plan's Vision
- Invite Community Comment on Goals and Action Items
- Plan Update must be prepared following the 6 Step Process then approved by SCEMD and FEMA
- Plan must be Adopted with Goals and Action Items for the next Five Years



Goals and Objectives of the 2009 Hazard Mitigation Plan

- Goal 1: Provide Improved Protection for our Critical Facilities
- Goal 2: Enhance Public Education on the Dangers of Natural Hazards
- Goal 3: Integrate the Hazard Mitigation Plan Goals into the Comprehensive Plan Vision
- Goal 4: Protect Community Historic Preservation Resources
- Goal 5: Promote Seismic Safety
- Goal 6: Continue the Implementation of the Island's Drainage Improvements
- Goal 7: Preserve and Protect our Natural Resources
- Goal 8: Ensure that Emergency Response Personnel are Adequately Equipped
- Goal 9: Ensure the Community is in full Compliance with NFIP Regulations and Flood Insurance Rate Maps are Accurate and Up to Date
- Goal 10: Promote the Adoption and Enforcement of the Current Editions of the Universally Accepted Building Code Standards

**BEAUFORT
HAZARD MITIGATION PLAN
2009 UPDATE**

for

**Unincorporated Beaufort County
The City of Beaufort
The Town of Bluffton
The Town of Hilton Head Island
The Town of Port Royal**

Prepared by:

**Lowcountry Council of Governments
Planning Department**

December 2009

TABLE OF CONTENTS

1. Introduction	1-1
Background	1-1
Planning Process	1-3
Getting Organized	1-3
Committee	1-4
Assess Hazards and Vulnerabilities	1-6
Develop a Mitigation Plan	1-6
Other Agencies	1-8
Evaluate Your Work	1-8
Public Involvement	1-8
Federal Funding Sources for Mitigation	1-9
2. Hazard Identification and Profiles	2-1
Introduction	2-1
Hurricanes, Tropical Storms	2-1
Past Occurrences of Hurricanes	2-2
September 1804	2-6
August 1854	2-6
August 1893	2-6
October 1902	2-7
August 1940	2-7
October 1944	2-7
Hurricane Cindy – July 1959	2-7
Hurricane Gracie - September 1959	2-7
Hurricane Donna – September 1960	2-8
Hurricane David – September 1979	2-8
Hurricane Bob – July 1985	2-8
Hurricane Hugo – September 1989	2-8
Hurricane Bertha – July 1996	2-8
Hurricane Floyd – September 1999	2-8
Past Occurrences of Tropical Storms	2-9
Future Probabilities of Hurricanes	2-9
Past Occurrences of Nor’Easters	2-10
Flooding	2-11
Past Occurrences of Flooding	2-14
Future Probabilities of Flooding	2-14
Erosion	2-18
Past Occurrences and Future Probabilities of Erosion	2-18
Winter Storms	2-20
Past Occurrences of Winter Storms	2-20
Future Probabilities of Winter Storms	2-21
Drought	2-21
Wind: Thunderstorms and Tornadoes	2-22
Past Occurrences of Thunderstorms	2-22
Future Probability of Thunderstorms	2-22
Tornadoes	2-22
Past Occurrences of Tornadoes	2-24
Future Probabilities of Tornadoes	2-25

Earthquakes	2-26
Past Occurrences of Earthquakes	2-27
<i>Earthquakes near Beaufort County: potentially a major impact.</i>	2-27
1886 Earthquake	2-28
Future Probabilities of Earthquakes.....	2-29
Fire.....	2-29
Past Occurrences of Fire	2-30
Future Probabilities of Fire Community/ Public Affairs Manager, Community/.....	2-31
Hazards not Historically Prevalent.....	2-31
Dam Failure.....	2-31
Landslides	2-32
Tsunamis.....	2-32
Volcanic Hazards	2-33
3. Vulnerability Assessment.....	3-1
Vulnerability Summary	3-1
Social Vulnerability	3-4
Inventory Information.....	3-5
Flooding	3-7
Floodplain.....	3-7
Flood Depths	3-8
City of Beaufort.....	3-8
Town of Bluffton.....	3-8
Town of Hilton Head	3-8
Town of Port Royal	3-8
Unincorporated County – Bluffton Township	3-9
Unincorporated County – Dafuskie.....	3-9
Unincorporated County – Fripp Island	3-9
Unincorporated County – St. Helena	3-9
Unincorporated County – Sheldon-Dale	3-9
Flood Prone Structure Counts	3-10
Critical Facilities.....	3-14
Repetitive Loss Areas	3-16
Unincorporated County.....	3-16
Beaufort	3-16
Bluffton	3-16
Port Royal.....	3-16
Hilton Head.....	3-17
Transportation	3-18
Conclusions	3-20
Erosion.....	3-20
Beaufort County	3-21
City of Beaufort	3-21
Town of Bluffton	3-21
Town of Hilton Head Island.....	3-21
Town of Port Royal	3-21
Vulnerability Assessment Summary	3-22
HAZUS-MH Data for the 2009 Update.....	3-23
2004 HAZUS Information	3-25
4. Community Mitigation Capability Assessment	4-1

Beaufort County:	4-3
Comprehensive Plan, 2007:.....	4-3
Zoning & Development Standards.....	4-4
Hurricane Response & Recovery Guide.....	4-4
Emergency Operations Plan.....	4-4
Other.....	4-5
City of Beaufort:	4-5
Comprehensive Plan, 2009 revision.....	4-5
Unified Development Ordinance, 2006.....	4-7
Town of Bluffton	4-8
Comprehensive Plan, 2007:.....	4-8
Zoning Ordinance.....	4-9
Stormwater BMP Manual, 2007.....	4-10
Unified Development Ordinance.....	4-10
Town of Hilton Head Island:	4-10
Comprehensive Plan, 2009.....	4-10
Beaufort County Hazard Mitigation Plan.....	4-11
Island Wide Drainage Study, August 30, 1995.....	4-12
Floodplain Management and Land Management Ordinance.....	4-13
Town of Port Royal:.....	4-14
Comprehensive Plan (update nearly complete in 2009).....	4-14
Building Regulations.....	4-15
Town Code.....	4-15
The Local Government Capability Matrix.....	4-16
State Plans and Regulations.....	4-19
Federal Regulations.....	4-21
5. Mitigation Goals and Objectives.....	5-1
Introduction.....	5-1
Goals and Objectives for the Mitigation Plan.....	5-1
6. Mitigation Action Plan (and update of previous actions).....	6-1
<i>Explanation of Tables</i>	6-1
<i>National Floodplain Insurance Program—prioritization and participation</i>	6-2
<i>Addressing Known Risks and Vulnerabilities</i>	6-2
<i>Benefit-to-Cost Review</i>	6-4
<i>Cost Benefit Review—Prioritization of Mitigation Actions</i>	6-4
<i>Multi-jurisdictional action items</i>	6-5
<i>Implementing the Actions</i>	6-11
<i>Actions Incorporated into the Mitigation Plan and Implementation</i>	6-15
<i>Implementation through Existing Plans and Programs</i>	6-15
<i>Continued Public Involvement</i>	6-16
<i>The Next Planning Cycles</i>	6-16
<i>Idealized schedule of implementation</i>	6-17
<i>Monitoring, Evaluating, and Updating the Plan</i>	6-17
<i>Plan Maintenance</i>	6-17
Updating the Plan.....	6-18
<i>Potential Funding Sources</i>	6-18

7. References (includes original plans references and any updates)..... 7-0

Appendix A – Meeting Agendas and Notes

Appendix B – Hazard Mitigation Planning Committee Meeting Sign-In Sheet(s)

Appendix C—Planning Meeting Notes

Appendix C – Public Meeting Advertisements/Newspaper

LIST OF FIGURES

Figure 1-1. Beaufort County Locator Map.....	1-1
Figure 1-2 Beaufort County and Incorporated Areas	1-2
Figure 2-1. Storm Tracks Passing through Beaufort County, 1850-2008.....	2-4
Figure 2-2. Storm Tracks through and within 50 miles of Beaufort County, 1850-2006	2-5
Figure 2-3. Beaufort County Waterways	2-13
Southern Beaufortcounty Storm Surge Inundation	2-19
Figure 2-8. Historical Epicenter Locations 1698 to 2008.....	2-28
Figure 3.1 Social Vulnerability	3-5
Figure 3-2. Structures in Beaufort County.....	3-6
Table 3-5. Critical Facilities	3-7
Figure 3-4. Repetitive Loss Areas in Hilton Head	3-18
Figure 3-5. Major Routes in the Floodplain in Beaufort County	3-19

LIST OF TABLES

Table 2-1. Saffir-Sampson Scale and Typical Damages.....	2-3
Table 2-2. Storm Tracks Passing through Beaufort County 1850-2008.....	2-4
Table 2-5. Shoreline Characteristics.....	2-19
Table 2-6. Time Spent in Drought Conditions, 1925-2000.....	2-21
Table 2-7. Enhanced Fujita Tornado Scale.....	2-23
Table 2-9. Estimated Recurrence Intervals of Tornadoes (based on data from 1950 to 2006).....	2-26
Table 2-10. Richter Scale Magnitude Classes.....	2-27
Table 2-11. Estimated Recurrence Intervals of Earthquakes in Beaufort County.....	2-29
Table 2-13, Overall Probability Table.....	2-33
Table 3.1 Assessor Valuation Data.....	3-1
Table 3.2 Loss information per hazard in Beaufort County based on historical data (NCDC).....	3-2
Table 3.3 Overall Vulnerability Summary.....	3-3
Table 3.4 Multi-jurisdictional Risk Assessment, varied and unique risks.....	3-4
Table 3-6. Number of Structures in Flood Zones.....	3-10
Table 3-7. Structures in Flood Zones in Unincorporated Beaufort County by Planning District.....	3-12
Table 3-8. Flood Insurance Policies as of May 2009.....	3-12
Table 3-9. Structures in Storm Surge Zones in Beaufort County by Planning District.....	3-13
Table 3-10. Structure Inundation 100 year Floodplain versus the Category 2 Storm Surge.....	3-13
Table 3-11. Critical Facilities located in the 100-year floodplain of Incorporated Communities.....	3-14
Table 3-12. Critical Facilities located in the 100-year floodplain of the Unincorporated County.....	3-15
Table 3-13, Vehicle Ownership Increases vs. Miles of New Roadway in Evacuation Area.....	3-19
Table 3.14, Development Trends at a glance.....	3-22
Table 3-15. Ranking of Perceived Risk due to Hazards by Community.....	3-22
Table 3-16, Data with increases based on building permit data.....	3-23
Table 3-17 Wind Scenarios based on building increases (damage sustained).....	3-24
Table 3-18 Total Buildings Damaged from earthquake of 6.9 Magnitude.....	3-24
Table 3-19. Wind Damage Percentages for Structure Classifications based on the Level of Engineering Design.....	3-26
Table 3-20. Building Types Grouped by Level of Engineering Design.....	3-27
Table 3-23. Building Type Distribution by Engineering Design Level.....	3-28

Table 3-24. Replacement Values for Structures Based on the Degree of Engineering Design (dollars in thousands)	3-29
Table 3-25. Damage Assessments for a Category 1 Hurricane Wind Event (dollars in thousands)	3-29
Table 3-26. Damage Assessments for a Category 3 Hurricane Wind Event (dollars in thousands)	3-30
Table 3-27. HAZUS Moderate Structural Damage Descriptions	3-32
Table 3-28. Building Count by General Building Type	3-33
Table 3-29. Number of Structures Incurring at Least Moderate Damage for a ML = 6.9 Event.....	3-33
Table 3-30. Number of Structures Incurring at Least Moderate Damage for a ML = 5.9 Event.....	3-34
Table 4-1. Beaufort County Documents used for Capability Assessment.....	4-2
Table 4.2 Capability Matrix	4-17
Table 4-3. Regional Hurricane Shelters in Adjacent Counties	4-19
Table 6.1, Prioritization Scoring Table	6-3
Table 6.2, Previous Mitigation Actions and Status Report	6-6
Table 6.4 Hilton Head Island New Mitigation Actions.....	6-12

1. Introduction

Beaufort County, South Carolina and its incorporated communities prepared this update to their Hazard Mitigation Plan to assess the communities' vulnerabilities to natural hazards and prepare a long term strategy to address these hazards and prevent future damage and loss of life. This plan was created through participation from county and municipality officials, residents, and business owners and represents the community's consensus.

Background

Beaufort County is situated along the southern portion of South Carolina's Atlantic coastline (as shown in Figure 1-1) and has an area of 587 square miles. It lies in the coastal plain and is comprised largely of tidal marshes and swamp areas; the county has little relief with a high elevation of approximately 50 ft National Geodetic Vertical Datum 1929 (NGVD 29). Beaufort County's climate is generally subtropical with hot summers and mild winters. The average annual rainfall is approximately 49 inches with most precipitation occurring from April to October.



Figure 1-1. Beaufort County Locator Map

Beaufort County is one of the state's fastest growing counties (by population percentage increase) with a 2000 population of 120,937 (U.S. Census) which represented a 40% increase from the 1990 population. The 2008 population estimate was just over 150,000, representing 24.36 percent increase in eight years. Where there is population growth, there is usually also significant development. According to the U.S. Census in 2000 over 2,600 building permits were issued for housing units in the county. While the recent economic climate has slowed the building industry since 2004 there have been an average of about 2609 total building permits issued with 4,053 being the largest number of permits. Obviously, growth continues to occur.

There are five incorporated municipalities within the county: the Town of Bluffton, the City of Beaufort, the Town of Hilton Head, the Town of Port Royal, and a portion of the Town of Yemassee. The majority of Yemassee lies within Hampton County to the northwest of Beaufort County, and therefore they chose to participate in Hampton County's Hazard

Mitigation Plan Process, which is also currently underway. The City of Beaufort is the County Seat. A map of the county showing the locations of the incorporated communities is provided as Figure 1-2.

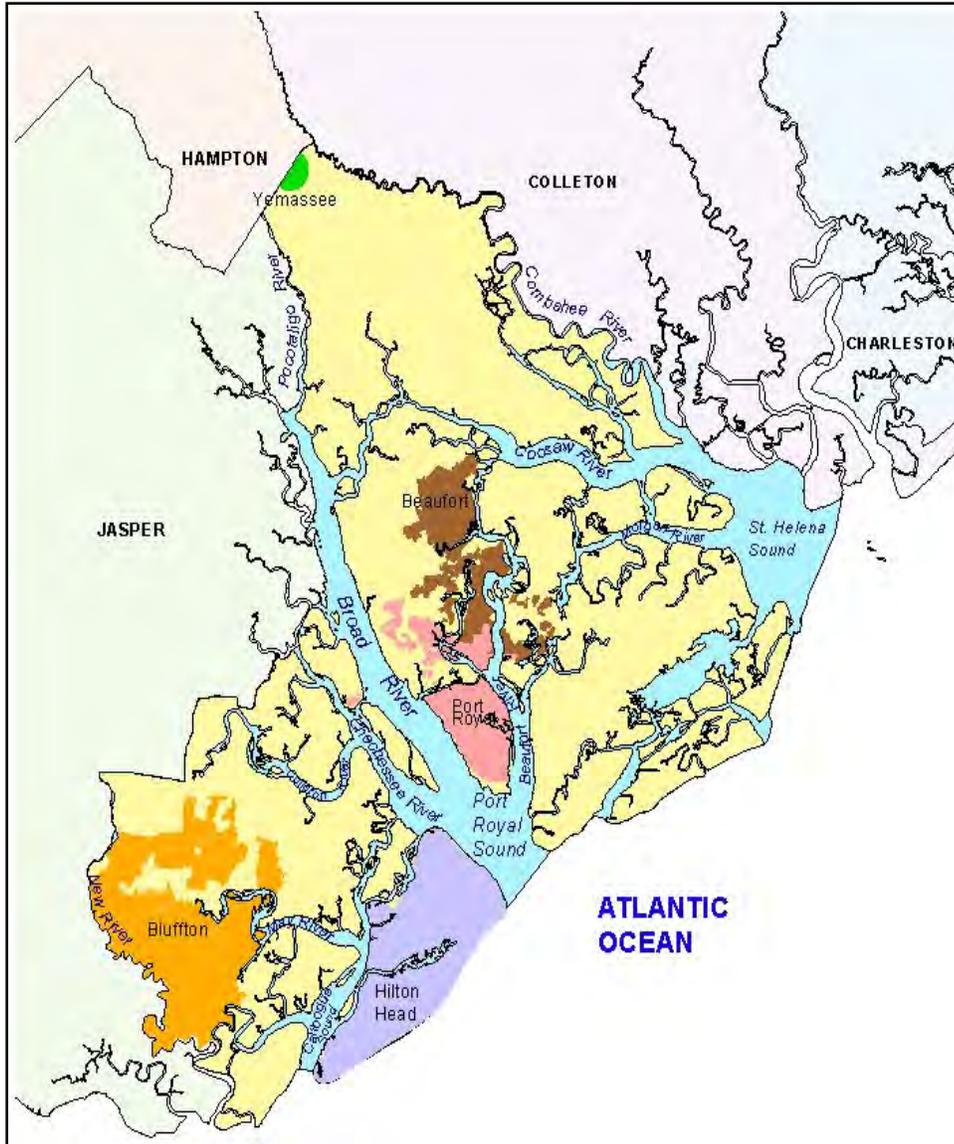


Figure 1-2 Beaufort County and Incorporated Areas

Beaufort County's coastal location makes it susceptible to flooding, erosion, and wind hazards associated with hurricanes, tropical storms and nor'easters. Furthermore, its proximity to the Charleston area, one of the most seismically active areas along the East Coast, makes it vulnerable to seismic hazards. The county's susceptibility to these and several other natural hazards were considered as part of this plan.

Planning Process

In order to conduct hazard mitigation planning, a committee was formed consisting of officials from the county and each of the participating communities. The formation of this committee was based on the members who participated in the original hazard mitigation plan. Participation by communities in the planning process was defined as attendance (at least once) of at least one representative from each jurisdiction and/or agency and one-on-one meetings with LCOG staff to both gather information and also to review suggested changes to such key components of the Plan as Mitigation capability Assessments and Action Plan items, thereby incorporating the review process. Through these meetings, this Hazard Mitigation Planning Committee developed a countywide Hazard Mitigation Plan.

It is important to note that the Town of Yemassee, an original participant in the plan, did not participate in this update. While they are partly in Beaufort County, they also have a large portion of their boundaries within Hampton County, SC. Representatives of the Town were contacted, but they have chosen to participate in the three-county multi-hazard mitigation plan that will include Colleton, Hampton and Jasper Counties. LCOG is also the consultant for that project.

The committee reviewed the county's vulnerabilities to natural hazards and considered a wide variety of ways to reduce and prevent potential damage from these hazards. The committee then worked together to select the most appropriate and feasible mitigation measures.

To be effective, many of these measures, particularly floodproofing and emergency preparedness plans, require the cooperation of the floodplain residents. Because residents were involved in the hazard mitigation planning process through public meetings, and attempts to garner their input was made throughout the process. Following is a detailed description of the planning process and the committee's role.

Getting Organized

The first step of the hazard mitigation planning process was for the County to organize their resources by ensuring they had adequate technical assistance and expertise to conduct the planning process and to form a Hazard Mitigation Planning Committee to include representation from key county and municipal agencies such as planning departments, emergency management departments and building code inspection.

Support for the update of this plan was provided by the planning department at the Lowcountry Council of Governments under contract to Beaufort County. Each jurisdictions reviewed all of the technical information in the plan, and provided pertinent GIS, construction valuation and other data as necessary for updates. Accordingly, existing planning documents were evaluated to examine which documents support mitigation and where mitigation may be incorporated into existing plans.

Committee

A Hazard Mitigation Planning Committee (HMPC) was formed to work together to update the 2004 hazard mitigation plan and to conduct a hazard mitigation planning process compliant with Disaster Mitigation Act of 2000 (DMA), Flood Mitigation Assistance (FMA), and Community Rating System (CRS) planning requirements. A DMA Mitigation Plan Crosswalk is included as Appendix A. A steering committee was formed from a few highly involved individuals, who were contacted frequently throughout this process. For this plan, the steering committee was Trudie Johnson, Linda Bridges, Arthur Cummings, Libby Anderson, Ed Nelson, Matthew Brady and Ginnie Kozak. The HMPC consists of representatives from Beaufort County, the City of Beaufort, the Town of Hilton Head, and the Town of Port Royal. The HMPC is composed of the following members including county and municipality staff and representatives for the residents, military facilities and utilities:

Community Officials

Matthew Brady, Senior Planner, Lowcountry Council of Governments
Libby Anderson, Planning Director, City of Beaufort
Linda Bridges, Town of Port Royal Planning Administrator
Andy Corriveau, County Codes/Insurance
Arthur Cummings, Director, Beaufort County Building Codes
Ian Hill, Beaufort County Historic Preservationist
Frank Hodge, Town of Bluffton Building Official
Jay Hogan, Beaufort County Planner
Trudie Johnson, Town of Hilton Head Island, Floodplain Administrator.
Colin Kinton, Beaufort County
Ginnie Kozak, Low Country Council of Governments

Ed Nelson, Deputy Building Official, Beaufort County Building Codes
William Winn, Director, Beaufort County Emergency Management
John Webber, Disaster Recovery, Beaufort County.
Todd Ferguson, Beaufort County Emergency Management

Military Facility Representative

Marine Corps Recruit Depot - Parris Island, Operations Officer

Utility Representatives

Ken Jordan, BJWSA
Dick Deuel, BJWSA

Furthermore, each of the Counties in the Lowcountry Region (Hampton, Jasper, Colleton) were contacted and consulted at a June 30, 2009 meeting. They gave valuable input for inclusion into the Beaufort County Plan.

Beaufort County contracted the Lowcountry Council of Governments (LCOG) to help the community perform hazard mitigation planning and develop the plan. The following is documentation of what happened at the meetings of the Hazard Mitigation Planning Committee. See Appendix A.

Development of the mitigation plan began with data collection. A kick-off meeting was held in March 2009 to begin the process of updating the plan. Community, county, state, and federal resources were identified and contacted to collect pertinent information about natural hazards including past occurrences, projected frequencies of future occurrence/the anticipated risk where available, and asset (structure, utility, and transportation systems) inventory information. Here the planning team also began to take a more definite form in terms of the makeup of the HMPC.

On May 13, 2009 another meeting was held. Here policy and regulatory information from each of the communities and the county was reviewed. This included comprehensive plans, zoning ordinances, development ordinances, and building code requirements. The LCOG compiled a report on these documents in regards to their compatibility with the Hazard Mitigation Plan and the HMPC was presented with this information. This list was also sent out electronically, and all participants were allowed to comment at the meeting and via e-mail. Also, the group present confirmed the members of the HMPC.

Information was collected from the Beaufort County Building Code Department, Planning Department, GIS Department, and Emergency Management Department. Several state agencies were contacted including the South Carolina Emergency Management Division, the Department of Natural Resources, and The University of South Carolina Hazards Research Lab. Information was collected from agencies such as The Department of Health and Environmental Control – Office of Ocean and Coastal Resource Management, the Forestry Commission, and the Geologic Survey.

At the May 13 meeting goals, objectives and mitigation actions were distributed to the HMPC for their review (see APPENDIX A, Handouts). The HMPC was directly involved in deciding what goals and actions were needed in order to further hazard mitigation within the County. They reviewed each of the previous goals for completion and established new goals. These goals, objectives and actions were collected at the HMPC meetings, through personal visits and through electronic mail. Through review of the identified hazards was discussed in order to make sure no possible mitigation action was “left out” of the plan. Finally, the staff was informed about the requirements of the updates and a review of all sections of the plan was performed.

Assess Hazards and Vulnerabilities

The next job of the HMPC was to perform a hazard identification, vulnerability assessment and risk assessment for the entire county. This process allowed the committee to analyze the county's greatest hazard threats and to determine its most significant vulnerabilities. GIS data from the County, Hilton Head Island, and state sources was used. The State of South Carolina at the time of this update, had contracted with the University of South Carolina geography department in order to collect the latest information on hazard assessment. That information has been used in this plan. At the first HMPC Meeting held on May 2009, an overview of the planning process was presented to the committee and the committee reviewed the first draft of the Hazard Identification and Vulnerability Assessment. The final assessment was later updated by LCOG staff using the data from the SC Hazard Research Lab. This assessment was reviewed, in turn, by a subcommittee of HMPC members with relevant technical expertise.

Develop a Mitigation Plan

Next, a Capability Assessment Update was performed whereby the existing programs and policies addressing natural hazards were reviewed. A thorough analysis of the adequacy of existing measures was performed and potential changes and improvements were identified. The HMPC reviewed the Capability Assessment at the June 2009 meeting. Additionally each jurisdiction reviewed their capability portion individually and provided the results by electronic confirmation or at individual meetings.

As part of the May, 2009 meeting the HMPC worked to identify goals and objectives for countywide mitigation efforts. These goals represent the county and communities' vision for disaster resistance. The HMPC also reviewed the previous action items, with each community representative being assigned to update his/her portion of previous action list. They were also charged with defining new actions and goals.

Communication was made frequently through electronic means throughout this process. LCOG staff received many of their action list updates through e-mails, but the primary source of updates to the actions and goals was through individual staff meetings and meetings of the entire Planning Committee. They also received updates to other items, and the staff was frequently in contact with community representatives to ensure accuracy.

At the June 19, 2009 meeting the HMPC reported on the status of mitigation actions for implementation. The results were recorded to be reflected in this plan. Furthermore, new mitigation actions were suggested. Everything that could affect hazard event-related damage in the county was considered by the HMPC with special consideration of the National Floodplain Insurance Program (NFIP). The role of LCOG advisors was to ensure not only that relevant activities were considered, but also that the process was not limited to just a few alternatives. LCOG staff informed the HMPC members that they would visit each of them to go over individual considerations in the Hazard Mitigation Plan update. The HMPC also considered the previous goals and objectives of the original plan, and amended them as appropriate at this meeting to create a final list of goals. Status of some sections of the plan such as the Vulnerability and Capability assessments was discussed.

At the August 27, 2009 meeting, the HMPC finalized the goals and actions of the plan, as well as participated in the discussion of prioritization of the actions and goals. Here, standards were set (included in this plan) for the ranking of hazards, goals, and actions based on NFIP standards and a feasibility review of the actions. The HMPC drafted an “action plan” that specifies recommended projects, who is responsible for implementing them, and when they are to be completed. The hazards and their particular ranking were discussed, with the original plan serving as their guide for ranking. Draft elements of the plan were presented to the HMPC for review and comment with particular emphasis on project development and prioritization. LCOG staff also ensured that the HMPC was aware of the need for public meetings and they were assigned the task of scheduling public meetings.

In order to get as much information as possible from the participants, LCOG staff met with the designated representative from each of the jurisdictions:

- Ed Nelson, Assistant Building Codes Director, Beaufort County, 08/06/2009,
- Libby Anderson, Planning Director, City of Beaufort, 08/06/2009;
- Trudie Johnson, Floodplain Administrator, Town of Hilton Head Island, 06/30/2009;
- Linda Bridges, Planning Administrator, Town of Port Royal, 06/26/2009,
- Dick Deuel, Program Manager, Beaufort Jasper Water and Sewer Authority, 09/08/2009.
- John Webber, Disaster Recovery Manager, Beaufort County Disaster Recovery, 09/28/2009

In these meetings, updates to the “action plan” were further discussed. Also an assessment of any updates to the jurisdictions’ capability assessment that had not been covered in the HMPC meetings was confirmed. These meetings gave the committee members the opportunity to discuss other concerns that they had with the plan as well as an opportunity to finalize their prioritization scores.

HMPC meeting Number 4 was held on November 19, 2009. Comments were compiled and a Final Draft plan was given to committee members.

It should be noted that this plan recommends mitigation measures that should be pursued. Implementation of these recommendations depends on adoption of this plan by the County Council and each of the municipalities and the cooperation and support of the offices and contacts designated as being responsible for each action item.

Drafts were sent in November to all members of the HMPC. The final meeting was held by the steering committee on December 13, 2009. Here, the members made final comments before the plan was to be sent to SCEMD for review. After the review the LCOG staff made final revisions and sent it in to FEMA.

Documentation for the HPMC meetings can be found in the form of agendas, sign in sheets and meeting notes in the Appendices.

Other Agencies

During the planning process, contacts were made with the following agencies to determine how their programs affect or could support Beaufort County's hazard mitigation efforts:

- Federal Emergency Management Agency (FEMA), Region IV
- South Carolina Department of Natural Resources (SCDNR)
- South Carolina Emergency Management Division (SCEMD)
- University of South Carolina. Hazard Research Lab (SCHRL)
- US Army Corps of Engineers

Each of the agencies will receive a draft of the plan for their review and comment.

Evaluate Your Work

The County will continue to implement the plan and perform periodic reviews and revisions of the plan through on-going HMPC reviews. The HMPC will meet annually to review the plan and will also hold public meetings to garner citizen comment. Specific language on the HMPC's future endeavors to continue to evaluate the plan is included in the Action Plan.

Public Involvement

The public involvement elements of the planning process were addressed through several sets of public meetings.

The first set of public meetings was held on July 23, 2009 at Hilton Head Town Hall (one in the morning and one in the evening). At this meeting the public was given a general overview of Hazard Mitigation and the Hazard Mitigation Plan. Staff explained that there was a need to update the plan and fielded questions and recorded comments from the public. The public was given the option to contribute to the plan by completing a survey that was distributed. The comments at the meetings and the input from the survey were accepted by Hilton Head planning staff, and the input from the public was used in writing this Plan. The survey was also available online at <http://www.surveymonkey.com/s/CWR879H>. Response was not overwhelming but the reactions to the survey were positive.

The second set of meetings began on October 29, 2009. At this meeting the public was given a brief presentation on the status of the plan. Comments from the public were taken into consideration in order to make any last minute adjustments to the plan. Documentation in the form of public notice can be found in the appendices to this plan.

In order to have a continued commitment to public involvement a meeting is scheduled for January 2010 at the Beaufort County Planning Commission meeting. Staff will explain the updates and take any suggestions for changes to the plan. This will also begin the process of formal adoption by Beaufort County. Also, a version of the plan was placed on the LCOG website on December 10, 2009. Notice of the draft was placed in the Regional Planning agency announcement board and comments were taken until December 18, 2009.

Federal Funding Sources for Mitigation

In preparing the hazard mitigation plan and identifying potential mitigation measures the committee also had to consider potential funding sources for the specified projects. An overview of several federal and state funding sources that can be used for hazard mitigation projects is provided below. Preparations are being made to apply for grants once FEMA approves this update.

FEMA's Hazard Mitigation Grant Program (HMGP) assists states and local communities in implementing long-term hazard mitigation measures following a major disaster declaration. As of November 1, 2004, all communities must have an approved hazard mitigation plan in place to remain eligible for HMGP funding. HMGP grants can be used to fund projects that provide protection to either public or private property. HMGP eligible projects include structural hazard control such as debris basins, floodwalls, or stream restoration, and retrofitting measures such as flood proofing, acquisition, or relocation of structures.

FEMA can fund up to 75 percent of the eligible costs of each project. The State or local match does not have to be cash; in-kind services or materials may be used. Federal funding under the HMGP is based on 7.5 percent of the Federal funds spent on the Public and Individual Assistance programs (minus administrative expenses) for each disaster. Eligible applicants must apply for the HMGP through the South Carolina Emergency Management Division – Recovery and Mitigation Group.

FEMA's Pre Disaster Mitigation (PDM) Funds provide both planning and project funding to eligible communities. PDM project funding is nationally competitive; there is no 'base' amount guaranteed to each state. A national priority is placed on projects that address NFIP repetitive loss properties and a benefit cost analysis is required for each proposed project. Projects are awarded priority based on the state's analysis and resulting ranking, and on factors such as cost effectiveness, addressing critical facilities, and the percent of the population that benefits from the project.

FEMA funds up to 75 percent of the cost of the project, or up to 90 percent for small, impoverished communities. There is a \$3 million cap on the federal share of the cost per project. Eligible applicants must apply for the PDM through the South Carolina Emergency Management Division – Recovery and Mitigation Group.

FEMA's Flood Mitigation Assistance Program (FMA) provides grants to states and communities for planning assistance and mitigation projects that reduce the risk of flood damage to structures covered by flood insurance. The types of grants available include planning and project assistance. FMA monies are available to eligible applicants when a Flood Mitigation Plan has been developed and FEMA has approved it.

FEMA may contribute up to 75 percent of the total eligible costs. At least 25 percent of the total eligible costs must be provided by a nonfederal source. Of this 25 percent, no more than half can be provided as in-kind contributions from third parties. There are limits on the frequency of grants and the amount of funding that can be allocated to a State or community

in any 5-year period. The South Carolina Department of Natural Resources (SCDNR) serves as the administrator of the planning and projects portions of the grant. The State's FMA Coordinator is within the Land, Water and Conservation Division of SCDNR. The agency's web page is www.dnr.state.sc.us.

Continuing Authorities Program (CAP) initiates a short reconnaissance effort to determine Federal interest in proceeding. If there is interest, a feasibility study is performed, and then the project might move on to a plans and specifications phase. Finally, the project goes to its construction phase. A local sponsor must identify the flood-related problem and request USACE Assistance. Small flood control projects are also eligible.

The cost share for the CAP is 65% USACE and 35 % local. The federal project limit is \$7,000,000. The USACE's Charleston District office would review the local sponsor's request for assistance and would request funds from the USACE's annual appropriations.

USACE's Floodplain Management Services Program aims to support comprehensive floodplain management planning to encourage and guide sponsors to prudent use of the Nations' floodplains for the benefit of the national economy and welfare. Some examples of the types of projects that would be funded include:

- flood warning and flood emergency preparedness
- floodproofing measures
- studies to improve methods and procedures for flood mitigating damages
- preparation of guides and brochures on flood-related topics

A local sponsor must identify a problem and request USACE assistance under the Floodplain Management Services Program. The USACE may provide up to 100% of funding at the request of the sponsor. The USACE's Charleston District's office would review the local sponsor's request for assistance and determine if it fits within the program.

Department of Housing and Urban Development's (HUD) Community Development Block Grant - Disaster Recovery Initiative (DRI) program provides flexible grants to help cities, counties, and States recover from Presidentially-declared disasters, especially in low-income areas. Since it can fund a broader range of recovery activities than most other programs, the DRI helps communities and neighborhoods that otherwise might not recover due to limited resources.

When disasters occur, Congress may appropriate additional funding for the Community Development Block Grant and as DRI grants to rebuild the affected areas and bring crucial seed money to start the recovery process. Grantees may use DRI funds for recovery efforts involving housing, economic development, infrastructure and prevention of further damage, if such use does not duplicate funding available from the Federal Emergency Management Agency, the Small Business Administration, and the U.S. Army Corps of Engineers. Examples of these activities include:

- buying damaged properties in a flood plain and relocating them to safer areas;
- relocation payments for people and businesses displaced by the disaster;

- debris removal;
- rehabilitation of homes and buildings damaged by the disaster;
- buying, constructing, or rehabilitating public facilities such as water and sewer systems, streets, neighborhood centers, and government buildings;
- code enforcement;
- planning and administration costs (limited to no more than 20 percent of the grant).

HUD notifies eligible governments, which must then develop and submit an Action Plan for Disaster Recovery before receiving DRI grants. The Action Plan must describe the needs, strategies, and projected uses of the Disaster Recovery funds.

Certified Local Government (CLG) Grants are available for historic preservation through the **State Historic Preservation Office (SHPO)** which is part of the **South Carolina Department of Archives and History (SCDAH)**. Although the funding for this program is administered by state, the funding is allocated by the U.S. Department of the Interior. Ten percent of the total federal appropriation to the State Historic Preservation Office's is awarded annually to Certified Local Governments (CLGs). The City of Beaufort and the Town of Bluffton are both Certified Local Governments and are thus eligible for this funding source. The grants can be used for projects related to historic structures and preservation, and requires matching funds (50/50 share) with awards generally ranging from \$1,500 to \$25,000. Historic Preservation projects often overlap with hazard mitigation efforts and include Identifying, Recording and Recognizing Historic Properties; Planning for Historic Districts and Multiple Historic Properties; Building Stabilization Projects; Planning for Individual Historic Properties; Preservation Education; and Strengthening Local Government Historic Preservation Programs.

The **SHPO** also administers the **State Development ("Bricks and Mortar") Grants** which can be used for stabilizing historic buildings and structures, or protecting historic buildings and structures from the adverse effects of the weather. Eligible applicants include local governments, nonprofit organizations applying for the grants for buildings or structures that are listed in the National Register of Historic Places or eligible for the National Register and have a planned or current public use. The grants are reimbursable, have a 50/50 cost match requirement and generally range from t\$5,000 to \$20,000. The SHPO's website is located at www.state.sc.us/scdah/histrcpl.htm.

2. Hazard Identification and Profiles

Introduction

Beaufort County performed a Hazard Identification to determine the hazards the County faces. The hazard identification section describes each hazard, describes the extent of severity of each hazard, provides the previous occurrences of hazards and describes the probability of future occurrences of each hazard based on historical data. While each hazard is described in narrative form, with its corresponding probability also included, Table 2-13 serves a quick reference guide that shows the annual probability, the hazard and the jurisdictions affected. The results were presented to the Committee members for review and data and additional events were added.

To perform this process existing sources of hazard frequency data were consulted including Flood Insurance Rate Maps (FIRMs), FEMA publications, Department of Agriculture Forest Service wildfire risk maps, USGS earthquake and landslide risk maps, storm surge mapping developed by the USACE, State of South Carolina erosion information, and wind and climatic data. Additionally historical hazard events were researched through publications as well as state and federal agency information provided on the internet to determine their effects on the County and their probability of recurrence. Since it is the most recent and deemed to be most reliable the information from the SC Hazard Research Labs was the primary information source for profiling hazards in Beaufort County. Unless otherwise noted these are the authoritative information sources for this planning document.

Finally flood insurance policy information was obtained from the state. The Hazard Identification process was used to identify those hazards that pose the greatest risk to the County and warrant further analysis through the vulnerability assessment. The hazard identification section describes each hazard, describes the extent of severity of each hazard, provides the previous occurrences of hazards and describes the probability of future occurrences of each hazard. Because of the County's geographical situation it can be expected that the County is almost equally vulnerable to hazards throughout. However, areas nearer the coast or closer to water and described by the FIRM as being in a flood zone are more susceptible to flooding and hurricane hazards.

For purposes of this plan, when "Beaufort" or "Beaufort County" is used, that is generally used to refer to the County and all municipalities in the County. Over all, all municipalities are affected the same in terms of probability and vulnerability by each hazard. If there is a notable or meaningful difference between jurisdictions, it is noted specifically such as Hilton Head Island and beach erosion.

Hurricanes, Tropical Storms

Hurricanes and tropical storms, as well as tropical depressions, are all tropical cyclones which are defined by the National Weather Service's National Hurricane Center (NHC) as *warm-core non-frontal synoptic-scale cyclones originating over tropical or subtropical water with organized deep convection and a closed surface wind circulation about a well-*

defined center. According to the NHC, once they have formed, tropical cyclones maintain themselves by extracting heat energy from the ocean at high temperatures and releasing heat at the low temperatures of the upper troposphere. Hurricanes and tropical storms bring heavy rainfall, storm surge, and high winds, all of which can cause significant damage. These storms can last for several days and therefore have the potential to cause sustained flooding, high wind, and erosion conditions.

These types of storms are classified using the Saffir-Simpson Hurricane Scale which was developed by Herbert Saffir and then director of the National Hurricane Center, Robert Simpson. The scale rates the intensity of hurricanes based on wind speed and barometric pressure measurements and is used by the National Weather Service to predict potential property damage and flooding levels from imminent storms. Although the scale assigns a wind speed and surge level to each category of storm, in recent years, there has been more and more recognition of the fact that wind speed, storm surge and inland rainfall are not necessarily of the same intensity for a given storm. Therefore, there is some interest in classifying hurricanes by separate scales according to each of these risks. However, the Saffir-Simpson Scale is still the most widely used classification tool for hurricanes. The scale is presented in Table 2-1.

Northeasters are extratropical storms occurring during the period from late fall to early spring that affect the east coast of the U.S. Low pressure systems develop off the east coast that lead to storms that bring strong northeast winds, heavy rains/precipitation and storm surge to coastal areas. Although northeasters' winds and storm surge might be less intense than that of hurricanes, northeasters can hover for several days over a given area. This kind of long duration storm allows larger accumulations of precipitation as well as more damage to structures as they are exposed to wind and flooding for long periods of time. Additionally, the long duration of northeasters typically leads to wide spread coastal change through erosion and accretion along the shoreline.

Past Occurrences of Hurricanes

Hurricane track data gathered from the South Carolina State Hazard Assessment (performed by the South Carolina Emergency Management Division in conjunction with the University of South Carolina Hazards Research Lab) indicates that from 1850 to 2008, 20 storms passed directly through Beaufort County¹. These included tropical storms, tropical depressions, subtropical storms, subtropical depressions and extratropical storms². Figure 2-1 illustrates the storm paths within the County. Hurricane tracks are shown in pink and all other storm tracks are shown in blue.

¹ The data is from the SCHRL; older data was taken from NOAA Coast Services Center and reflected 24 storms.

² At some point, all of these storms were tropical cyclone storms of at least tropical depression grade.

Table 2-1. Saffir-Sampson Scale and Typical Damages

CATEGORY	SUSTAINED WIND SPEEDS (MPH)	SURGE (FT)	PRESSURE (MB)	TYPICAL DAMAGE
Tropical Depression	<39	--	--	
Tropical Storm	39-73	--	--	
Hurricane 1	74-95	4-5	> 980	<i>Minimal</i> – Damage is done primarily to shrubbery and trees, unanchored manufactured homes are damaged, some signs are damaged, no real damage is done to structures on permanent foundations.
Hurricane 2	96-110	6-8	965-980	<i>Moderate</i> – Some trees are toppled, some roof coverings are damaged, major damage is done to manufactured homes.
Hurricane 3	111-130	9-12	945-965	<i>Extensive Damage</i> – Large trees are toppled, some structural damage is done to roofs, manufactured homes are destroyed, structural damage is done to small homes and utility buildings.
Hurricane 4	131-155	13-18	920-945	<i>Extreme Damage</i> – Extensive damage is done to roofs, windows, and doors; roof systems on small buildings completely fail' some curtain walls fail.
Hurricane 5	> 155	> 18	< 920	<i>Catastrophic Damage</i> – Roof damage is considerable and widespread, window and door damage is severe, there are extensive glass failures, some buildings fail completely.

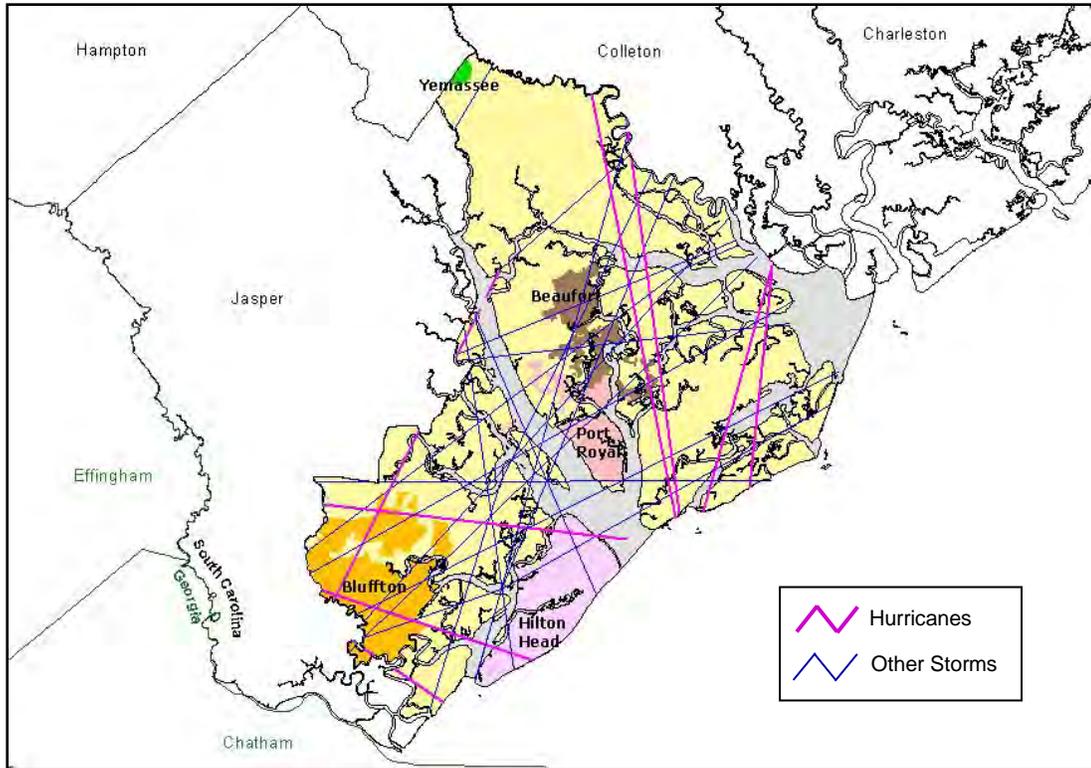


Figure 2-1. Storm Tracks Passing through Beaufort County, 1850-2008

A summary of the types and numbers of hurricanes and other storms is provided in Table 2-2. The data included in that table represents that data from the coastal services center of the original plan. Because of the disparity in this data, it is evident that there are some limitations on its meaning. However, it is evident that hurricanes and tropical storms represent a major threat to Beaufort County.

Table 2-2. Storm Tracks Passing through Beaufort County 1850-2008

TYPE OF STORM	QUANTITY	NAMED ¹
Hurricane – Category 3	1	
Hurricane – Category 2	2	
Hurricane – Category 1	5	
Tropical Storm	10	
Tropical Depression	2	1 - occurred prior to naming convention 1 – Yes
Subtropical Storm	1	No
Subtropical Depression	1	Yes
Extratropical Storms	2	Both Named

¹ If storm with a grade of Tropical Depression or lower was named, at some point it was classified as a Tropical Storm and/or Hurricane.

Hurricanes that pass in relatively close proximity to Beaufort County can also have an impact upon Beaufort County. Therefore, an analysis of storms passing through or within 50 miles of the County was also performed. Results of this analysis are presented in Table 2-3.

Table 2-3. Storm Tracks Passing within 50 miles of Beaufort County 1850-2006

TYPE OF STORM	QUANTITY
Hurricane – Category 4	2
Hurricane – Category 3	3
Hurricane – Category 2	5
Hurricane – Category 1	15
Tropical Storm	39
Tropical Depression	7
Subtropical Storm	3
Subtropical Depression	2
Extratropical Storms	5

Figure 2-2 shows the locations of the storm tracks within 50 miles of the County. Hurricanes tracks are shown in red. Tropical, subtropical, and extratropical storm paths are shown in blue.

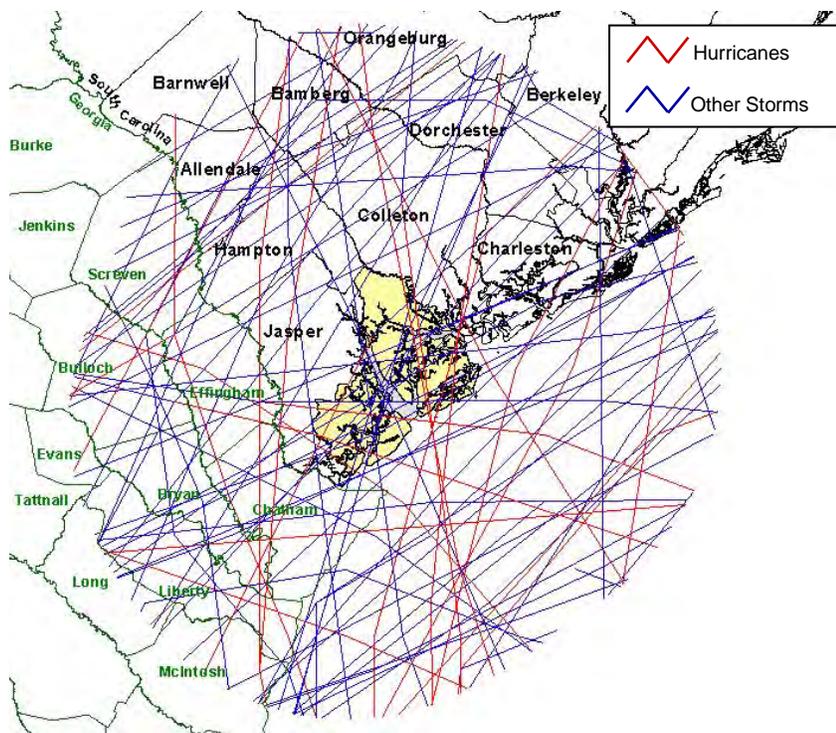


Figure 2-2. Storm Tracks through and within 50 miles of Beaufort County, 1850-2006

According to the County's Flood Insurance Study, the major storms that have effected or caused significant damage in Beaufort County include hurricanes that hit on September 7, 1804, August 7, 1854, and August 27, 1893. Additionally, on October 11, 1902 an extratropical storm hit Beaufort County. The storm had been a hurricane but was downgraded to an extratropical storm when it reached South Carolina. On August 11, 1940, a hurricane made landfall between Savannah and the City of Beaufort. On October 19-20, 1944 a Tropical Storm passed through Beaufort County bringing heavy rains. Hurricanes Cindy and Gracie hit South Carolina in 1959. Gracie made landfall in Beaufort County on September 29. Hurricane Donna moved off the South Carolina coast 50 to 70 miles from the Beaufort shore in September 1960. In 1979, Hurricane David hit the south coast of South Carolina, and in 1985, Hurricane Bob's center made landfall on Fripp Island. In addition to these storms, another noteworthy storm that affected the state of South Carolina in September 1989 was Hurricane Hugo. While northeaster storms also present a significant threat to the Beaufort County and particularly to its coastline there is not as much documented information about these storms suggesting that historically hurricanes have caused more damage in the county.

The following past storms have been documented to help predict the occurrences of future storms:

September 1804

A hurricane moved inland between Savannah, Georgia and Charleston, South Carolina on September 7 and caused severe damage along the coastline of both states. The center of the storm stayed along the inland side of the coastline and passed over the City of Beaufort. Records indicated that this storm caused over 500 persons to drown in South Carolina and severely impacted the state's economy.

August 1854

The center of this hurricane passed about 20-25 miles southeast of Beaufort County changing from a Category 3 storm to a Category 1 storm as it made its way over land. It approached the coastline from a south-southeasterly direction bringing winds that caused significant storm surge as they drove waters inland from the ocean into the tidal estuaries and over the tidal lowlands of Beaufort County.

August 1893

This hurricane went from a Category 3 to a Category 2 hurricane as its center approached the north Georgia coastline. The center of the hurricane passed 10-15 miles west of southern Beaufort County. The hurricane approached the coastline from the southeast and thus caused extensive storm surge along the coast. Surge levels on the North Georgia and lower South Carolina coasts reached up to 19.5 ft NGVD at Savannah Beach in Georgia, and 8.9 ft NGVD in Charleston. It is estimated that over 1,000 people along the coastal islands and lowlands from northern Georgia to Charleston, South Carolina died as a result of this storm.

October 1902

A hurricane moving from the Gulf of Mexico became an extratropical storm as it passed over Beaufort County bringing 3.4 inches of rain to the County during a 12 hour period on October 10 and 11, 1902.

August 1940

This Category 1 hurricane came from the southeast and made landfall in Beaufort County on August 11, 1940. Winds from the hurricane created surge in Beaufort's tidal estuaries and caused the Beaufort River to leave its banks and reach a height of 14.2 ft NGVD. In the Broad River on Lemon Island, a surge level of 16 ft NGVD was recorded. On outlying islands including St. Helena, Hilton Head, Daufuskie and Pinckney, flood levels reached 10 ft NGVD.

In Beaufort City, every wharf along the Beaufort River was damaged or destroyed and the business district was flooded to depths of 2 to 3 feet. On Ladies Island, flooding caused the deaths of 8 people. Severe damage was also reported on the outlying islands of St. Helena, Hilton Head, Daufuskie, and Pinckney where numerous homes were damaged or destroyed, several hundred people were left homeless, and 25 people lost their lives. At Hunting Island, severe beach erosion was reported causing the beach line to recede up to 100 feet. This hurricane caused the deaths of 34 people in all and damage estimated at \$6.6 million (1940 costs).

October 1944

This storm passed through Beaufort County as a tropical storm on October 19-20, 1944 and brought heavy rains to the area. The storm center's track shows the storm entered southern Beaufort County at Daufuskie Island and traveled northwest tracing a long path through the County and entering into Colleton County north of the Williman Islands (St. Helena Sound Heritage Preserve). Damage estimates from the storm were fairly low with a property damage of approximately \$200,000 and crop damage estimated at approximately \$150,000 (1944 costs).

Hurricane Cindy – July 1959

Hurricane Cindy came ashore from the southeast into Charleston County as a Category 1 storm with winds of 75 mph. The eye of the storm was located near McClellanville, about 50 miles northeast of Beaufort County, when it made landfall. Cindy caused one death, high tides and considerable flash flooding.

Hurricane Gracie - September 1959

Hurricane Gracie came from the southeast and caused storm surge to reach between 7.3 and 11.9 ft NGVD at Edisto Beach (just north of Beaufort County at the border of coastal Colleton and Charleston Counties). The hurricane's center track went through St. Helena Sound and made landfall just northeast of Beaufort County in Colleton County. The hurricane was downgraded from a Category 4 to a Category 3 storm as it made landfall. Severe damage was reported from the City of Beaufort northward to Charleston including damage caused by fallen trees and crop damage. Considerable precipitation as well as several

tornadoes resulted from the storm. The total storm damage was estimated at \$14 million (1959 costs).

Hurricane Donna – September 1960

Hurricane Donna was a Category 2 storm that passed offshore of Beaufort County moving parallel to the coastline. The hurricane was reportedly 50-70 miles from the coastline, but resulted in squalls and gale force winds along the coast. No significant damage or casualties were reported for this storm.

Hurricane David – September 1979

David made landfall as a Category 1 storm well south of Beaufort in McIntosh County, Georgia after causing severe destruction in the Caribbean. The storm had winds of up to 85 mph and its center passed within 6-7 miles of southern Beaufort County on September 4 causing minor to moderate damage and significant beach erosion.

Hurricane Bob – July 1985

The center of Hurricane Bob made landfall on Fripp Island in Beaufort County as a Category 1 Storm on July 25 and moved northwestward through the county. There was minimal damage associated with the storm and no deaths as a direct result.

Hurricane Hugo – September 1989

While Hurricane Hugo, which made landfall on the South Carolina coast on September 22, 1989, was the first major hurricane to hit the South Carolina coast since Hurricane Gracie, and the strongest hurricane to ever make landfall in the state (It was a Category 4 storm when it made landfall in Charleston County with sustained winds of 135 mph.), it did not cause significant damage in Beaufort County. However, a hurricane evacuation warning was issued in the county leading to a loss of revenue for many businesses particularly in resort areas including Hilton Head Island. Twenty-four (24) counties in South Carolina, including both Colleton and Charleston Counties located just north and northeast of Beaufort County, were Presidentially-declared disaster areas, and damage estimates for the state as a result of the storm were estimated at approximately \$5.9 billion (1989 costs) (source: USACE – Charleston District).

Hurricane Bertha – July 1996

Hurricane Bertha came close to the south coastal counties of South Carolina, but did not cause any significant damage. The maximum sustained winds (36kts) and peak gust (50kts) both occurred at the Charleston City Office on 7/12/96. Bertha's most significant impact was on tourism where the estimated loss revenue approached \$20,000,000. Near eleven (11) million dollars of that was in Beaufort/Hilton Head area. A few places along the Charleston coast experienced moderate beach erosion.

Hurricane Floyd – September 1999

Hurricane Floyd weakened to a category three hurricane as it approached the southeast Georgia and southern South Carolina coasts on the morning of September 15th. The storm brushed the area

during the late afternoon and evening as it took a more north and northeast course toward North Carolina. Sustained winds of tropical storm force were reported from Savannah on the southeast Georgia coast to Charleston on the South Carolina coast with wind gusts to hurricane force in the Charleston area. The highest sustained wind speed was 58 mph at the downtown Charleston office, which also had the highest gust (85 mph). In general, 3 to 5 inches of rainfall was reported across the area. Tides were 3.5 feet above normal with a maximum tide height 10.66 ft. ASL (7.71MLLW) at downtown Charleston. Minor to moderate beach erosion occurred along the South Carolina coast. Many businesses and homes suffered major damage with thousands of homes suffering at least minor damage in Charleston county, where 10.5 million dollars in damage was reported. Beaufort county reported 750,000 dollars damage with Berkeley and Dorchester counties reporting 500,000 dollars each. Well over a thousand trees were down, which contributed to over 200,000 people across south coastal South Carolina being without power at times on the night of September 15. There were sporadic reports of roofs being torn from homes or businesses across the area.

Past Occurrences of Tropical Storms

Recorded data show only 55 tropical storms passing in or near Beaufort County between 1850 and 2006, but that number is likely to be unrepresentative of the true number of events, as a result of limited record-keeping in the earlier years. During the period from 2000 to 2008, only 11 tropical storms were recorded that impacted Beaufort County. However they caused only minor property damage, the largest amount being the erosion at Hunting Island in August 2008.

Future Probabilities of Hurricanes

Based on the frequency of past events, the occurrence of future events can be predicted. From Table 2-2, the center of eight hurricanes, one of which was a Class 3 hurricane, has passed directly through Beaufort County since 1850. Table 2-3 shows that the centers of an additional 17 hurricanes have passed within 50 miles of Beaufort County. This includes two Category 3 and two Category 4 storms. That data reflects the NOAA Coastal Services Center data from the original plan.

In order to estimate the frequency of occurrence, the number of hurricanes is compared to the length of the period of record which is from 1850-2008 and is 158 years. The recurrence interval is defined from this information and is a rough estimate of the amount of time, on average, during which one occurrence of a given storm will take place. It is important to note that in reality a storm can occur multiple times during one recurrence interval and that the recurrence interval is only an estimated average time period. Recurrence intervals for hurricanes and tropical storms within and in the vicinity of Beaufort County are presented in Table 2-4 included as a reference.

The SC Hazard Research Lab reports 20 such events in the same period of time. Using this data as the authoritative source for this planning document, an annual percent chance of a hurricane of 12.66 percent is calculated for hurricanes for Beaufort. Taking into account both the updated data and that data from the original plan hurricanes are still considered a significant hazard—especially considering Beaufort’s proximity to the Atlantic Ocean.

Table 2-4. Estimated Recurrence Intervals of Hurricanes and Tropical Storms within 50 miles of Beaufort County

STORM TYPE	NUMBER OF OCCURRENCES WITH CENTER OF STORM TRACK WITHIN 50 MILES OF BEAUFORT COUNTY	RECURRENCE INTERVAL (years)	NUMBER OF OCCURRENCES WITH CENTER OF STORM TRACK IN BEAUFORT COUNTY	RECURRENCE INTERVAL (years)
Tropical Storm	39	4	10	15
Category 1	15	10	5	30
Category 2	5	30	2	76
Category 3	3	50	1	151
Category 4	2	76	no record	-----
Category 5	no record	-----	no record	-----
<i>Tropical Storms and All Hurricanes</i>	64	2	18	8

Another source of hurricane frequency prediction is the Forecast of Atlantic Seasonal Hurricane Activity which is performed annually by the members of the Colorado State University Hurricane Forecast Team, including Dr. William Gray. The forecasts include individual monthly predictions activity and seasonal and monthly U.S. hurricane landfall probabilities. The prediction varies annually based on several atmospheric and oceanic factors and is available through the team’s website at typhoon.atmos.colostate.edu/forecasts.

Past Occurrences of Nor’Easters

Major nor’easters that affected much of the East Coast occurred during March 1962 (the Ash Wednesday Storm), October 1991 (Halloween Storm), December 1992, March 1993, and January 1998. Records indicate that these storms generally had more of an effect on storm surge and flooding further north in the mid-Atlantic and northeast United States. The Ash Wednesday storm affected the coast from North Carolina to New England, just missing South Carolina. The effects of the Halloween Storm were felt along the mid-Atlantic and northeast coast as well as the north Atlantic Ocean.

The January 1998 Nor’Easter did have a direct effect on the County. It brought heavy rainfall in Beaufort County causing significant roadway flooding. There were also reports of standing water more than a foot in height in yards throughout the County.

The March 1993 storm caused high winds along the southeastern coast of the United States resulting in damage along beachfront and coastal properties. In Beaufort County, wind and storm surge destroyed the downtown Beaufort Marina and damaged or destroyed approximately 2 dozen boats in the marina. Throughout the county, drainage ditches filled with debris carried by wind and floodwater which led to more severe flooding. On Fripp and Harbour Island, residents lost electricity for a week when salt water flooding led to the damage of transformers.

Additionally, two storms occurred in October 1994 causing serious flooding as the slow-moving storms dropped several inches of rain on the county. A storm that occurred on October 3, 1994 dumped approximately 11.5 inches of rain on the county in a 24-hour period resulting in flash and coastal flooding. Many structures were damaged by floodwaters including an estimated 147 homes. Approximately 37 roads were washed out. Hilton Head Island was reportedly the hardest hit. A storm on October 13, 1994 led to flash and coastal flooding along the South Carolina coast with the southern counties being particularly hard hit. Runoff volumes were high and flooding was especially bad due to antecedent conditions; previous rainfall in the area had left the ground saturated. Beach erosion was reported at several locations along the coast as a result of this storm including a loss of an estimated 200,000 cubic feet of sand along Hilton Head Island. Conservative estimates for Beaufort County indicate that 218 residences and 15 businesses were damaged as well as wastewater treatment plants. Roadway flooding was also reported and the State Highway 21 Bridge over Whale Branch was closed. There is no data specifically for Nor'easters, but these storms are considered a serious threat to the entire County, along with hurricanes and other storms.

Flooding

Beaufort County is located along the Atlantic coast in southern South Carolina and is bordered by Jasper County to the west; Colleton County to the north, and Chatham County to the south. Beaufort, along with the three surrounding counties Colleton, Hampton and Jasper, is part of the *Low Country* of South Carolina; the highest elevation in Beaufort County is approximately 50 feet NGVD 29 (National Geodetic Vertical Datum of 1929) above sea level in its northern inland area. The County is located on the low coastal plain and is comprised partially of tidal marshes and swamps. Several waterways flow through the County and ultimately into the Atlantic Ocean along Beaufort's coast. Figure 2-3 shows Beaufort County and its waterways. Beaufort County is highly susceptible to storm surge and coastal erosion along the Atlantic Ocean shoreline due to the relentless wave action along the coastline and the coastal currents. Storm surge is a large dome of water formed by winds moving across large open bodies of water. Storm Surge is also affected by low pressure systems which add to the storm surge effect by pulling on the surface of the water. Storm surge threatens coastal areas as winds drive it towards the shoreline and can reach heights of 20 feet and be 50–100 miles wide. The county's flood vulnerability is also heightened by the fact that the county consists of low-lying land areas, including marsh areas adjacent to many of its waterways and wide relatively flat outlets where its streams and rivers meet the ocean.

A series of sea islands including both barrier islands and erosion remnant islands are within Beaufort County. Barrier islands are located in the ocean and are the first areas of the county to be affected by seaborne storms. The origin of their existence is debated but is generally believed to be due to accretion along sand bars or possibly due to the retreat of the ocean during the Ice Age combined with the effects of glacier meltdown. Barrier islands generally are prone to erosion along their northern ends and accretion along their southern portions. Fripp and Hunting Islands are barrier islands.

Erosion remnant islands are believed to be remnants of land that was once above sea level before Ice Age glaciers melted and raised the sea level. St. Helena and Port Royal Islands are erosion remnant islands. Hilton Head Island is actually a combination of the two types of

islands. Broad Creek divides the northern erosion remnant island from the southern barrier island that have been fused together.

While a few of the County's numerous waterways are rivers with sizeable watershed drainage areas, most of them are tidal estuaries. The Combahee and Pocotaligo Rivers both have significant drainage areas. The Combahee River forms the northern border of Beaufort County. The Pocotaligo forms part of the border between Beaufort and Jasper Counties and empties into the tidally influenced Broad River. Some of the major tidally influenced water bodies within the County include: the Broad River which divides the northern portion of the County from the southern portion; Beaufort River which flows along the eastern edge of the City of Beaufort and the Town of Port Royal; the Coosaw River which flows in an easterly direction and empties into St. Helena Sound; the Chechessee and Colleton Rivers in the southern portion of the County; Calibogue Sound and Skull Creek which separate Hilton Head Island from the mainland of the County; and May, Cooper, and New River in the southwestern Beaufort County.

The County's Flood Insurance Rate Maps (FIRMs) show that an estimated two-thirds (approximately 400 square miles) of the County's land mass lies within the 100-year floodplain or Special Flood Hazard Area (SFHA). Within Beaufort County the SFHA consists of A zones and V zones. The National Flood Insurance Program (NFIP) uses these general labels to mark areas subject to riverine and inland flooding (A zones) and coastal flooding (V zones) where flood hazards include velocity flows, wave action and erosion.

Most of the SFHA is designated as an AE zone. The NFIP uses this label for riverine/inland areas of the SFHA where base flood elevations (BFEs) or the elevations of the 100-year floodplain are determined. In Beaufort County within much of this AE zone floodwater levels are controlled by tidal influences and storm surge levels. Beaufort County also has areas designated as VE zones, or Coastal High Hazard Areas. VE zones are parts of the SFHA that are prone to velocity/wave action at least 3 feet in height during a 100-year flood. The wave action that occurs during flooding in these zones generally causes more severe damage to structures and erosion than what is experienced in nearby A zones or in areas of riverine flooding. Several VE zone areas are found along the coast within the County. Figure 2-4 shows the Floodplain Zones within Beaufort County. Elevations of flood depth within the County range from 22 ft NGVD within VE zones on Hilton Head Island to 8 ft NGVD in inland areas of the northern county.

Some coastal areas of the County are designated Coastal Barrier Resources Protection Act (CoBRA) zones. CoBRA was passed by Congress in 1982 to protect undeveloped environmentally-sensitive coastal lands. This designation protects natural resources and minimizes the loss of life and property damage caused by development in high risk areas. Designated CoBRA zones are undeveloped coastal barrier systems. Within CoBRA zones, no federal financing is available. Federally backed flood insurance is not available if the structures are new or substantially improved after October 1, 1983.

Although there is not a specific NFIP designation for them, areas called Coastal A zones exist in coastal communities like Beaufort County. They appear as A or AE zones on the

community's FIRMs, and are located adjacent to V zones. These areas are subject to some of the same flood hazards as V zones, including the effects of waves and velocity flow, but the magnitude of these effects is less. This is noteworthy because structures located in A zones adjacent to V zones often experience more extensive damage as a result of these effects than those in non-coastal A zones (FEMA, *Coastal Construction Manual*, 2000, Ch. 3). Generally, coastal A zones are defined as areas that are prone to velocity/wave action of 1 ½ - 3 feet in height during a 100-year flood.

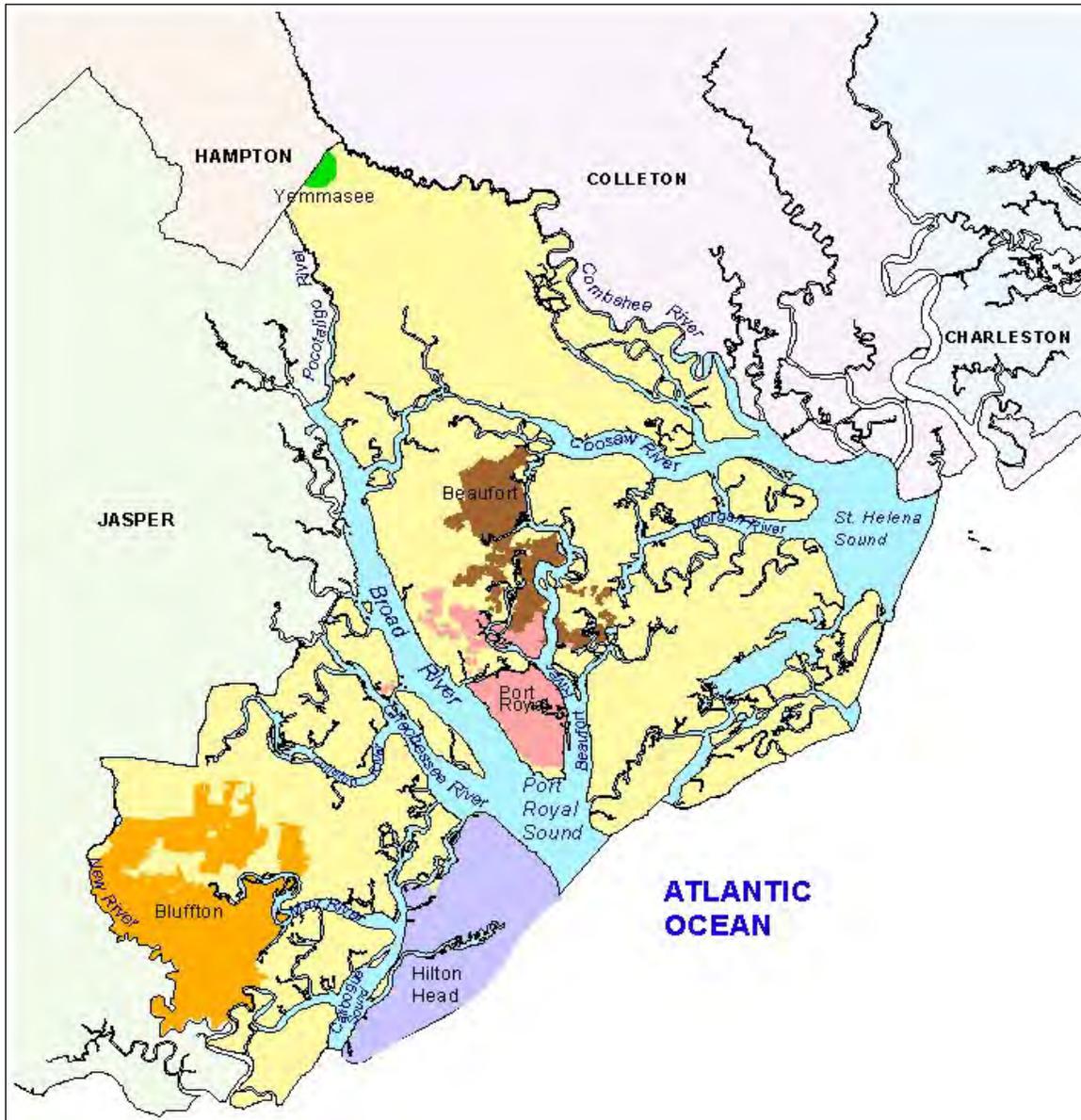


Figure 2-3. Beaufort County Waterways

Past Occurrences of Flooding

Data used to perform the State's risk assessment, which was processed by the University of South Carolina's Hazards Research Lab (HRL) and gathered from the National Climatic Data Center (NCDC) indicates that between 1950 and 2008, 25 floods occurred in Beaufort County. Combined the 25 floods caused a total of \$26 million in property damage and \$50,000 in crop damage. No fatalities or injuries were reported as a result of the floods.

Beaufort County is susceptible to flooding caused by hurricanes, tropical storms and coastal storms such as nor'easters. According to the community's Flood Insurance Study, major storms and hurricanes caused severe flooding in 1787, 1804, 1893, 1940, and 1959. The highest storm surge recorded was for the August 11, 1940 hurricane event for which flood heights reached 14 ft NGVD 29.

Future Probabilities of Flooding

Storm surge can be modeled by various techniques; one such technique is the use of the National Weather Service's (NWS) Sea, lake and overland surges from hurricanes (SLOSH) model. The model is used to predict storm surge heights based on hurricane category 4.

The SLOSH maps indicate that for a Category 1 Hurricane a significant portion of the County including the majority of Hilton Head Island, much of Port Royal, and portions of the City of Beaufort and Bluffton, would be inundated. Unincorporated areas including Fripp Island and the eastern portion of the Sheldon area would also be inundated by a Category 1 storm. As the Category of the hurricane increases more land area becomes inundated until in the case of a Category 5 storm there are only pockets of land that are not inundated including some land within and adjacent to Bluffton and an area located partially within the City of Beaufort and partially to its northwest (Gray's Hill). Storm surge is a major component of northeaster storms along the East Coast of the U.S. Because winds are moving from a north and/or eastward position winds move across the ocean towards shore and form large waves.

According the data from the SC Hazard Research Laboratory the percent chance per year or Hazard Frequency of a flood is 42.37 percent.

Figure 2-6 shows results from the SLOSH model for the northern and southern parts of Beaufort County respectively. Surge inundation areas are classified based on the category of hurricane that would cause flooding.

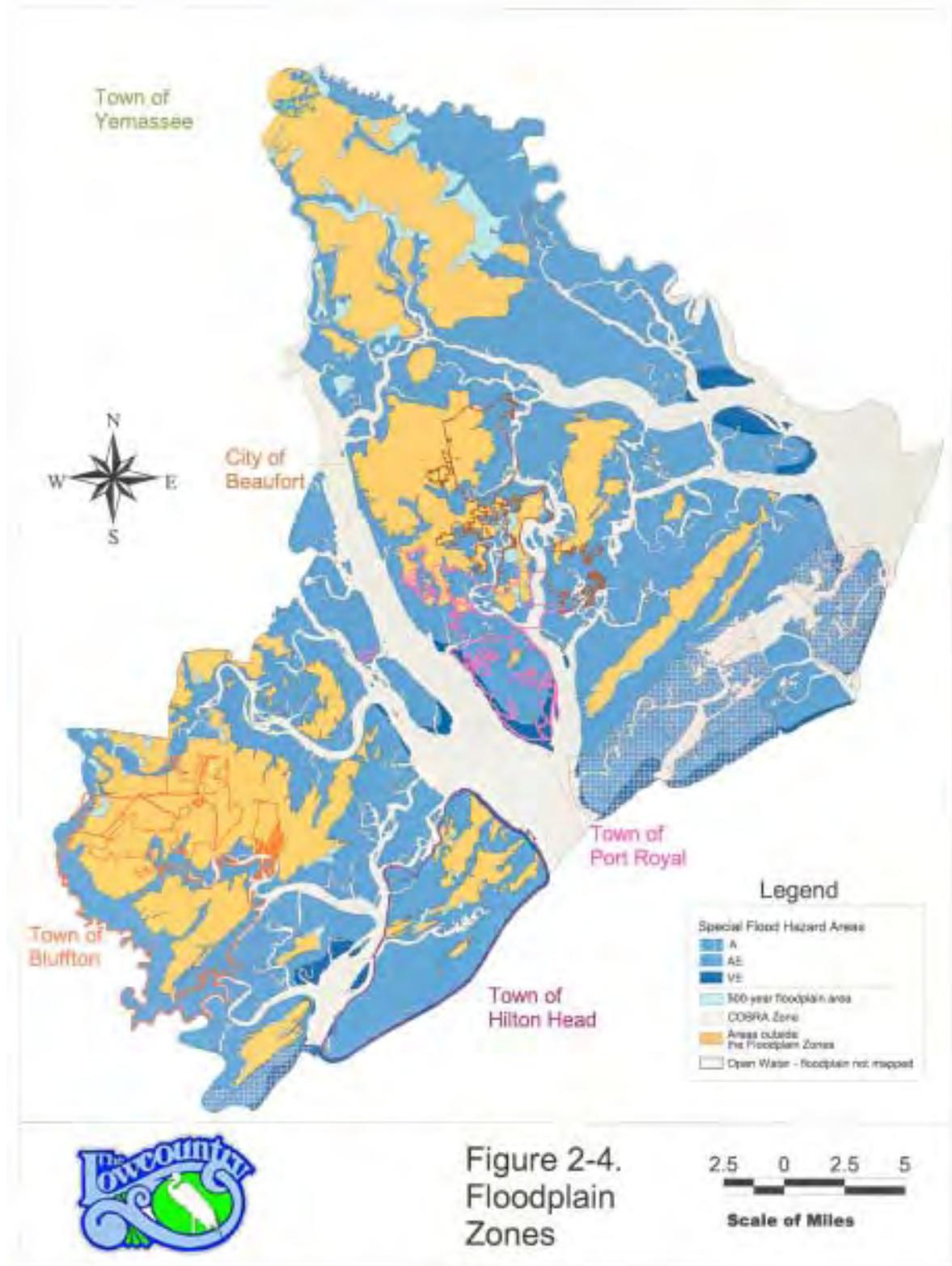


Figure 2-4.
Floodplain
Zones

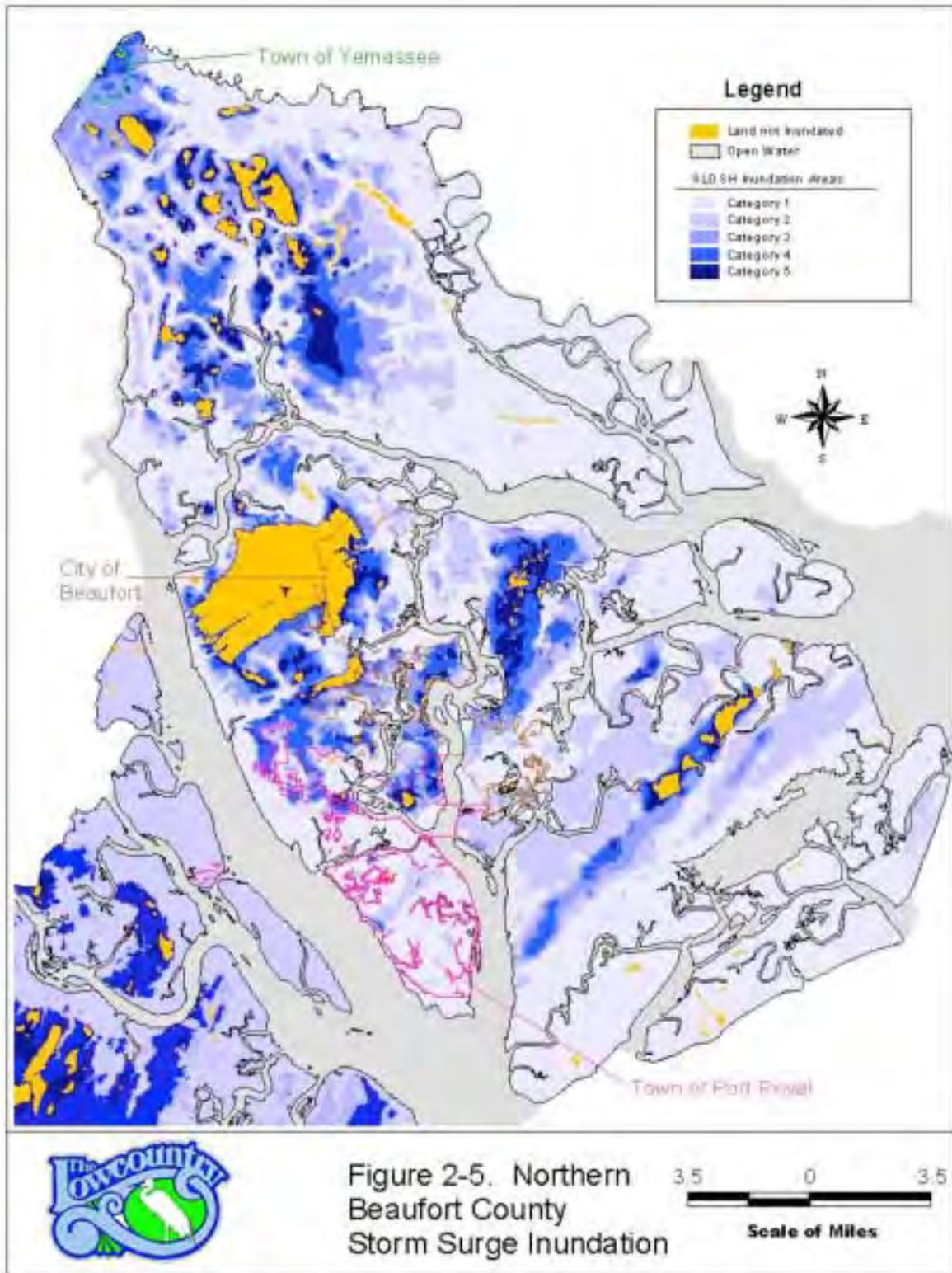
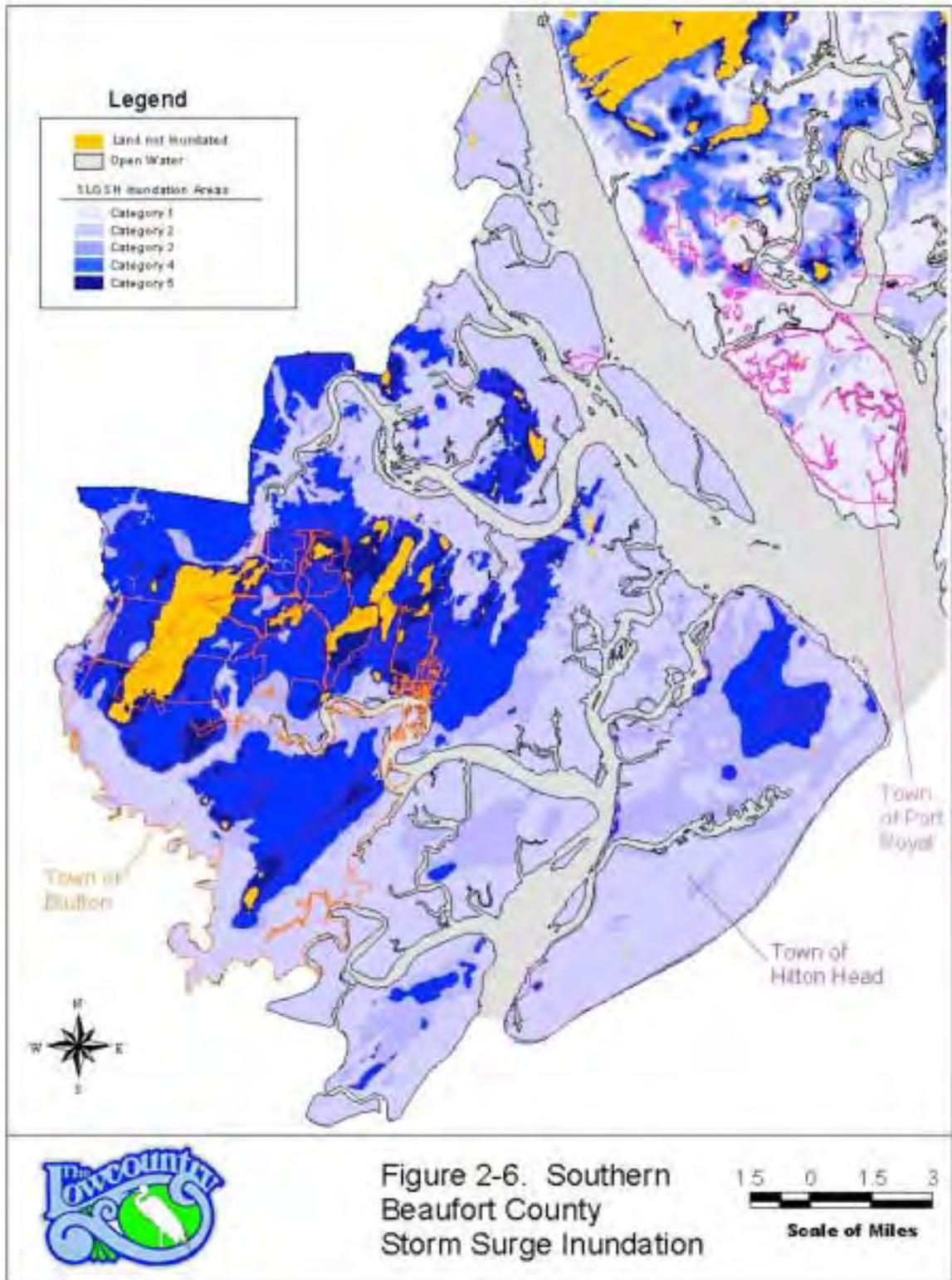


Figure 2-5. Northern Beaufort County Storm Surge Inundation



Erosion

Erosion and accretion are long term dynamic processes that occur along shorelines. Major erosion/accretion events are usually associated with coastal storms because floodwater forces have the ability to cause significant acts of erosion/accretion in a short time period.

Erosion is considered a serious hazard in coastal areas because it can threaten coastal development by eroding valuable beach areas including both the sandy beach and the protective dunes behind it. This has a direct effect on residents and business owners as well as the economies of beach communities that depend on tourists and vacationers.

Past Occurrences and Future Probabilities of Erosion

The South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management (DHEC-OCRM) publishes the *Annual State of the Beaches Report* which summarizes changes that have occurred along the state's shoreline. Results of the 2009 report for Beaufort County areas are presented in Table 2-5. The table notes what if any type of shoreline change is occurring for the given area, what the average long term change rate is, whether or not the area is an unstablized inlet zone, what is the type of shoreline zone where the greatest amount of change is likely to occur and the date of the last nourishment project in the area.

Hunting Island State Park had previously been listed as the state's highest priority for beach renourishment and restoration in the State of the Beaches report. Hunting Island provides public access to the beach but experiences chronic erosion. Renourishment is conducted on the island as it is needed and as funding can be provided.

While it is difficult to obtain a precise hazard frequency of beach erosion it is definite that the hazard occurs frequently in Beaufort County and that mitigation actions should be undertaken to slow its progress.

	EROSION ACCRETION, OR STABLE	AVERAGE LONG-TERM CHANGE RATE (FEET)	UNSTABILIZED INLET ZONE?	DATE OF LAST NOURISHMENT PROJECT
DAUFUSKIE ISLAND	Erosion	4 to 5	Yes	December 1998
FRIPP ISLAND				
Central to Northern island along Atlantic Coast	Strongly accretional	-----	No	
Southern island and NE island along Atlantic	Erosion	-----	No	
Fripp Inlet coastline	Erosion	-----	No	
HARBOR ISLAND				
Southern Island	Accretion		Yes	
Northern portions	Erosion		Yes	
HILTON HEAD ISLAND				
Sea Pines Plantation along Calibogue Sound	Light Accretion		Yes	Winter 1999
South Forest Beach	Stable	-----	No	2006-2007
North Forest Beaches and Palmetto Dunes	Erosion	-----	No	2006
Folly Beach-2200 ft stretch	Erosion	6	Yes	1997 (jetty built)
1.3 mile stretch beginning just north of Burke's Beach Road	Stable	-----	No	
Port Royal Plantation shoreline – Atlantic Coast	Accretion	-----	Yes	
Port Royal Plantation shoreline – Port Royal Sound	Erosion	2 to 5	Yes	
HUNTING ISLAND				
Southern End	Strongly erosional	7 to 15	Yes	2006
Northern End	Strongly erosional	7 to 15	No –inlet zone stabilized by terminal groin	2006
PRITCHARD ISLAND ¹	Highly erosional with accretion in some areas including north end	-----	-----	-----

Table 2-5. Shoreline Characteristics

Winter Storms

Winter storms can be very disruptive, particularly in areas where they are not frequent occurrences. While winter storms have had an affect on South Carolina and Beaufort County they occur relatively infrequently compared to areas of the northern U.S.

Winter storms can combine different types of precipitation including snowfall and ice storms as well as high winds and cold temperatures. According to SC Hazard Research Lab assessment there is a 1.69 percent chance in any given winter of a cumulative snow depth total of up to approximately 10 inches in Beaufort County. The area is thus expected to experience this type of winter once on average every 59 years over a long time period.

Past Occurrences of Winter Storms

Significant winter storms occur occasionally in the State of South Carolina. Beaufort County had a near miss with an event that occurred in early December 2002. A winter snow storm resulted in a Presidentially declared disaster in 6 counties in Northwest South Carolina including Cherokee, Greenville, Laurens, Spartanburg, Union and York. As a result of this storm tens of thousands in the Greenville area lost power.

On January 4, 2002 an ice storm occurred that hit northern Beaufort County particularly hard. Weather stations reported some freezing drizzle and light snowfall. In Yemassee residents were without power for several days.

On January 24, 2000, 1-2 inches of snow was measured in Beaufort County and was the first measurable event since 1989. Areas along the coast experienced mixtures of small amounts of sleet and freezing rain with the snow. The northwest portion of the state was particularly hard hit and received up to 6 inches of snow. This had a significant impact on major highways in including Interstate 85 where numerous accidents were reported. Tens of thousands of people in the state lost power due to power lines downed by the ice and snow.

The March 1993 northeaster was a winter storm event that caused damage and the loss of life in South Carolina. While there was no snow accumulation reported in Beaufort County, there were reports of high winds along the coastlines of the southeastern states leading to some property damage.

A winter storm event in 1989 caused snow accumulation in Beaufort County. While the highest snow depths in the state of 14-15 inches were recorded near Myrtle Beach, Beaufort County received approximately 5 inches of snow.

A snow storm that occurred from February 10-11, 1973 in South Carolina resulted in Beaufort receiving 11 inches of snow depth. The storm caused about 30,000 tourists to be stranded on the State's highways many of them had to be rescued by helicopter. The storm also brought severe winds and cold weather. Damage estimates reports indicated that at least 200 buildings collapsed. The damage estimate for property and road damage as well as the cost of snow removal and rescue operations was approximately \$30 million (1973 dollars).

Future Probabilities of Winter Storms

Based on the limited period of record for winter events 5 major winter storm events have occurred within South Carolina in the last 20 years. However, only one of these resulted in winter precipitation and had a moderate to major impact on Beaufort County. The recording period is 59 years. Therefore the estimate for the county's winter storm probability is 1.69 percent.

Drought

Drought is caused by lack of precipitation but can be heightened or worsened by other circumstances such as high temperatures, high winds, and low relative humidity. Droughts can result in a shortage of water for consumption and can affect hydroelectric power, recreation, and navigation. Additionally severe droughts can lead to losses of crops, wildlife and livestock, as well as wildfires.

Future Probability of Drought

Beaufort County is located within the state's Drought Management Area No. 6 which includes all of the counties in southeastern South Carolina. According the SC Hazard Research Labs hazard profile for Beaufort County 21 droughts have occurred in Beaufort County in the last 59 years. This represents an annual probability of 35.59 percent. Also, the South Carolina Department of Natural Resources Drought Response Program has records showing how much time the drought management area has been subject to various drought conditions as defined by the Palmer Drought Severity Index for a period of record of about 75 years (895 months) beginning in 1925. This information is presented in Table 2-6 and it represents data through 2000. According to the records the area was not subject to drought conditions for over half of the period of record. For about 29 percent of the period of record the area was subject to mild drought conditions. The area was subject to moderate to extreme conditions for a total of 20 percent of the period of record with less than 4 percent of this time falling under extreme drought conditions.

Table 2-6. Time Spent in Drought Conditions, 1925-2000

DROUGHT CONDITION	PERCENTAGE OF TIME (895 MONTHS)
Mild	28.7
Moderate	10.5
Severe	5.9
Extreme	3.7

During 2000, 2001 and 2002, NOAA declared drought conditions in Beaufort County at total of 18 times, but with no property or crop damage. There were no drought incidents reported after 2002.

The State of South Carolina has had a drought management plan in effect since 1985 that continues to be updated by the office of the State Drought Program Coordinator. The Executive Director of LCOG serves of the statewide Drought Committee.

Wind: Thunderstorms and Tornadoes

Beaufort County's coastal location lends itself to being vulnerable to hurricanes and brings not only the threat of flooding but also damage from wind. Figure 6-1 of The American Society of Civil Engineers (ASCE) publication, *Minimum Design Loads for Buildings and Structures*, 1998 (also referred to as ASCE 7-98) shows that for Beaufort County the design wind speed (3-second gust) for structures ranges from 130 mph along the coast to 110 mph at the County's furthest inland point. While most of the continental U.S. is mapped as having a design wind speed of 90 mph the Atlantic and Gulf Coast areas have design wind speeds ranging from 100 mph to 150 mph (along the tip of the Florida peninsula and a portion of the Gulf Coast).

FEMA's publication, *Taking Shelter from the Storm*, 2008, presents a map of four wind zones in the U.S. and provides design wind speeds for shelters and other critical facilities. Zone IV shows the areas of highest wind activity which are situated in the Midwest and Tornado Alley, while Zone I shows the areas of lowest activity which are in the western U.S. All of South Carolina is mapped in Zone III. For shelters in this zone a design wind speed of 200 mph is recommended.

Past Occurrences of Thunderstorms

Wind events can also be the result of thunderstorms which occur more often than hurricanes. Historical records from the SCHRL shows that there have been 167 wind events in Beaufort County since 1950 related to thunderstorms. Sixty-three of the events have wind speeds recorded in the NCDC. For 127 of these storms, wind speeds greater than 50 kts were recorded.

Future Probability of Thunderstorms

Based on the information from the South Carolina Hazard Research Laboratory, thunderstorms are predicted to occur in Beaufort County at high rate. For the 59 years of record the 167 storms represent an annual probability of 285.05 percent. Obviously this means Beaufort experiences multiple thunderstorms annually and this hazard is one that merits serious attention.

Tornadoes

The National Weather Service defines a tornado as a violently rotating column of air pendant from a thunderstorm cloud that touches the ground. Tornadoes are generally considered the most destructive of all atmospheric-generated phenomena with an average of 800 touching down annually in the United States. In the U.S. more tornadoes occur during the months of May and June than in other months. Additionally over 30 percent of recorded tornado activity has occurred between the hours of 3:00 pm and 6:00 pm and an additional estimated 25 percent have occurred between 6:00 pm and 9:00 pm.

Tornadoes are considered a major natural hazard threat for areas in the Midwest known as Tornado Alley. Tornado Alley includes portions of Texas, Oklahoma, Arkansas, Missouri and Kansas. Some portions of Texas and Oklahoma have recorded over 15 tornado touch downs in a 1,000 square mile area (FEMA 361, Figure 2-3). Tornadoes follow the path of least resistance and therefore valleys and flatter land areas are most susceptible to them.

The entire State of South Carolina has 1.5 tornadoes recorded for every 1,000 square miles. This is considered a relatively low concentration of tornado touchdowns (FEMA 320, Figure 1.1).

Tornadoes are classified using the tornado scale developed by Dr. Theodore Fujita. The Enhanced Fujita Scale went into effect in 2007 and replaces the original. The Fujita Tornado Scale assigns a category to tornadoes based on their wind speed and relates this to the general type of damage that is expected. Ratings range from EF0 (light damage), to F5 (total destruction of a building). The scale is presented in Table 2-7. Approximately ninety percent of tornadoes nationwide recorded between 1956 and 2001 have been F2, F1, and F0 tornadoes. Most of these (nearly 88 percent) have been F1 and F0 tornadoes.

Table 2-7. Enhanced Fujita Tornado Scale

SCALE VALUE	WIND SPEED RANGE (MPH)	TYPE OF DAMAGE
EF0	65-85	<i>Light</i> – May be some damage to poorly maintained roofs. Unsecured lightweight objects, such as trash cans, are displaced.
EF1	86-109	<i>Moderate</i> – Minor damage to roofs occurs, and windows are broken. Larger heavier objects become displaced. Minor damage to trees and landscaping can be observed.
EF2	110-137	<i>Considerable</i> – Roofs are damaged. Manufactured homes, on nonpermanent foundations, can be shifted off their foundations. Trees and landscaping either snap or are blown over. Medium-sized debris becomes airborne, damaging other structures.
EF3	138-167	<i>Severe</i> – Roofs and some walls, especially unreinforced masonry, are torn from structures. Small ancillary buildings are often destroyed. Manufactured homes on nonpermanent foundations can be overturned. Some trees are uprooted.
EF4	168-199	<i>Devastating</i> - Well constructed homes, as well as manufactured homes, are destroyed. Some structures are lifted off their foundations. Automobile-sized debris is displaced and often tumbles. Trees are often uprooted and blow over.
EF5	200-234	<i>Incredible</i> – Strong frame houses and engineered buildings are lifted from their foundations or are significantly damaged or destroyed. Automobile-sized debris is moved significant distances. Trees are uprooted and splintered.

Past Occurrences of Tornadoes

Scale specific intervals are reported below. However, some of the touchdown locations are recorded for the same date and are therefore either the same tornado or the same system. There were also three recorded funnel clouds from 1956-2006 years without a touchdown. The annual percentage of occurrence is 18.75 percent.

Most of the recorded incidents of tornadoes in Beaufort County have been low strength tornadoes. Only one tornado with a rating of F2 has been recorded. The other incidents were all F0 or F1 tornadoes. Following the general trend of tornado touchdowns most of the 19 recorded tornadoes occurred in May and June. Table 2-8 presents a list of the recorded tornado activity in Beaufort County and includes incidents of sighted funnel clouds and waterspouts. Damage estimates are given as costs from the time when they occurred if available.

County Emergency Management and local community staff recalled that there was significant damage associated with the June 5, 1995 tornado because the tornado hit a fairly densely developed area and caused damage to a grocery store and a nearby construction project site. The June 12, 1995 tornado also hit a fairly densely developed area causing damage to several residential structures. Finally there was one death of a resident in Frogmore living in a manufactured home associated with the September 1998 tornado (no. 14). Figure 2-7 shows the known locations of the tornado touchdowns within Beaufort County for which exact location data is available³.

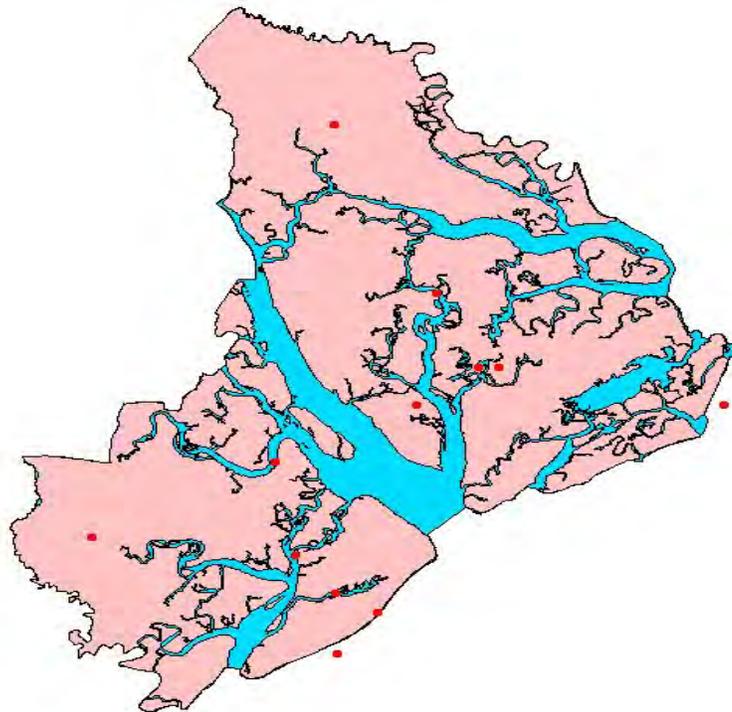


Figure 2-7. Tornado Events in Beaufort County, 1950-2006.

³ Exact location data is available for only some of the tornadoes reported, as reflected in the map.

	Date	Time	Location	Type	Magnitude	Property Damage
1	9/25/1956	9:00AM	Beaufort (County)	Tornado	EF0	0K
2	4/12/1961	9:00AM	Beaufort (County)	Tornado	EF	25K
3	10/7/1965	1:55AM	Beaufort (County)	Tornado	EF1	250K
4	10/7/1965	2:10AM	Beaufort (County)	Tornado	EF1	25K
5	5/29/1973	12:00PM	Beaufort (County)	Tornado	EF1	25K
6	5/3/1984	3:00PM	Beaufort (County)	Tornado	EF1	25K
7	6/16/1985	1:00	Beaufort (County)	Tornado	EF0	0K
8	6/30/1994	1:50 AM	Beaufort (County)	Tornado	EF0	0
9	6/5/1995	11:05 AM	Hilton Head Island	Tornado	EF1	500K
10	6/12/1995	7:10 PM	St. Helena Island	Tornado	EF1	60K
11	9/3/1998	7:28 AM	Frogmore	Tornado	EF2	360K
12	6/12/2001	7:10 PM	Gardens Corner	Tornado	EF0	0
13	6/12/2001	7:25 PM	Bluffton	Tornado	EF0	0
14	6/12/2001	7:55 PM	Parris Is	Tornado	EF0	0
15	6/12/2001	8:15 PM	Beaufort	Tornado	EF0	0
16	6/15/2004	7:21 AM	Parris Is	Tornado	EF0	0
17	9/6/2004	1:40 PM	Hilton Head Is	Tornado	EF1	0
18	7/13/2005	1:17 PM	Parris Is	Tornado	EF0	0
19	7/13/2005	1:39 PM	19 Beaufort	Tornado	EF0	0
20	7/13/2005	4:19 PM	Bluffton	Tornado	EF0	0
21	6/13/2006	1:30 PM	Laurel Bay	Tornado	EF0	0
						1.270M TOTAL

Table 2-8. History of Known Tornadoes in Beaufort County, 1950-2006

Future Probabilities of Tornadoes

In order to estimate the frequency of occurrence or the number of tornado days as compared to the length of the period of record which is from 1950 to June 2006 it is necessary to consider the individual tornado incidents. Tornadoes that occur close in time on the same day are likely the same tornado that has re-formed or are a tornado that is part of the same system. The recurrence interval then is defined from this information and is a rough estimate

of the amount of time, *on average*, during which one occurrence of a given category of tornado will take place. It is important to note that in reality a tornado can occur multiple times during one recurrence interval and that the recurrence interval is only an estimated average time period. Recurrence intervals for tornadoes within Beaufort County are presented in Table 2-9. This data is based on information reported directly from the NCDC. Data obtained from the SC Hazard Research lab indicates 21 tornadoes have touched down in the last 59 years in Beaufort County meaning the overall probability for tornadoes is 35.59 percent.

Table 2-8. Estimated Recurrence Intervals of Tornadoes (based on data from 1950 to 2006)

TORNADO CLASS	NUMBER OF OCCURRENCES WITHIN BEAUFORT COUNTY (TORNADO DAYS)	RECURRENCE INTERVAL (years)
F0	12	4.91
F1	7	8.43
F2	1	59
F3	no record	-----
F4	no record	-----
F5	no record	-----
<i>All Tornado Events</i>	17 ¹	3 ½

¹ For some of the records, the intensity and thus the Fujita Scale classification was unknown.

There is a moderate rate of occurrence of tornadoes in Beaufort County. This number has slightly increased since the original hazard mitigation plan in 2004 but this is generally not considered significant when compared with flooding and wind associated with tropical storms and hurricanes. Wind hazard mitigation will be addressed in the goals and actions section of this plan as high wind speed is the most harmful effect of a tornado.

Earthquakes

Earthquakes are classified according to their magnitude. The magnitude is a measurement of the maximum motion caused by an earthquake and is recorded by a seismograph. While several scales have been defined the most commonly used is the magnitude local (ML) which is used by the Richter Scale. Table 2-10 presents a classification of earthquakes according to their Richter Scale magnitude.

The USGS rates areas of the United States for their susceptibility to earthquakes based on a 10 percent probability of a given peak force (% g for a 1.0 SA)⁴, being exceeded in a 50 year period. Beaufort County’s peak acceleration is 5-6% g which is considered significant.

⁴ Ground motion hazard values are expressed as a percent of the acceleration of gravity or %g. The acceleration of gravity is 980 cm/sec/sec. Spectral acceleration, SA, relates ground motion activity to the motion experienced by a structure or building.

Table 2-9. Richter Scale Magnitude Classes

MAGNITUDE CLASS	MAGNITUDE RANGE ML = MAGNITUDE
Great	ML ≥ 8
Major	7 ≤ ML < 7.9
Strong	6 ≤ ML < 6.9
Moderate	5 ≤ ML < 5.9
Light	4 ≤ ML < 4.9
Minor	3 ≤ ML < 3.9
Micro	ML < 3

Past Occurrences of Earthquakes

Earthquake epicenter location data gathered by the HRL from the University of South Carolina Seismic Network was collected for the period from 1698 to 2001 and indicates that there has only been one earthquake with its epicenter in Beaufort County. The Beaufort County earthquake had an epicenter located on Hilton Head Island and occurred on January 4, 1989. Its magnitude measured 2.8 on the Richter scale. Earthquakes with magnitudes less than 3.0 are considered micro earthquakes, and those with magnitudes less than 2.5 are generally not felt by humans. Earthquakes that measure magnitudes of at least 5.0 on the Richter scale are considered moderate. Those above 5.9 are classified as strong, major or great.

Earthquakes near Beaufort County: potentially a major impact.

Information from Charleston Southern University's Earthquake Education Center indicated that 12 measurable seismic events occurred in 2002. Of these 12 events 3 had magnitudes higher than 3, and no events had epicenters in Beaufort County.

Although only one epicenter is located within the County for the period of record there are areas of more intense earthquake activity located near Beaufort County. One major area of more intense seismic activity is located along the borders of Charleston, Dorchester, and Berkeley Counties northwest and west of the City of Charleston about 30-35 miles from Beaufort County. In this area approximately 700 earthquakes occurred over the period of record (1698- 2001). The average magnitude of the earthquakes was a low 2.4 on the Richter scale. However the highest magnitude recorded was 6.90 in 1886. Of the 700 earthquakes four earthquakes measured magnitudes above 5.0 and 12 measured magnitudes greater than or equal to 4.0. The Charleston Southern University data indicates that an earthquake with a magnitude of 3.02 occurred in this vicinity in 2002.

A second area with a sizeable number of past incidents is located off the coast of southern Charleston County. It is situated to the southwest of the City of Charleston and is approximately 20-25 miles from Beaufort County. An estimated 44 earthquakes have

occurred here during the period of record. However at least one additional earthquake event occurred in this general area since 2001. An earthquake with an epicenter located approximately 30 miles southeast of Charleston and a magnitude of 3.8 occurred in November 2002. Prior to this incident the highest recorded magnitude during the period of record was 2.75 and the average for all of the 44 earthquakes was a low 1.5. In addition the Charleston Southern University data indicates that an earthquake with a magnitude of 3.83 and one with a magnitude of 4.32 occurred in this vicinity in 2002.

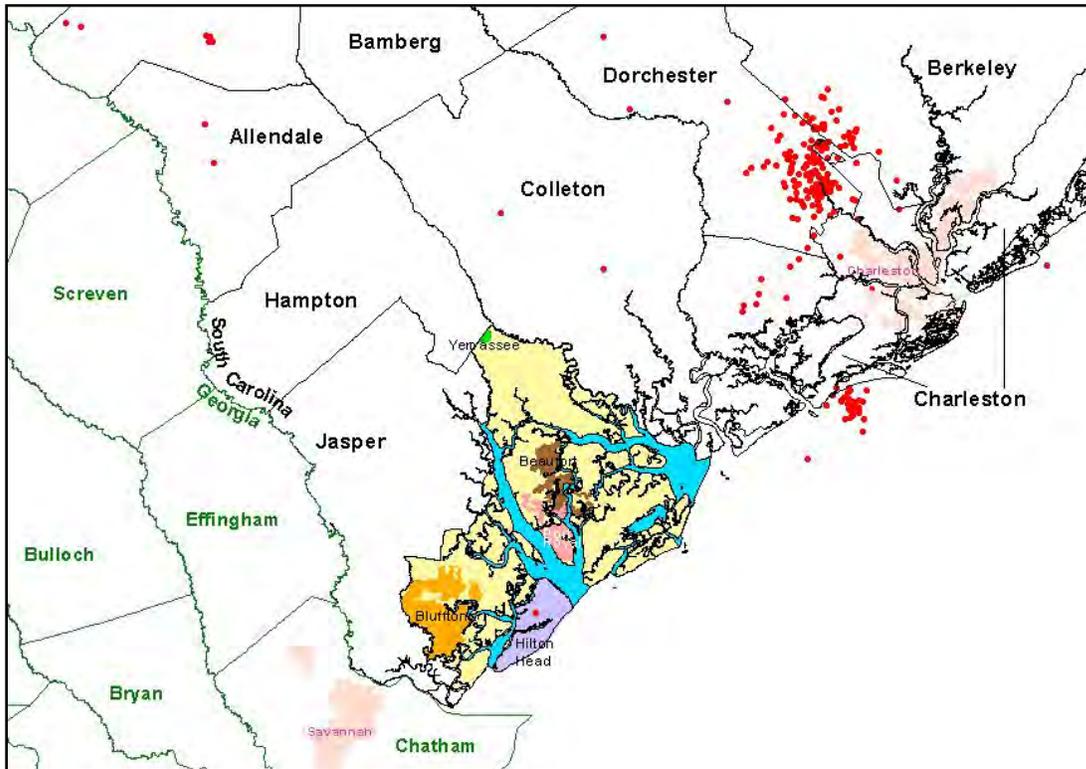


Figure 2-8. Historical Epicenter Locations 1698 to 2008.

1886 Earthquake

The Charleston Earthquake of 1886 was the largest earthquake of record for the southeastern United States and one of the largest earthquakes in eastern North America. Its major shock which lasted less than one minute had a magnitude of 6.9 and occurred on August 31, 1886. It resulted in serious damage to the City of Charleston and a death toll of approximately 60 people. The areas of most significant damage were Charleston and areas directly northwest of the city including Summerville and Jedburg.

More than 300 reported earthquakes that occurred in South Carolina after the 1886 earthquake occurred in the 35 years following the 1886 event and were actually aftershocks of the 1886 earthquake.

In addition to the recorded events for the period of record research has shown that there have likely been several events of strong to major magnitude along the South Carolina Coastal

Plain (Talwani and Schaeffer) over the last 6,000 years. Some of these events along with the 1886 earthquake have caused seismically induced liquefaction which has been observed at several sites in Coastal South Carolina, including the Bluffton area. According to Talwani and Schaeffer, one possible scenario puts one of the seismic events epicenters' near Bluffton with a magnitude of about 6.0. However, the study suggests that earthquakes with epicenters near Charleston are much more likely and that major earthquakes at Charleston have a recurrence interval of about 500-600 years. Because of the proximity to fault lines near Charleston and Bluffton Beaufort County has a strong commitment to seismic safety.

Future Probabilities of Earthquakes

Looking at the occurrences of earthquakes over the period of record from 1698-2001, the following recurrence intervals for earthquake events were determined (Table 2-11). These figures are based only on seismic activity with magnitudes of 3 or more and therefore include 145 events with epicenters in the previously described locations north and west of Charleston and 2 events in the area south of Charleston. While the SCHRL reports only a .32 percent annual probability of occurrence, the effects of an earthquake on Beaufort County could be devastating considering its proximity to major fault lines. Therefore earthquakes are considered a major hazard and should be taken seriously.

Table 2-10. Estimated Recurrence Intervals of Earthquakes in Beaufort County

(based on occurrence data from 1698-2002)

MAGNITUDE CLASS	NUMBER OF OCCURRENCES	RECURRENCE INTERVAL (YEARS)
Great	0	-----
Major	0	-----
Strong	0	-----
Moderate	0	-----
Light	0	-----
Minor	1	300

Fire

According to the U.S. Forest Service's Wildland Fire Assessment System (<http://www.wfas.net/>), Beaufort County is located in a low risk fire danger area. Generally, there are three major factors to consider in assessing the threat of wildfires to a community: topography, vegetation and weather.

An area's terrain and land slopes affect its susceptibility to wildfire spread. Wildfire travels much faster upslope than it does down slope. Wildfire can spread rapidly on steep slopes. When the ground slope doubles the rate of wildfire spread upslope will likely double. Beaufort County is situated on the coastal plain and is very flat. The County's highest ground elevation is approximately 50 ft NGVD 29.

Vegetation and land use is another characteristic that affects the spread of wildfire. In particular forests, dense wooded areas and grasslands provide readily accessible fuel for wildfires. Besides just the existence of this type of vegetation its moisture content is also a

significant factor. This is dependent on weather. Droughts or dry weather cause vegetation to become dryer and serve as better fuel. While there are sizeable marsh areas in Beaufort County there are also numerous undeveloped forested areas and grasslands that during dry conditions can be susceptible to wildfires.

Weather is the third factor for consideration. High temperatures combined with low humidity offer the most conducive environment for wildfires. Beaufort County's climate is considered subtropical humid. While the County may experience high temperatures during the summer months this is usually combined with high levels of humidity which are not conducive to the ignition and spread of wildfires. However during periods of drought the threat of wildfire increases. According to the Beaufort County Forest Ranger drought conditions have persisted for the last three summers (2000-2002) and have left Beaufort County more susceptible to wildfires.

Past Occurrences of Fire

The National Climatic Data Center has no records of wild or forest fires for Beaufort County during the period 1950 to June 2008. Records for wildfire events were obtained from the South Carolina Forestry Commission (SCFC). The SCFC responds to fires occurring in forested areas or brush areas and terms these types of fires landfires. The number of annual landfire events for Beaufort County for the period of record from 1988 to 2000 was provided by the SCFC. Also included in the data is information on the total number of acres affected annually by the fires. Table 2-12 presents this information.

According to the Beaufort County Forest Ranger, typical wildfires occur in forested areas of the County and in areas known as broomstraw fields where there is ample fuel for fires in the form of tall grass. Typically these fires do not cause damage to structures but affect only uninhabited areas. The SCFC has records of the damage caused by each individual fire event but it has not been compiled electronically or on an annual basis.

According to Beaufort County Emergency Management officials these fires are generally started by people through careless actions such as improper disposal of lit cigarettes, charcoal fuel for outdoor cooking and starting outdoor camp fires that are not properly controlled.

Given the relatively small land areas affected by the fires and the terrain of Beaufort County wildfires are considered a minor to moderate threat for the unincorporated and incorporated areas of Beaufort County. The potential for loss from wildfires is less than one percent. This is considered a relatively low risk hazard but will be addressed by a mitigation action.

Table 2-11. Occurrences of Landfires in Beaufort County, 1988-2008

YEAR	NUMBER OF LANDFIRES	ACREAGE AFFECTED
1988	121	763
1989	59	291
1990	69	211
1991	114	890
1992	64	192
1993	76	450
1994	89	313
1995	67	439
1996	113	710
1997	99	580
1998	51	197
1999	101	1,102
2000	90	450
2001	92	514
2002	12	33
2003	73	333
2004	36	255
2005	45	178
2006	41	178
2007	29	118
2008	43	120

Future Probabilities of Fire

Based on fire event data from the past 21 years, The SC Hazards Lab reports an average of 72 wildfires occur annually in Beaufort County. The SC Forestry Commission reports an average of 396 acres of land burned per year. The annual probability for fire in Beaufort County is well over 100 percent per year. However looking at past occurrences as an indicator it is likely that less than one square mile of land on average will be affected annually by wildfires.

Hazards not Historically Prevalent

Dam Failure

According to GIS data and previous HAZUS data collection there are 15 dams within Beaufort County. Most of these dams are less than 10 feet in height and all are under 25 feet in height. Dams less than 25 feet in height are generally exempt from the Dams and Reservoirs Safety Act because in most cases their failure would not pose a serious threat to

life, safety, or property. The Relative Hazard Rating for all of the dams in Beaufort County is low based on a previous HAZUS assessment.

Data for neighboring counties of Colleton, Jasper and Hampton shows that there are 39 dams within those counties, 38 of which also have a low relative hazard rating. There is one dam within Hampton County classified as having a significant hazard rating. This dam has an emergency action plan and is located along Black Creek, a tributary of the Coosawhatchie River which flows to the tidally-influenced Broad River. Although the dam is located in the drainage basin of the Broad River it is located approximately 35 stream miles above Beaufort County. The dam reservoir has a drainage area of approximately 60 square miles, but given the dam's distance from Beaufort County and the fact that the Coosawhatchie and Broad Rivers' drainage areas are relatively high a dam failure at the Hampton County dam is not likely to have a significant impact on Beaufort County. The SC Hazard Research Lab has no record of dam failure for Beaufort County. Therefore dam failure is not considered a significant hazard within Beaufort County.

Landslides

Landslides are often prompted by the occurrence of other disasters. Floods or long duration precipitation events create saturated unstable soils that are more susceptible to failure. The forces of earthquakes can also cause landslides. The USGS has a National Landslide Hazards Program and has mapped the landslide risk for the entire U.S. All of eastern South Carolina is mapped in the lowest risk zone. This is an area where the landslide incidence involves less than 1.5 percent of the land area. Given the relatively flat relief of Beaufort County and its low landslide incidence as mapped by the USGS landslides are not considered a significant threat within the County. According to the SCHRL there are no recorded occurrences of landslides in the County.

Tsunamis

Tsunamis are sea waves created by underwater earthquakes. When a tsunami is generated and makes its way to the shoreline it can cause extensive damage to nearby structures and infrastructure as well as significant inland flooding. Tsunamis generally occur in the Pacific Ocean but there have been some recorded events of tsunamis in the Caribbean area of the Atlantic Ocean.

Tsunamis are not generally considered a threat along the eastern seaboard of the continental U.S. The National Oceanic and Atmospheric Administration (NOAA) prepared a Tsunami Mitigation Plan for the Senate Appropriations Committee in the Fall of 1995 that included an area of mapped tsunami risk. This area did not include the eastern U.S. and only showed the tsunami risk area to include coastline along Alaska, California, Hawaii, Oregon and Washington.

Recent findings have indicated that tsunamis can occur along coastal Virginia and North Carolina. In coming years tsunami scenarios for these portions of the Atlantic Coast will be further studied. However the South Carolina coast is not currently included as part of this

potential risk area and at present the South Carolina Geological Survey does not consider tsunamis to be a significant hazard to the State. There are no recorded occurrences of tsunamis in Beaufort County, but this plan considers the hazard a serious one, and plans to mitigate against it because of the devastating nature of only one occurrence.

Volcanic Hazards

Volcanic eruptions threaten human life as well as buildings and infrastructure. Among the hazards of volcanic eruptions are lava flows, lava domes, ashfalls, gasses and lateral blasts. There are more than 65 active or potentially active volcanoes in the United States. 55 of these volcanoes have been active in the last 200 years. While volcanic eruptions can pose a serious threat to life and property most of the volcanoes United States are located in Alaska. On the mainland of the U.S. only western states have been identified as being vulnerable to volcanic hazards. This vulnerability is based on the possibility of the areas being subject to lava flows and ashfall (FEMA's Multi-Hazard Identification and Risk Assessment Report, 1997). Therefore volcanic hazards are not considered a threat to Beaufort County

Table 2-13, Overall Probability Table

Hazard	Probability (percent chance)
Hurricane/Tropical Storm	12.66
Earthquake	0.32
Avalanche	n/a
Tsunami	n/a
Landslide	n/a
Dam Failure	n/a
Drought	35.59
Flood	42.37
Thunderstorm and Wind	283.05
Tornado	35.59
Fire	7180.95
Winter Weather	35.59

Table 2-13 represents the overall annual probability for each of the hazards discussed. If the value that is given is "n/a," that simply means that the hazard has not occurred in the recorded history according to the data from the SCHRL.

3. Vulnerability Assessment

The results of the Hazard Identification indicate that some of the hazards warrant a Vulnerability Assessment. A Vulnerability Assessment is performed to determine the impact that hazards have on the built environment and how they can affect people’s safety. For those natural hazards with a relatively short frequency of occurrence or those which have caused major damage in the County a vulnerability assessment was deemed appropriate. Therefore the effects of flooding, wind events and earthquakes on Beaufort County will be analyzed. Some hazard events that were identified such as thunderstorms and tornadoes are considered to be events that create much larger hazards such as flooding and wind hazards. This analysis recognizes such and addresses vulnerability considering that. Overall unless this analysis indicates so all hazards appear to affect each of Beaufort County’s multiple jurisdictions equally. Both during and after the Vulnerability Assessment LCOG staff consulted with Committee members individually and organizationally to ensure that both the data and the analysis truly reflected current conditions in the jurisdictions. Changes were made as needed.

Vulnerability Summary

The hazards to which Beaufort County has a notable vulnerability to are discussed in this section and available data has been used. The tables below reflect an over all summary of description of the each jurisdictions vulnerability to each hazard.

The valuation data in Table 3.1 below shows the total number of buildings based on the Beaufort County Tax assessor’s estimates for residential, commercial and industrial facilities. It also estimates the value of the critical facilities based on value data. The loss numbers in the tables below represent the impact of hazards.

Table 3.1 Assessor Valuation Data

Jurisdiction	Residential	Commercial
Beaufort (City)	\$ 1,203,122,492	\$ 473,292,571
Port Royal	\$ 356,003,588	\$ 174,297,716
Hilton Head	\$19,055,715,633	\$1,691,949,007
Bluffton	\$ 7,504,802,467	\$1,071,752,821
County	\$ 5,466,749,210	\$ 460,983,277
TOTAL	\$33,586,393,390	\$3,872,275,392

Table 3.2 Loss information per hazard in Beaufort County based on historical data (NCDC)

Hazard	Property Damage
Drought	\$14,201,478
Flooding	\$10,849,940
Hurricane/Tropical	\$13,114,269
Thunderstorm	\$1,467,873
Tornado	\$2,168,661
Wildfire	\$334,042
Wind	\$3,111,284
Winter Weather	\$14,226,954

To assess the vulnerability of the Beaufort County and all of its jurisdictions to each identified hazard, the frequency and severity were used. Each hazard was assessed based on compiled data. The “vulnerability and rankings” chart reflects how the vulnerability of the entire planning area to each of the hazards. Below, the terms and methodology is defined:

Frequency is valued at very high, high, medium, low and very low. These values are based on annual probability supplied from the NCDC based on historical data. The values are as follows:

- Very High-over 100% (event will happen more than once per year)
- High-60-100%
- Medium-30-59%
- Low-11-29 %
- Very Low 0-10%

Severity is based on the estimated loss of structures if the event occurred based on previous data and magnitude. As an example based on the historical data for a hurricane the severity of damage would be very high if a Category 3 or Category 4 storm struck Beaufort County. Severity is defined as follows:

- Very High-over 75% loss
- High-50-75% loss
- Medium-26-49% loss
- Low-11-25% loss
- Very Low-0-10% loss

Historical data from the SCHRL was used to estimate the magnitude of the event. Where an actual weather-based valuation such as the Enhanced Fujita scale was available that number is shown.

Methodology: To calculate the vulnerability frequency was multiplied by the severity. Each severity and frequency value was given an assigned numerical value. Frequency was valued at one-through-given. Because loss concerns the county much more the loss structure was

valued at 10,20,30,40,50, respectively. A vulnerability of 250 would be the highest, and a vulnerability of ten would be the lowest.

Loss information in Table 3.2 was based on data on information from the SCHRLbut was also examined using several sources. Data from the NCDC about severity and loss information was utilized to see how severe losses have been in past occurrences of hazards. Using this data an estimate of total loss percentage was determined. GIS information from Beaufort County and Hilton Head Island were used to determine structure count and location. Data from the SLOSH models shown in this plan was also reviewed. The Planning Mitigation Teams expertise was also drawn upon to understand the amount of loss that would be suffered in the event of a hazard. A compilation of all of the data above led to severity/loss scores. Valuation data was also compiled from the Beaufort County Assessor’s office seen previously in Table 3.1.

Table 3.3 Overall Vulnerability Summary

Hazard	Frequency (annual probability)	Severity (loss)	Vulnerability	Relative Numerical Value
Hurricanes	low (12.6)	Very high (Cat. 4 or higher)	100	2 (tied)
Thunderstorms	Very high(283)	medium	150	1
Flood	Medium(42.37)	Medium	90	3 (tied)
Winter Event	Very low(1.69)	Very low	10	12
Dam Failure	Very low(n/a)	Very low	10	12
Drought	Medium(35.59)	Very Low	30	11
Tornadoes	Medium(35.59)	Medium	90	3
Earthquakes	Very Low(.32)	High	40	10
Fire	Very High(over 100)	Very Low	10	12
Landslides	Very Low(n/a)	Very Low	10	12
Tsunamis	Very Low(n/a)	High	40	10

Table 3.4 demonstrates the varied and unique risks, based on data from the Hazard Planning Team and historical data that each jurisdiction faces from each hazard. The chart reflects that the hazards are distributed evenly with few differences.

Table 3.4 Multi-jurisdictional Risk Assessment, varied and unique risks

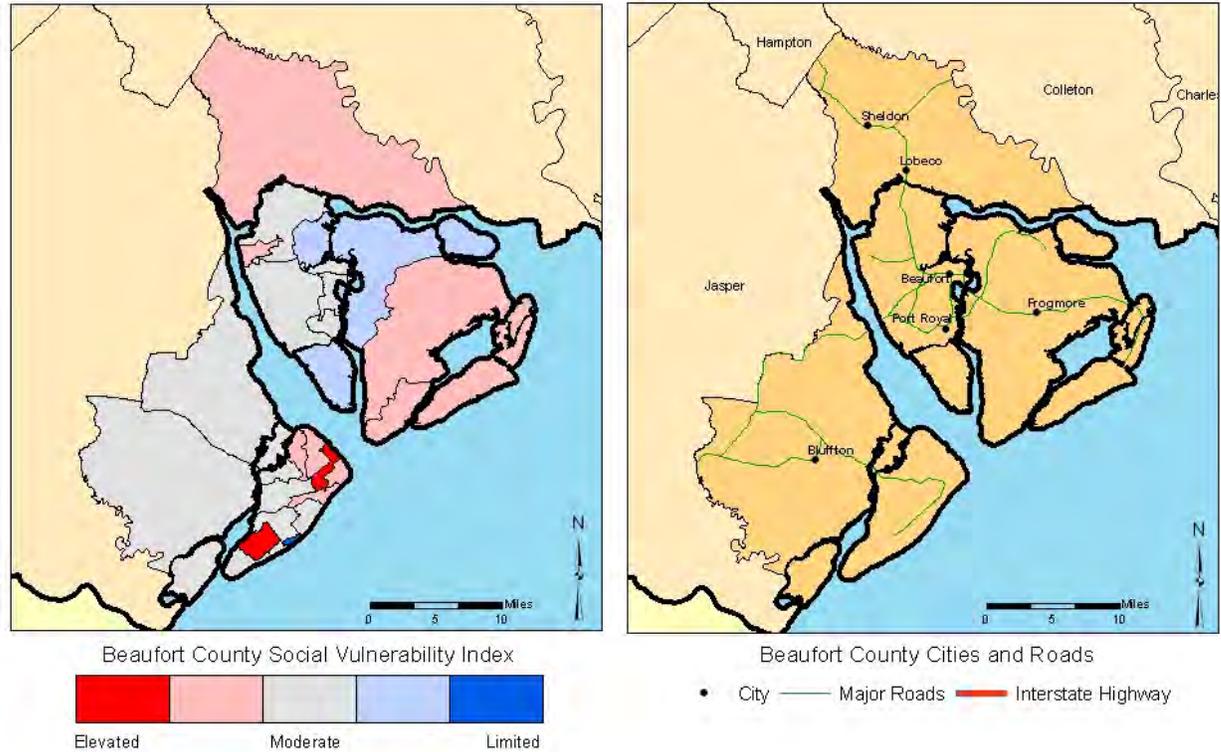
	Beaufort County	City of Beaufort	Town of Hilton Head	Town of Port Royal	Town of Bluffton
Hazard					
Hurricanes	x	x	x	x	x
Thunderstorms	X	X	X	X	X
Flood	X	X	X	X	X
Erosion	X	X	X	X	
Winter Event	X	X	X	X	X
Dam Failure	x				
Drought	x				
Tornadoes	X	X	X	X	X
Earthquakes	X	X	X	X	X
Fire	X				
Landslides					
Tsunamis	X	X	X	X	X

Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population’s ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places and then visually displays these comparisons on a map. SoVI illustrates where there is an uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (<http://www.sovius.org>).

According to SCEMD Beaufort County has a wide range of social vulnerability with most tracts exhibiting moderate levels. Hilton Head Island shows the extremes with two tracts in the elevated category, many in the moderate category and one tract in the limited category. Figure 3.1 provides maps of the Beaufort County depicting social vulnerability by census tract and Towns and major roads.

Figure 3.1 Social Vulnerability



Inventory Information

In order to assess the vulnerability of the community to natural hazards an inventory of the county’s structures and critical facilities was performed. ArcGIS shape files with existing structure locations were provided by Beaufort County for all unincorporated areas, the City of Beaufort, Bluffton, Port Royal. This information includes structures digitized from aerial photography as well as updates based on recent Certificates of Occupancy as they are issued. The Town of Hilton Head Island also provided shape file inventory information and aerial photography used to identify some of the structures on Hilton Head Island and in the surrounding area located outside of the town boundary. Figure 3-2 provides a graphic representation of structure locations within the County

Critical facilities are those facilities that warrant special attention in preparing for a disaster and facilities that are of vital importance to maintaining citizen life, health, safety and community order during and directly after a disaster event. Beaufort County along with Hilton Head Island has prepared an inventory of critical facilities that includes emergency response facilities such as police stations, fire departments, emergency medical services stations (EMS) and medical centers, hospitals, public facilities including schools and local government buildings and important transportation facilities including airports. Hazard Mitigation Planning Committee Members reviewed and updated the county’s list during the planning process. A count of the types of facilities in each community is provided in the tables below.

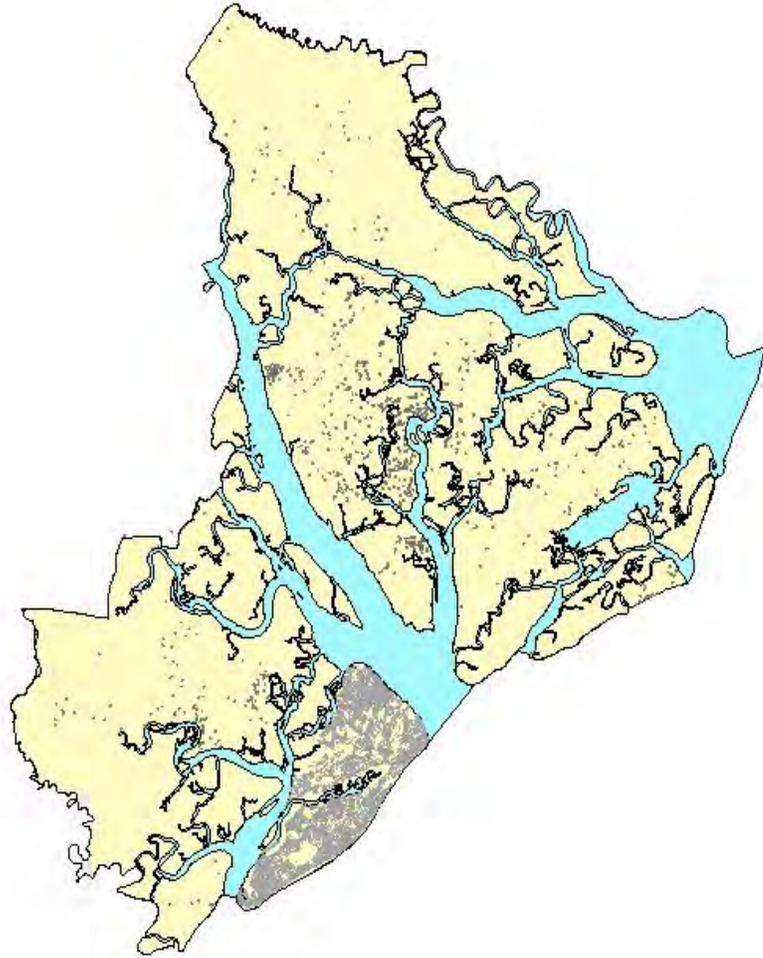


Figure 3-2. Structures in Beaufort County

LOCATION	NUMBER OF FACILITIES							
FACILITY TYPE	Emergency Facilities	Military Facilities	Schools	Public Buildings	Utilities	Airports	Commercial Facilities	TOTAL
INCORPORATED COMMUNITIES								
Beaufort	9	1	8	10	4	1	---	30
Bluffton	3	---	3	---	3-	---	---	6
Hilton Head	15	---	5	3	8	1	10	42
Port Royal	5	1	2	2	1	---	---	10
UNINCORPORATED AREAS								
Burton	3	---	4	1	---	---	1	9
Daufuskie	2	---	---	---	---	---	---	2
Chechessee	1	---	---	1	1	---	---	3
Frogmore	1	---	---	---	---	---	---	1
Lady's Island	---	---	3	1	---	---	---	4
Lobeco	1	---	1	---	---	---	1	3
Pritchardville	2	---	---	---	---	---	---	2
Seabrook	---	---	---	1	---	---	---	1
Sheldon	2	---	1	1	---	---	---	4
St. Helena	4	---	2	1	1	---	---	7
<i>Total in Unincorporated Areas</i>								36

Table 3-5. Critical Facilities

Flooding

This section discusses the vulnerability of Beaufort County to damage by the flooding described in the Hazard Identification. Flooding of vacant land or land that does not have a direct effect on people or the economy is generally not considered a problem. Flood problems arise when floodwaters cover developed areas locations of economic importance and infrastructure. Damage to buildings particularly residential buildings is usually the largest single flood problem a community faces.

Floodplain

The majority of land in Beaufort County lies within the 100-year floodplain as shown on the communities' Flood Insurance Rate Maps. A significant portion of existing development in the County is located in 100-yr flood zones and is vulnerable to flooding and flood damage. damages.

Flood Depths

Base flood elevations within the County range from 22 ft NGVD within VE zones on Hilton Head Island to 8 ft NGVD in inland areas of the northern county. Flood depths within the county also vary.

City of Beaufort

In the City of Beaufort properties along the Beaufort River in the downtown portion of the city are subject to flood depths of 3 to 6 feet during the 100 yr flood according to FEMA FIRM's base flood elevations and reference mark elevations. The base flood elevation along the river is 13 ft NGVD while ground elevations range from approximately 7 feet at the end of Hancock Street by the Beaufort River to approximately 11 feet on the northwest side of the intersection of Carteret and Port Republic Streets.

Town of Bluffton

Within incorporated Bluffton the majority of development lies outside of the 100-year floodplain. There are some developed areas along May River that lie within the Town of Bluffton where the base flood elevation is 13 ft NGVD. Ground elevations along the May River in developed areas within the Town are about 8 to 12 ft NGVD. Therefore a very limited amount of structures within the town are subject to base flood depths 1 to 5 ft.

Town of Hilton Head

Within the Town of Hilton Head Island, most areas are subject to base flood elevations of about 14 ft NGVD although the flood elevations along the shoreline range from 22 ft to 15 ft NGVD. According to reference marks on the Hilton Head Island FIRMs much of the inland areas are subject to flooding of about 1 to 3 ft. Most of the built environment near the coastline in Hilton Head Island that lies in areas subject to base flood elevations of 14 to 15 ft NGVD have ground elevations that range from 8 to 12 feet resulting in flood depths of 3 to 7 feet. However in some areas where properties are located further towards the shoreline and within VE zones base flood depths are higher. In the Forest Beach Drive Area, several structures located seaward of the road are within VE zones with water surface elevations of 18 to 20 ft NGVD while ground elevations are approximately 12 ft NGVD resulting in flood depths of 6 to 8 ft.

Town of Port Royal

Within the Town of Port Royal, most of the mapped base floodplain that affects the developed area is located along the Beaufort River in the southern portion of the Town. This includes properties along Sixth through Tenth Streets, eastern portions of Eleventh and Twelfth Streets and southern portions of Richmond, London, Paris, and Madrid Avenues. The base flood elevation here is 13 ft NGVD. Ground elevations are 4 to 8 ft south of Seventh Street and 9 to 13 ft between seventh and tenth. South of Seventh Street flood depths are 5 to 9 ft for the 100 year flood. Between Seventh and Tenth depths are less than 1 foot up to 4 feet.

Unincorporated County – Bluffton Township

In the Moss Creek Plantation area portions of the community lie in the floodplain. Flood depths are predicted to range from 1 to 9 feet. The base flood elevation in the same area is 14 ft NGVD and ground elevations range from 5 to 13 ft NGVD.

Unincorporated County – Dafuskie

In northwestern Dafuskie Island where the base flood elevation is 14 to 15 ft NGVD ground elevations are 4 to 9 ft NGVD resulting in base flood depths of about 5 to 11 ft. In central Dafuskie along the Calibogue sound BFE's range from 14 to 16 ft NGVD while ground elevations are at 4 ft near the shoreline. Slightly further inland where the base flood elevation is 14 ft NGVD ground elevations are from about 6 to 9 ft NGVD putting flood depths in this area from 5 to 11 ft.

Unincorporated County – Fripp Island

Fripp Island's development consists mostly of the Fripp Island resort which spans 3-1/2 miles of coastline along the Atlantic Ocean. The base flood elevation within the majority of this development is 13ft NGVD, while ground elevations range from 4 ft NGVD to 10 ft NGVD. Therefore, flood depths are an estimated 3 to 9 feet. Closer to the coast, the BFE ranges from 15 to 20 ft NGVD, but landward of the frontal dune where there is development, the elevation is 15 to 16 ft NGVD and ground elevations are 4 to 11 ft NGVD. Therefore, right along the coastline, but landward of the dunes the flood depth ranges from 4 to 12 feet. Therefore, flood depths vary dramatically from as much as about 11 feet in low-lying areas near the coastline to 3 feet in areas on some of the higher ground of the development located inland where the base flood elevation is 13 ft NGVD. The Fripp Island development is relatively new with development occurring after the county joined the NFIP. Therefore, the structures are post-FIRM and should all be elevated above the level of the base flood.

Unincorporated County – St. Helena

In the Fort Fremont area of St. Helena located at the mouth of the Beaufort River there is development located along the river within the floodplain. The base flood elevation here is 13 to 14 ft NGVD. Ground elevations of properties located adjacent to the river are generally 5 to 8 ft NGVD where the BFE is 14 ft NGVD. East of Bay Point Road and Fort Fremont Road ground elevations in developed areas are about 5 to 9 ft NGVD while the base flood elevation is 13 ft NGVD. Therefore flood depths are approximately 4 to 9 feet in the Fort Fremont area for the 100 year floodplain.

Along Sea Island Parkway in eastern St. Helena a significant portion of the developed area is within the 100 year floodplain. The base flood elevation ranges from 14 to 15 ft NGVD in and ground elevations are generally 6 to 10 ft NGVD in much of the developed areas. This puts flood depths as high as 9 feet in some areas with a range of 4 to 9 ft.

Unincorporated County – Sheldon-Dale

Along the Coosaw River in the Sheldon-Dale area the base flood elevation is 13 ft NGVD according to the county's FIRMs. Flood depths in this area are then an estimated 1 to 5 ft as ground elevations in the developed area generally range from 8 ft NGVD upwards.

Flood Prone Structure Counts

Table 3-6 provides the results of the analysis indicating the number of structures in Beaufort County and its incorporated areas that are vulnerable to flooding according to the data and the building shape files supplied by the jurisdictions.

The data supplied in Table 3-6 shows that a significant portion of the structures in Beaufort County are within the 100-year floodplain. In Hilton Head Island the incorporated area with the most structures (over 18,000) an estimated 76 percent of structures are located in the 100 year floodplain where there is a 1 percent chance of being flooded in any given year. In the City of Beaufort where there are over 4,000 structures approximately 29 percent lie within the 100 year floodplain. In Port Royal 38 percent of structures lie within the 100 year floodplain. The Town of Bluffton has a relatively low percentage of structures within the 100-year floodplain. Only 12 structures or about 2 percent of the Town’s total structures lie within the 100 year floodplain.

Table 3-6. Number of Structures in Flood Zones

COMMUNITY	V	A	Subtotal		B ZONE	C ZONE	TOTAL
	ZONE(S)	ZONE(S)					
100-YEAR FLOOD ZONE							
BEAUFORT COUNTY (UNINCORPORATED)	132	7,924	8,056		511	10,920	19,487
BEAUFORT (CITY)	-----	1,254	1,254		988	2,059	4,301
BLUFFTON	-----	12	12		0	508	520
HILTON HEAD	163	15,788	15,951		481	4,135	20,567
PORT ROYAL	18	691	709		213	939	1,861

Forty percent of structures in the unincorporated portion of the County are located in the 100 year floodplain. Beaufort County is divided into 7 planning districts that include the entire County. The Hilton Head Island planning district includes most of the Town of Hilton Head Island as well as the northern portion of the Island and the adjacent mainland, The remaining five planning districts encompass larger portions of the unincorporated County. Building counts for structures vulnerable to flooding are presented for each of the 7 planning districts as shown in Figure 3.3. Building count results are presented in Table 3.7.

Figure 3-3. Planning Districts and Incorporated Areas

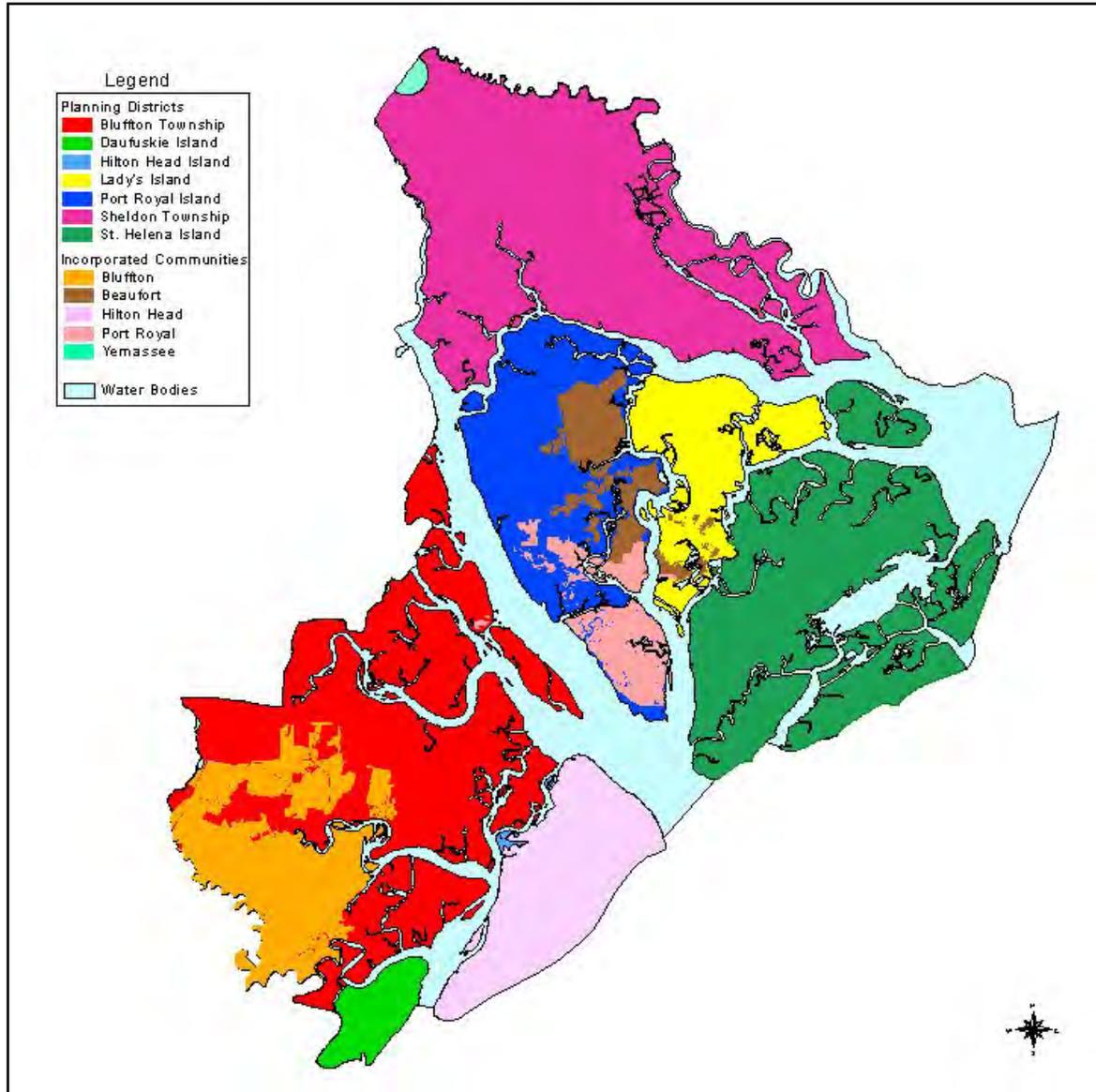


Table 3-7. Structures in Flood Zones in Unincorporated Beaufort County by Planning District

COMMUNITY	V	A		SUBTOTAL	B ZONE	C ZONE	TOTAL
	ZONE(S)	ZONE(S)					
	100-YEAR FLOOD ZONE						
BLUFFTON TOWNSHIP	-----	1,248	-----	1,248	53	1,685	2,986
DAUFUSKIE ISLAND	4	109	-----	113	26	57	196
HILTON HEAD ISLAND	-----	373	-----	373	-----	26	399
LADY'S ISLAND	-----	972	-----	972	26	1,289	2,287
PORT ROYAL ISLAND	18	1,593	-----	1,611	43	5,963	7,617
SHELDON	-----	436	-----	436	252	1,217	1,905
ST. HELENA	110	3,193	-----	3,303	111	683	4,097

Most of the structures in the unincorporated County are located in the northern portion of the County outside and to the east of Beaufort and Port Royal. The planning district with the highest overall number of flood prone structures is St. Helena Island which includes the Frogmore area and Fripp Island. There are over 3,000 structures in this area located in the 100 year floodplain. While relatively few in overall numbers it is noteworthy that all structures in the Hilton Head Island District that are not in the Town of Hilton Head are in the 100 year floodplain. The Port Royal Island area has about 1,600 flood prone structures and the unincorporated Bluffton area has over 1,300 structures located in the 100 year floodplain.

Flood insurance policy information was provided by SC Department of Natural Resources for the jurisdictions and is presented in the Table 3-8. Note that flood insurance is available to anyone in the County except for those structures in CoBRA zones even those structures outside of the mapped floodplain area. Therefore the number of policies includes policies for structures that are not in the mapped floodplain.

Table 3-8. Flood Insurance Policies as of May 2009

COMMUNITY	NO. STRUCTURES IN THE 100-YEAR FLOODPLAIN	NO. OF FLOOD INSURANCE POLICIES
UNINCORPORATED COUNTY	7,667	22,188
BEAUFORT (CITY)	1,254	1482
BLUFFTON	42	227
HILTON HEAD	9,149	29,515
PORT ROYAL	709	391

In addition to performing a count of structures in the 100-year floodplain zones a count of structures in storm surge zones was completed. This was done for each of the Category 1 through 5 surge zones and is divided by planning area. Results of the analysis are presented in Table 3-9.

Table 3-9. Structures in Storm Surge Zones in Beaufort County by Planning District

PLANNING DISTRICT	CATEGORY 1		CATEGORY 2		CATEGORY 3		CATEGORY 4		CATEGORY 5		TOTAL
	COUNT	PERCENT									
BLUFFTON TOWNSHIP	673	19	1,368	39	2,127	60	2,842	80	3,145	89	3,536
DAUFUSKIE	89	45	185	94	190	97	196	100			196
HILTON HEAD ISLAND	11,799	57	17,615	86	19,392	94	20,556	99.93	20,557	99.9	20,557
LADY'S ISLAND	317	14	871	38	1,464	63	1,929	83	2,253	97	2,319
PORT ROYAL ISLAND	1,400	10	3,302	24	6,232	45	9,679	70	1,1097	81	13,747
SHELDON	263	13	660	34	1,242	63	1,704	87	1,861	95	1,961
ST. HELENA	1,752	43	3,381	83	3,664	89	3,872	95	3,998	98	4,097

Results from the storm surge analysis show that for a Category 2 storm building counts for storm surge inundation generally seem to correspond to building counts for inundation from the 100 year flood. Table 3-10 provides a numerical comparison of the building inundation counts.

Table 3-10. Structure Inundation 100 year Floodplain versus the Category 2 Storm Surge

PLANNING DISTRICT AND INCORPORATED COMMUNITIES	NUMBER OF STRUCTURES IN THE 100-YEAR FLOODPLAIN	PERCENT OF TOTAL	NUMBER OF STRUCTURES IN THE CATEGORY 2 STORM SURGE ZONE	PERCENT OF TOTAL
Bluffton Township Town of Bluffton	1,260	36	1,368	39
Daufuskie Island	113	58	185	94
Hilton Head Island Town of Hilton Head	15, 788	77	17,615	85
Lady's Island	972	43	871	38
Port Royal Island City of Beaufort Town of Port Royal	3,574	26	3,302	24
Sheldon (Beaufort Co.)	453	23	660	34
St. Helena	3,303	81	3,381	83

One notable exception to this pattern is seen for Daufuskie Island where only 113 structures (57 percent) are shown as being in the 100-year floodplain but 94 percent of structures are within the Category 2 surge zone. It is worth noting that Daufuskie has the smallest overall number of structures. Differences in building counts will thus have a greater affect on the overall percentage. Significant differences in the building counts also exist for Hilton Head Island and Sheldon, where a Category 2 storm would inundate more area than the 100-year flood. This analysis suggests that a storm with a magnitude equal to or in excess of that of a Category 2 storm would damage many structures outside of the 100-year floodplain on Daufuskie, Hilton Head Island and in Sheldon. The vast majority of these structures are likely not built to resist flooding or built to prevent flood damage since they lie outside of the regulatory floodplain. This is also true for Category 3 and higher magnitude storms for the

entire county. Therefore many of the structures vulnerable to Category 2 and higher magnitude storm surge flooding were not designed or constructed to withstand the effects of flooding.

Critical Facilities

Beaufort County’s critical facilities GIS coverage (pubplcs.shp) was used as the basis for determining the county’s critical facilities. The Lowcountry Council of Governments’ GIS department participated in verifying both the critical facility numbers and floodplain data. Committee members reviewed the list of facilities included in this coverage and made modifications as appropriate. A total of 96 facilities within the County were identified as critical. Upon analysis of their location it was determined that 26 of these facilities are located within the 100 year floodplain. All of these are in the AE zone. Seventeen of these facilities lie within incorporated areas of the County. Nine of them are in the City of Beaufort, 7 are in Hilton Head Island and 1 is in Port Royal. Most of the remaining facilities are located in unincorporated portions of Northern Beaufort County with one exception. One facility is located in the southern part of the county near the Jasper County border. Table 3-11 and Table 3-12 provide the name of the facilities and address information where it is available.

Table 3-11. Critical Facilities located in the 100-year floodplain of Incorporated Communities

ADDRESS	FACILITY
BEAUFORT	
237 SEA ISLAND PKWY	LADIES ISLAND FIRE DISTRICT 1
237 SEA ISLAND PKWY	LADIES ISLAND AIRPORT
30 COUGAR DR	LADIES ISLAND MIDDLE SCHOOL
501 CHARLES ST	BEAUFORT POST OFFICE
302 CARTERET ST	BEAUFORT CITY HALL
2510 MOSSY OAKS RD	MOSSY OAKS ELEMENTARY SCHOOL
2501 MOSSY OAKS RD	BEAUFORT HIGH SCHOOL
2517 MOSSY OAKS RD	BEAUFORT FIRE DEPT STATION #2
311 SCOTT ST	COUNTY LIBRARY
Hilton Head	
120 Beach City Road	Beaufort County Airport Terminal Building
27 Dillon Road	Fire Station #9
40 Summit Drive	Hilton Head Island Fire and Rescue Headquarters
70 Cordillo Parkway	HHI Fire and Rescue Station #1
65 Lighthouse Road	HHI Fire and Rescue Station #2
534 William Hilton Parkway	HHI Fire and Rescue Station #3
400 Squire Pope Road	HHI Fire and Rescue Station #4
20 Whopping Crane Way	HHI Fire and Rescue Station #5
16 Queens Folly Road	HHI Fire and Rescue Station #6
1001 Marshland Road	HHI Fire and Rescue Station #7
21 Oak Park Drive	Hilton Head Island Fire and Rescue Dispatch
1 Town center Court	Municipal Government Offices
3 Town Center Court	Court
539 William Hilton Parkway	Beaufort County Government Offices

ADDRESS	FACILITY
10, 70, 80 Wilborn Road	Beaufort County Schools Hilton Head Campus
11 Beach City Road	Beaufort County Library Hilton Head Branch
7 Lagoon Road	Beaufort County Sheriff's Department
175 Greenwood Drive	Sea Pines Plantation Security Office
980 William Hilton parkway	Wexford Plantation Security Office
10 Shipyard Drive	Shipyard Plantation Security Office
399 Long Cove Drive	Long Cove Plantation Security Office
10 Queens Folly Road	Palmetto Dunes Plantation Security Office
100 Indigo Run Drive	Indigo Run Plantation Security Office
11 Surrey Lane	Hilton Head Plantation Security Office
40 Fort Howell Drive	Palmetto Hall Plantation Security Office
1 Brams Point Road	Spanish Wells Entrance Gate Security Office
10 Coggins Point Road	Port Royal Plantation Security Office
25 Hospital Center Blvd	Hilton Head Medical Center and Clinics
3 Marina Side Drive	Broad Creek PSD
25 Bow Circle	South Island PSD
21 Oak Park Drive	Hilton Head No 1 PSD
870 William Hilton Parkway	Hargray Telephone Company
111 Mathews Drive	Palmetto Electric Coop
4 Nature's Way	Jarvis Creek Pump Station
179 Greenwood Drive	Sea Pines Lawton Canal Pump Station
54 Yorkshire Drive	Wexford Canal Pump Station
PORT ROYAL	
700 PARIS AV	PORT ROYAL TOWN HALL

Table 3-12. Critical Facilities located in the 100-year floodplain of the Unincorporated County

ADDRESS	FACILITY
CHECHESSEE	
6 SNAKE ROAD	BJWSA
FROGMORE	
-----	EMS-5
LADY'S ISLAND	
73 DISTANT ISLAND RD	LADIES ISLAND ELEM SCHOOL
LOBECO	
-----	PROPOSED ELEMENTARY SCHOOL
41 SEABROOK POINT DR	SEABROOK POST OFFICE
ST. HELENA	
74 POLOWANA RD	LI/STHEL FIRE DEPT STA 24
291 TARPON BLVD	FRIPP ISLAND FIRE DEPT
1609 SEA ISLAND PKWY	LI/STHEL FIRE DEPT STA 23
774 SEA ISLAND PKWY	ST HELENA POST OFFICE

Repetitive Loss Areas

A repetitive loss structure is defined by FEMA as any structure for which two or more flood insurance claims have been paid for more than \$1,000 in a 10 year period. While these properties make up only 1 percent of the flood insurance policies currently in force they account for 40 percent of the country's flood insurance claim payments. A report on repetitive loss structures recently completed by the National Flood Insurance Program found that 20 percent of these structures are listed as being outside of the 100 year floodplain. FEMA has reported that the NFIP's 75,000 repetitive loss properties have already cost billions of dollars in flood insurance payments and numerous other floodprone properties continue to remain at high risk in the Nation's floodplains. Therefore there are several programs that encourage communities to identify the causes of their repetitive losses and to work to mitigate these losses.

Identifying areas of repetitive losses within a community is a good indicator to use in determining areas of the highest flood damage vulnerability. Although flood damage is not necessarily limited to these areas repetitive loss data provides location indicators for areas where structures are experiencing recurring and costly flooding damage.

Unincorporated County

The County's participation in the Community Rating System has encouraged a thorough review of repetitive loss structures. As a result many of the previously listed repetitive loss properties have been investigated and in some cases mitigated so that many of the structures are no longer considered repetitive losses.

AW-501 forms (Repetitive Loss Update Worksheets) indicated that there is currently only one structure under County jurisdiction and is still considered a repetitive loss property. This structure is located in the unincorporated Bluffton area along the May River. Three claims were made on the structure, one each in 1994, 1995 and 1999.

Seven structures were removed from the list for various reasons including two structures for which flood protection mitigation in the form of stormwater management improvements were provided and funded by the property owner. Additionally one listing was an error and for one structure listed the cause of flooding was not identifiable. Three structures are in Hunting Island State Park area and are not under the jurisdiction of the County but fall under the jurisdiction of the South Carolina Office of Parks and Tourism.

Beaufort

There are no repetitive loss properties in the City of Beaufort. Since the original plan was written two properties were taken off the list.

Bluffton

There are no repetitive loss structures in Bluffton.

Port Royal

There are no repetitive loss properties in the Town of Port Royal.

Hilton Head

The Town of Hilton Head's participation in CRS has also encouraged a review of this community's repetitive loss structures which has resulted in the mitigation and removal of many structures from the list. Currently there are 27 properties on the repetitive loss list for the Town, eleven of which are insured. All of the properties except one are single-family dwellings. The remaining property is a multi-family dwelling.

A GIS coverage of the repetitive loss areas provided by the Town allowed for the following observations of the properties:

- 23 of the properties are located in the AE flood zone
- 4 of the properties are in the X zone which is outside of both the 100 year and the 500-year floodplain. Two of these are within 200 feet of the AE zone.
- 14 of the properties are located along the Atlantic Coast of the Island in the Forest Beach area adjacent to the VE zone.
- 2 are located in the Palmetto Bay area along Broad Creek at its confluence with the Intracoastal Waterway
- 3 are in the Palmetto Dunes area. One of these is adjacent to the VE zone and the other 2 are approximately ½ mile inland.
- 4 properties are in the AE flood zone on northeastern part of the island on the Atlantic Coast Side
- 4 of the properties are in the X zone on the northeastern part of Island

Although the construction of new buildings on Hilton Head Island has slowed considerably during the past few years it is expected that any new construction in the repetitive loss areas will be residential given the locations of the properties involved. Little or no new infrastructure will be required since the subject areas are already provided with services. A detailed review of recent building permits in the County provided an estimate of construction activity expected during the next 18 months. A reasonably optimistic trend projection of similar activity during the succeeding four years produced an estimated County total of \$29,590,800 for new homes in the floodplain in 2010, almost all on Hilton Head. By the end of 2014 there would be approximately \$148,000,000 of additional investment.

The only critical structures planned to be built in the floodplain are on Hilton Head Island. They are either new or substantial additions to fire and safety building with an estimated total value of \$4,400,000 by 2014. This information was obtained from the departments responsible.

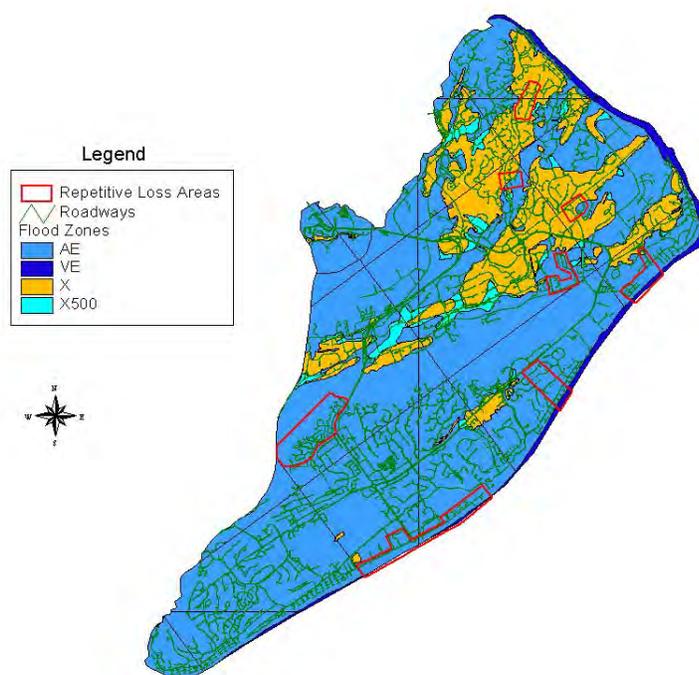


Figure 3-4. Repetitive Loss Areas in Hilton Head

Transportation

In addition to building and facility vulnerability communities must consider transportation and roadway accessibility during and after a flood. Drowning in vehicles is the number one cause of flood deaths. If residents wait too long to evacuate how will flooding will affect their chances of being able to get out of potentially dangerous areas. If residents and business owners chose not to evacuate during a storm there may not be a way for them to leave their property once the storm has ended if flood conditions remain. Evacuees hoping to return after a flood to assess damage and begin repairs may be blocked by flooded roadways and bridges preventing them from accessing their structures for several days. Therefore roadway vulnerability to flooding should be considered.

Because a majority of the land area within the county lies in the 100 year floodplain portions of all of the major highways within the county would be inundated by a 100 year event. As illustrated in Figure 3-5 this includes the major portions of South Carolina Routes 116, 170, and 802 in the Beaufort City and Port Royal areas. In the northern portion of the county it includes much of US Route 21 from Fripp Island up to the Sheldon area. Major portions of U.S. Route 17 would also be inundated by the 100 year flood. In Southern Beaufort County which includes Hilton Head Island and Bluffton approximately half of the length of US Route 278 lies within the 100 year floodplain. Additionally most of South Carolina Route 170 in Southern Beaufort would be inundated.

TOTAL	144,933	204,893	204,238	40.92%
Roadway Miles				
	2000	2005	2009	%increase 2000-2009
<i>Beaufort</i>	771.2	884.2	884.2	14.65%
<i>Colleton</i>	1347	1347	1347	0.00%
<i>Hampton</i>	835.4	838.7	838.7	0.40%
<i>Jasper</i>	648	659.5	659.5	1.29%
TOTAL	3601.6	3729.4	3729.4	3.46%

Conclusions

The analysis suggests that while the entire county is vulnerable to flooding and flood damages there are some areas where this threat is greater due to the amount of land area susceptible to flooding and the amount of development within these areas. While the Town of Bluffton and the unincorporated area of the County known as Sheldon have relatively smaller vulnerabilities to flooding the Town of Hilton Head Island, the City of Beaufort, the Town of Port Royal, and unincorporated areas of the County including Daufuskie, St. Helena and areas directly surrounding Hilton Head Island, have larger numbers of structures and more infrastructure exposed to flooding.

Erosion

The South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management (DHEC-OCRM) publishes the *Annual State of the Beaches Report* which summarizes changes that have occurred along the state’s shoreline. Results of the 2009 report for Beaufort County areas are presented above in Table 2-5. The table notes what, if any, type of shoreline change is occurring for the given area, what the average long term change rate is, whether or not the area is an unstablized inlet zone, what is the shoreline zone where the greatest amount of change is likely to occur, and the date of the last nourishment project in the area. By using this chart for analysis Beaufort’s susceptibility to damage and loss from erosion can be evaluated.

Beaufort County is vulnerable to erosion, but there are no critical facilities in a highly instable area. While erosion exists as a hazard, for the purpose of this plan, vulnerability and mitigation are addressed primarily through the flooding and other items.

Development Trends

To understand the vulnerability of the built environment within each community an assessment of the development trends was necessary. This allows us to focus on where and what type of future development will occur and then determine hazard mitigation strategies. As noted in Chapter 1 Beaufort County is one of South Carolina’s fastest growing counties by percentage of population change with an overall population increase of 40 percent in the 1990s and 24 percent since 2000. This suggests significant development of residential

structures as well as commercial structures and infrastructure to keep up with the resulting demands.

Beaufort County

Unincorporated Beaufort County continues to grow with considerable residential and commercial development occurring in areas close to the City of Beaufort, the Town of Port Royal and the Town of Bluffton. The Town of Bluffton continues to annex significant land area in southern Beaufort County. Based on U.S. Census data it is estimated that the overall population growth in the unincorporated county was 39 percent from 1990-2000 with a 52 percent increase in the number of housing units. From 2000 to 2008 there was nearly a 43% increase in population.

City of Beaufort

According to U.S. Census data, the City of Beaufort's population increased by 35 percent between 1990 and 2000, and the number of housing units in the City increased by 22 percent in this time period. From 2000 to 2008 population actually decreased by just over 7 percent. The city's land area is relatively small, 23 square miles, and will thus serve as a limit to growth in the future. This is evidenced by the decrease in population as citizens moved heavily to the unincorporated areas. From 2004 to 2008 a total of 300 building permits were issued.

Town of Bluffton

The Town of Bluffton has grown considerably in overall land area over the last 10 to 15 years. In 1990 it had a land area of approximately 1 square mile but in 2000 land annexations brought the land area total to 34 square miles. As of June 2009 the Town's land area was approximately 52.24 square miles. Bluffton's population increased by 73 percent during the 1990's and the number of housing units in the town increased by 68 percent. This is a result of both land annexation and increased development in the Town of Bluffton. From 2000 to 2008 the development trend increased again. Though slowed by the current economic situation the population has increase by 93 percent in eight years. From 2004 to 2008 a total of 3,310 building permits were issued.

Town of Hilton Head Island

The Town of Hilton Head Island has remained steady in terms of growth over the last decade. The Town is generally a resort and retirement community with many planned unit residential developments with considerable commercial development to support residents and vacationers. From 1990 to 2000 the population of Hilton Head Island increased 43 percent to an estimated 33,900 people. However housing units in the Town increased only by 15 percent in that time. That trend continues. From 2000 to 2008 the population actually decreased by just under one percent. This continues to suggests a trend in the community of more people with second homes becoming permanent residents but with the influx of new residents leveling off. From 2004 to 2008 a total of 1,063 building permits were issued.

Town of Port Royal

Within the Town of Port Royal, population increased by 32 percent in the 1990's and the number of housing units increased by 40 percent. The Town continues to experience

significant growth and to annex portions of the county along its borders. The Town population increased by over 18 percent from 2000 to 2008. From 2004 to 2008 a total of 435 building permits were issued.

Table 3.14, Development Trends at a glance

Jurisdiction	1990-2000 population/housing unit percentage increase	2000-2008 population increase estimates	Development Trend
Beaufort County	39%/52%	43%	Steady Development
City of Beaufort	32%/22%	-7%	Housing increase, population leveling
Town of Port Royal	73%/68%	93%	Large Annexation, steady development
Town of Hilton Head Island	43%/15%		Development stable but leveling out
Town of Bluffton	32%/40%	18%	Large Annexation, steady development

Vulnerability Assessment Summary

Based on the findings of the vulnerability assessment the hazards considered were ranked in order of the perceived risk to each of the County’s communities. These results are presented in *Table 3-15*. It is obvious from the vulnerability assessment and from the perception of the planning group that wind and flood related events are by far the most imminent danger to Beaufort County and its municipalities.

Table 3-15. Ranking of Perceived Risk due to Hazards by Community

Planning District and Incorporated Communities	Hurricane/Flood	Thunderstorm/Wind	Tornado	Erosion	Winter Event	Drought	Dam failure/Other Hazards
City of Beaufort	1	2	3	4	5	6	7
Town of Bluffton	1	2	3	4	5	6	7
Town of Hilton Head	1	2	4	3	5	6	7
Town of Port Royal	1	2	3	4	5	6	7
Unincorporated Beaufort County	1	2	3	4	5	6	7

HAZUS-MH Data for the 2009 Update

The original 2004 Plan used HAZUS 99 for evaluation of its vulnerability to hazards. Because of technical limitations the preceding Vulnerability Assessment was based on historical data provided from NCDC, SCEMD and the SCHRL. However because of the thoroughness of the previous HAZUS data the following information has been left in the plan. The Hazard Mitigation Planning Committee will seek out opportunities to update this data when it becomes feasible with HAZUS MH in order to obtain the most accurate data.

For this Plan the Steering committee has decided to modify the 2004 data in a very simplistic way. Essentially we are taking the number of buildings identified in the previous Plan and adding the number of permits that have been issued since then for each jurisdiction. The Plan will reflect the percent increase and that should be a close estimate of the increase in potential damage. The tables below reflect the approximate changes based on the HAZUS 99 data using the increase property value based on permit data. This information may differ slightly from the Assessor's office but still serves as a valuable tool. The Beaufort County GIS department has agreed to revisit this and using their technology, they will perform a full HAZUS-MH assessment in the annual review.

Table 3-16, Data with increases based on building permit data

Jurisdiction	Building Totals 2004	Increase in Buildings from Permit Data	2008 Estimate Total	% increase	TOTAL VALUE \$ IN THOUSANDS	TOTAL DAMAGE 99 HAZUS CATEGORY 1 \$ IN THOUSANDS	% OF TOTAL VALUE DAMAGED BASED ON 99 HAZUS CAT 1 / CAT 3	TOTAL DAMAGE HAZUS 99 CAT 3
<i>Beaufort</i>	3,689	225	3,914	6.09	471,841	31,595	7 / 43	203,215
<i>Bluffton</i>	497	2853	3,350	474	45,754	3,999	9 / 48	21,749
<i>Hilton Head</i>	12,271	736	13,007	5.99	1,929,118	125,227	6 / 43	838,927
<i>Port Royal</i>	1,414	387	1,801	27.4	399,721	20,683	5 / 35	140,503
<i>County</i>	16,576	8240	24,816	49.7	1,276,550	255	10 / 51	654,467
<i>County Total</i>	34,447	12441	46,888	36.11	4,125,282	122,292	7 / 45	1,860,115

Table 3-17 Wind Scenarios based on building increases (damage sustained)

Jurisdiction	2008 Total Value estimate based on building permit increase	2008 Damage Estimate Category 1/ Category 3 \$ in thousands)
<i>Beaufort</i>	\$500576	\$35040/ \$215247
<i>Bluffton</i>	- - -	- - -
<i>Hilton Head</i>	\$2032935	\$75503/ \$360738
<i>Port Royal</i>	\$507645	\$25382/ \$177675
<i>Unincorporated County</i>	\$1910995	\$191099/ \$974607
<i>County Total</i>	\$5610383	\$392726/ \$2524672

Table 3-18 Total Buildings Damaged from earthquake of 6.9 Magnitude

JURISDICTION	TOTAL 2004	99 HAZUS number plus % increase
Beaufort	313	335
Bluffton	64	Permit data records 474% increase— number large but unfeasible
Hilton Head	652	690
Port Royal	189	240
Unincorporated County	2,634	3924
County Total	3,860	5189

2004 HAZUS Information

Wind

Having investigated the different wind hazard issues of concern in Beaufort County an analysis designed to assess current vulnerability of structures in the County to high wind hazards was performed. Tropical storms and hurricanes were the types of events considered most probable to have a widespread effect on the County.

Damage Functions

The wind vulnerability of structures is dependent on several factors:

- structure location particularly coastal vs. inland areas
- level of design attention (a measure of the level of engineering design for the structure)
- quality of materials and construction
- structure exposure and height
- beneficial or adverse effects of nearby trees and structures
- age and condition
- degree of rainfall or water penetration

For this analysis, a simplified approach is being used for which the factors being considered are structure location and the level of design attention. This approach will provide simplified results with an appropriate level of detail for this study. Furthermore review of post hurricane damage reports such as Mehta, et al. (1981) show that structural damages typically correlate well with structure type and degree of engineering attention.

Default wind damage functions for structures are included as part of FEMA's Benefit Cost Program for Hurricane Wind Damage. The User's Guide for version 1.0 of this program dated January 20, 1995, provides information about how hurricane winds affect coastal and inland areas and show that for wind events with a recurrence interval of from 10 to 2000 years, the wind speed along coastal areas is only slightly higher (5 mph or less) than that found 125 miles inland from the coast. Beaufort County's inland area is approximately 35 to 40 miles from the Atlantic Coast. Therefore a constant wind speed for the County was considered in evaluating wind vulnerability.

The User's Guide for the Hurricane Wind Benefit Program provides wind damage functions for each category of hurricane based on the level of design attention for structures. Structures are classified into 5 categories that for the purposes of this study will be termed:

- non-engineered wood
- non-engineered masonry
- marginally engineered
- fully engineered
- pre-engineered

Loss estimates for each classification of building are provided as percentages of the total building replacement value. This information is provided in Table 3-19.

Table 3-19. Wind Damage Percentages for Structure Classifications based on the Level of Engineering Design

HURRICANE CATEGORY	WIND SPEED (1-MINUTE SUSTAINED MPH)	LEVEL OF DESIGN ATTENTION				
		NON-ENGINEERED WOOD	NON-ENGINEERED MASONRY	MARGINALLY ENGINEERED	FULLY ENGINEERED	PRE-ENGINEERED
Tropical Storm	39-73	0	0	0	0	10
1	74-95	7.5	5	5	2.5	25
2	96-110	20	15	15	5	50
3	111-130	50	40	40	20	80
4	131-155	90	80	80	40	100
5	> 155	100	100	100	60	100

Building Inventory Information

GIS building coverages provided by Beaufort County and the Town of Hilton Head did not contain data as to the structures age, building type, or level of design attention, but instead provided building footprints and locations. Therefore FEMA’s HAZUS program was used in order to obtain information about the specific types of buildings within the County including information used to classify the building’s level of engineering design.

While the HAZUS program available at the time of this analysis (HAZUS 99, SR 2) can be used to assess building vulnerability and damage potential from earthquake events it is not yet programmed to run analysis for wind events. However there is a significant amount of basic structure and infrastructure data available from the program. Structure information is available on a census tract basis that provides information about the building type and occupancy class. The data are based on a combination of decennial census data from 1990 and information provided by the Dun and Bradstreet Corporation in 1996. Also included in HAZUS are dollar replacement values for various classifications of buildings. Dollar replacement values are based on Means cost estimating values in 1994 dollars and regional cost modifiers were applied in HAZUS that are generally used on a statewide basis.

A comparison of the building information between community provided GIS building coverage and the HAZUS data showed that that the HAZUS data has 34,569 structures assigned to Beaufort County. GIS building footprint coverages provided by Beaufort County and the Town of Hilton Head Island indicate that there are a total of 36,555 in the County which is a difference of only 5 percent.

Building types provided by HAZUS were evaluated to determine under which of the 5 engineering design level categories they fell. The results of this evaluation are provided in Table 3-2.

Table 3-20. Building Types Grouped by Level of Engineering Design

NON-ENGINEERED WOOD	NON-ENGINEERED MASONRY	MARGINALLY ENGINEERED	FULLY ENGINEERED	PRE-ENGINEERED
<ul style="list-style-type: none"> • Wood • light frame 	None	<ul style="list-style-type: none"> • Wood, greater than 5,000 square feet • Concrete frame buildings with unreinforced masonry infill walls • Precast concrete tilt-up walls • Unreinforced masonry bearing walls 	<ul style="list-style-type: none"> • Steel moment frame • Steel braced frame • Steel frame with cast-in-place concrete shear walls • Steel frame with unreinforced masonry infill walls • Reinforced concrete moment resisting frames • Concrete Shear Walls • Precast concrete frames with concrete shear walls • Reinforced masonry bearing walls with precast concrete diaphragms 	<ul style="list-style-type: none"> • Steel light frame • Manufactured (mobile) homes

A general building analysis was performed to determine how the structures were distributed among each of the incorporated communities. Building classification distribution information is available on a census tract basis within HAZUS. Therefore, an analysis was performed using the community GIS building coverages to determine the number of buildings within a particular census tract and to determine the relative percentage of buildings within the tract that were located within incorporated areas. This percentage was then applied to the building counts from the census tract information. As an example Census Tract Number 45013002100 encompasses the Town of Bluffton as well as unincorporated areas of Southern Beaufort County within the Bluffton Township planning district. Upon analyzing the County’s GIS data it was determined that there are an estimated 2,573 structures in the census tract and 553 in incorporated Bluffton. Therefore 21 percent ($553 \div 2,573 = 0.21$) of the census tract’s structures are within the Town of Bluffton. The remainder are in the unincorporated portion of the Bluffton Township planning district.

For Census Tract Number 45013002100 to determine the approximate percentage of building census data associated with the incorporated portion of Bluffton a ratio of 0.21 was used so that where the census tract data reported 1,360 wood, light frame structures, 291 of these were assumed to be in incorporated Bluffton. Using this method the building type distribution shown in Table 3-23 was developed.

Table 3-23. Building Type Distribution by Engineering Design Level

AREA	NON-ENGINEERED WOOD		MARGINALLY ENGINEERED		FULLY ENGINEERED		PRE-ENGINEERED		TOTAL
	NUMBER	PERCENT-AGE OF TOTAL	NUMBER	% OF TOTAL	NUMBER	% OF TOTAL	NUMBER	% OF TOTAL	
<i>Beaufort</i>	2,949	80	319	9	80	2	340	9	3,689
<i>Bluffton</i>	291	59	30	6	6	1	171	34	497
<i>Hilton Head</i>	10,329	84	1,152	9	306	2	458	4	12,271
<i>Port Royal</i>	874	62	133	9	98	7	309	22	1,414
<i>Yemassee</i>	18	52	2	5	0	0	15	43	34
<i>Unincorporated County</i>	10,217	61	968	6	94	1	5,405	33	16,576
<i>County Total</i>	24,678	71	2,604	8	585	2	6,698	19	34,565

HAZUS dollar exposure information provides estimated replacement costs based on structure classification. For the wind vulnerability analysis the replacement cost information for the entire County was summed and grouped by building types based on the level of engineering design.

Using the same methodology discussed to determine building counts for incorporated areas as provided in Table 3-23, building replacement values were developed for the incorporated and unincorporated portions of the County and are presented in Table 3-24. Thus, the overall replacement value of all structures in the Town of Bluffton is equal to 21 percent of the overall replacement value for all structures in Census Tract Number 45013002100.

Table 3-24. Replacement Values for Structures Based on the Degree of Engineering Design (dollars in thousands)

AREA	NON-ENGINEERED WOOD	MARGINALLY ENGINEERED	FULLY ENGINEERED	PRE-ENGINEERED	TOTAL VALUE
<i>Beaufort</i>	263,595	90,870	98,052	19,324	471,841
<i>Bluffton</i>	22,538	9,218	7,343	6,655	45,754
<i>Hilton Head</i>	1,185,902	375,916	330,384	36,916	1,929,118
<i>Port Royal</i>	105,518	108,485	173,709	12,009	399,721
<i>Yemassee</i>	1,444	211	108	533	2,296
<i>Unincorporated County</i>	825,248	154,562	95,623	201,117	1,276,550
<i>County Total</i>	2,404,245	739,263	705,220	276,554	4,125,282

Wind Assessment Scenarios

Using the damage ratios along with the replacement values for the structures two wind scenarios were considered. The first was a Category 1 storm where wind speeds range from 74 to 95 mph (1-minute sustained). Five such storms have passed directly through Beaufort County between 1850 and 2001 and 10 additional Category 1 storms have passed within 50 miles of the County during the same time period.

Assuming a Category 1 storm passed directly through or within close proximity of the County and that all parts of the County experienced similar wind speeds, an analysis of the damage was assessed. Results are presented in Table 3-25.

Table 3-25. Damage Assessments for a Category 1 Hurricane Wind Event (dollars in thousands)

AREA	NON-ENGINEERED WOOD	MARGINALLY ENGINEERED	FULLY ENGINEERED	PRE-ENGINEERED	TOTAL DAMAGE	PERCENTAGE OF TOTAL VALUE
<i>Beaufort</i>	19,770	4,543	2,451	4,831	31,595	7
<i>Bluffton</i>	1,690	461	184	1,664	3,999	9
<i>Hilton Head</i>	88,943	18,796	8,260	9,229	125,227	6
<i>Port Royal</i>	7,914	5,424	4,343	3,002	20,683	5
<i>Yemassee</i>	108	11	3	133	255	11
<i>Unincorporated County</i>	61,894	7,728	2,391	50,279	122,292	10
<i>County Total</i>	180,318	36,963	17,631	69,139	304,051	7

The total amount of damage is estimated at \$304 million or approximately 7% of the entire building dollar exposure of the County. Damage as a percentage of the total value of

structures for incorporated communities ranges from 11 percent in Yemassee to 5 percent in Port Royal. Hilton Head Island, the incorporated area with the most structures has the highest value loss at \$126 million. The unincorporated portions of the County have a combined loss estimate that is slightly less than Hilton Head at about \$121 million.

Generally the results of the assessment for the Category 1 storm suggest that most areas of the County would experience similar values of damages relative to their number of structures with the damage equaling about 5 to 11 percent of the overall value of the structure or 7 percent on average for the entire County.

The second scenario considered was a Category 3 Hurricane event. Wind speeds for a Category 3 storm range from 111 to 130 mph (1-minute sustained). One Category 3 storm passed through Beaufort during the period of record, 1850-2001. In 1885 the storm made landfall at Lady’s Island and headed northwest into Colleton County. Three additional Category 3 storms passed within 50 miles of the County during the same time period. One of these storms, Hurricane Gracie hit the area in September 1959. The center of the track was within 2 miles of Beaufort County’s northeastern border.

The analysis assumed that the Category 3 storm would pass directly through or within close proximity of the County and that all parts of the County would experience similar wind speeds. Results are presented in Table 3-26.

Table 3-26. Damage Assessments for a Category 3 Hurricane Wind Event (dollars in thousands)

AREA	NON-ENGINEERED WOOD	MARGINALLY ENGINEERED	FULLY ENGINEERED	PRE-ENGINEERED	TOTAL DAMAGE	% OF TOTAL VALUE
<i>Beaufort</i>	131,798	36,348	19,610	15,459	203,215	43
<i>Bluffton</i>	11,269	3,687	1,469	5,324	21,749	48
<i>Hilton Head</i>	592,951	150,367	66,077	29,533	838,927	43
<i>Port Royal</i>	52,759	43,394	34,742	9,608	140,503	35
<i>Yemassee</i>	722	84	22	426	1254	55
<i>Unincorporated County</i>	412,624	61,825	19,125	160,894	654,467	51
<i>County Total</i>	1,202,123	295,705	141,044	221,243	1,860,115	45

The total amount of damage is estimated at \$1.86 billion or approximately 45% of the entire building dollar exposure of the County for the Category 3 storm. Damage as a percentage of the total value for incorporated communities range from 35 to 55 which is a significantly higher amount and larger range than that for the Category 1 storm. Again Hilton Head sustains the highest value loss at \$845 million with unincorporated portions of the County having a combined loss of \$648 million.

The building stock of communities and areas with higher percentages of overall damage can be assessed using Table 3-23. Where the overall percentage of damage is higher it is related to the community's dominant building types since this is the characteristic used to determine the appropriate damage function as provided in Table 3-1. Damage ratios for pre-engineered buildings are significantly higher than those for the other building types. Additionally ratios for non-engineered wood structures are higher than for marginally or fully engineered buildings and ratios for marginally engineered buildings are slightly higher than those for fully engineered buildings.

In unincorporated portions of the County where the damage is equal to about 51 percent of the entire building dollar exposure only one percent of structures are considered fully engineered and 6 percent are marginally engineered. One-third of the structures are pre-engineered and 61 percent are non-engineered wood frame structures. In Port Royal where the damage is a significantly lower 35 percent of the overall dollar exposure 16 percent of structures are marginally or fully engineered and only 22 percent are pre-engineered. Similar to the unincorporated County area 62 percent of the structures are non-engineered wood frame structures.

The wind vulnerability analysis allowed for a simplified approach to assessing wind vulnerability. The analysis showed that more damage is expected in unincorporated areas of the County, Bluffton and Yemassee due to the differences in building inventory between these areas and other areas of the County as it relates to the engineering design levels for the communities' structures. Additionally the analysis showed that for a minor Category 1 hurricane the County can expect an average of approximately 5 to 10 percent of damage while for a Category 3 storm this percentage increases significantly to 45 percent.

Conclusions

The wind vulnerability of each of the communities within the county is similar as shown in the assessment. Areas directly along the coast such as the Town of Hilton Head Island, Daufuskie Island and the St. Helena area are expected to suffer more direct wind damage from coastal storms than the other areas of the county given their proximity to the shoreline. However the County's coastal location puts all of its communities at risk from high winds from coastal storms.

Earthquake

The HAZUS program was used to perform an analysis of potential damage to the County by an earthquake. HAZUS allows the user to model earthquakes that are based at historical epicenter locations, but to vary the magnitudes for the events to provide a range of possible earthquake scenarios. Two earthquake scenarios were developed to use in assessing the County's vulnerability to damage from earthquakes.

Building Inventory Information

HAZUS was used to determine the number of structures that would incur at least moderate structural damage as the result of the each of the earthquake scenarios. HAZUS categorizes structural damage into 5 categories: none, slight, moderate, extensive, and complete. There are descriptions of damage provided for each type of building (ex. wood light frame, steel moment frame, unreinforced masonry bearing walls) at all of the 4 damage states above none. A detailed description of these states can be found in Chapter 5 of the HAZUS99-SR2 Technical Manual. Some examples of moderate damage descriptions are presented in Table 3-27.

Table 3-27. HAZUS Moderate Structural Damage Descriptions

WOOD FRAME	STEEL FRAME	UNREINFORCED MASONRY	MANUFACTURED HOMES
<ul style="list-style-type: none"> • Large cracks at corners of door and windows • Small cracks along shear wall panels 	<ul style="list-style-type: none"> • Steel members have yielded showing observable permanent rotations at connections • Steel braces have yielded showing stretching and buckling 	<ul style="list-style-type: none"> • Most infill walls exhibit large diagonal or horizontal cracks • Some walls show crushing of brick around beam-column connections 	<ul style="list-style-type: none"> • Major movement of the mobile home over its supports resulting in some damage to metal siding • Requires resetting of the home on its supports

For this analysis, building types are divided into 7 basic types:

- Wood frame
- Steel frame
- Reinforced Concrete
- Unreinforced concrete
- Reinforced Masonry
- Unreinforced Masonry
- Manufactured Homes

An initial inventory count of the number of each of these types of buildings within the County was performed and is presented in Table 3-28.

Table 3-28. Building Count by General Building Type

COMMUNITY	WOOD	STEEL	REIN. CONCRETE	UNREIN. CONCRETE	REIN. MASONRY	UNREIN. MASONRY	MANU. HOMES	TOTAL
<i>Beaufort</i>	2,970	60	12	5	16	295	332	3,689
<i>Bluffton</i>	293	5	1	0	1	27	171	497
<i>Hilton Head</i>	10,391	192	49	9	89	1,081	434	12,245
<i>Port Royal</i>	876	37	39	21	18	119	309	1,418
<i>Yemassee</i>	18	0	0	0	0	2	15	34
<i>Unincorporated County</i>	10,246	75	11	3	19	936	5,395	16,686
<i>County Total</i>	24,795	369	111	38	142	2,459	6,655	34,569

Earthquake Assessment Scenarios

As indicated in the Hazard Identification, the most powerful earthquake of historical record in the vicinity was the Charleston earthquake of 1886 which had a magnitude (M_L) of 6.9. This magnitude falls under the strong category as defined by the Richter scale. A scenario was performed based on that event using the same epicenter location and magnitude. A depth of 10 kilometers was used for the epicenter.

Additionally, a scenario was performed using a lesser magnitude to determine potential damages for a smaller, but still significant earthquake event. A magnitude of 5.9, which falls within the moderate earthquake classification, was also chosen for a scenario with the epicenter still located at the site of the 1886 earthquake.

Results

Results are presented for both scenarios as the number of structures that are damaged to the moderate level or higher as defined by the HAZUS program. The strong earthquake ($M_L = 6.9$) generates results as presented in Table 3-29.

Table 3-29. Number of Structures Incurring at Least Moderate Damage for a $M_L = 6.9$ Event

COMMUNITY	WOOD	STEEL	REIN. CONCRETE	UNREIN. CONCRETE	REIN. MASONRY	UNREIN. MASONRY	MANU. HOMES	TOTAL
<i>Beaufort</i>	100	16	3	1	2	61	130	313
<i>Bluffton</i>	6	1	0	0	0	4	53	64
<i>Hilton Head</i>	263	32	8	0	8	189	152	652
<i>Port Royal</i>	26	7	10	6	2	23	116	189
<i>Yemassee</i>	1	0	0	0	0	0	6	8
<i>Unincorporated County</i>	353	12	0	0	0	192	2,076	2,634
<i>County Total</i>	750	68	21	7	12	469	2,533	3,860

Results from the analysis show that about 11 percent of the County’s entire building inventory would be moderately to completely damaged. For each of the incorporated communities and the unincorporated County, this percentage is as follows:

- 8 percent for the City of Beaufort
- 13 percent for the Town of Bluffton
- 5 percent for Hilton Head
- 13 percent for the Town of Port Royal
- 24 percent for Yemassee
- 16 percent for the unincorporated portions of the County.

The heaviest losses by percentage by building type are for manufactured housing, where 38 percent of the County’s inventory is at least moderately damaged, and for unreinforced masonry, reinforced concrete, unreinforced concrete and steel where this percentage is 19, 19, 18 and 18 respectively. However, the heaviest overall losses include not only manufactured housing and unreinforced masonry buildings, but also wood frame buildings where 750 structures are at least moderately damaged.

Results for the analysis of the moderate earthquake run ($M_L = 5.9$) showed that only two types of buildings incurred moderate damage. These were unreinforced masonry buildings and manufactured homes. Neither of these types of buildings experienced any complete damage, but some extensive damage was experienced by the unreinforced masonry buildings. Most of the rest of the building types experienced some slight damage with wood frame structures having a count of 583 structures being slightly damaged. Seven steel frame buildings were slightly damaged, and only one each of reinforced and unreinforced (pre-cast) concrete experienced slight damage. Building damage count results for unreinforced masonry and manufactured homes that experienced at least moderate damage are in Table 3-30.

Table 3-30. Number of Structures Incurring at Least Moderate Damage for a $M_L = 5.9$ Event

COMMUNITY	UNREINFORCED MASONRY	MANUFACTURED HOMES	TOTAL
<i>Beaufort</i>	6	14	30
<i>Bluffton</i>	1	3	4
<i>Hilton Head</i>	43	16	59
<i>Port Royal</i>	6	11	17
<i>Yemassee</i>	0	1	1
<i>Unincorporated County</i>	47	237	284
<i>County Total</i>	103	282	395

The vulnerability analysis shows that for the moderate earthquake with a M_L of 5.9, about 1 percent of the County's structures are vulnerable to at least moderate damage as compared to the 11 percent of the structures vulnerable from a strong earthquake ($M_L = 6.9$). Most of these are manufactured homes located within unincorporated portions of the County (236 out of 395 or 60 percent).

Conclusions

Vulnerability to earthquakes for the communities within Beaufort County is based largely on their proximity to known epicenter areas as well as the distribution of building types within each of the communities. Given these factors, portions of Unincorporated Beaufort County had one of the highest percentages of damaged structures from a major earthquake, most of which were manufactured homes. The Town of Port Royal and the Town of Bluffton had similar damage rates indicating similar vulnerabilities that were slightly less than the unincorporated county due mostly to a different distribution of building types than the county. The City of Beaufort had a lower damage rate also due to its distribution of structure types. Hilton Head Island had the lowest rate of damage for the $M_L = 6.9$ event due in large part to its distance from the area's major epicenter site which is the Charleston area.

4. Community Mitigation Capability Assessment

Thus far the planning process has identified and updated the natural hazards posing a threat to Beaufort County and described and quantified the vulnerability of the County and communities to these risks. This has been done by using updated information from FEMA and the local jurisdictions. Prior to finalizing updated Goals and Objectives for improving each jurisdiction’s ability to reduce the impacts of these risks we must assess and update the mechanisms that exist already in these areas to reduce hazard damage. By doing so the plan can focus the goals, objectives and actions in this plan more accurately. This part of the planning process is referred to as “The Community Mitigation Capability Assessment.”

The HMPC took two approaches in conducting this assessment. First, a review of the previous plans inventory of existing policies, regulations and plans was made. These policy and planning documents were collected and reviewed to determine if they contributed to reducing hazard related losses or if they inadvertently contributed to increasing such losses. Second, an inventory of other mitigation activities was made through the use of a matrix. The purpose for this effort was to identify activities and actions beyond policies, regulations and plans that were either in place, needed improvement, or could be undertaken if deemed appropriate. Throughout the process there was frequent consultation with the representatives of the jurisdictions to discuss and clarify the issues. When the assessment was completed, the Committee reviewed the results and made further recommendations that were incorporated. The HMPC collected and analyzed the documents presented in Table 4-1.

Table 4-1. Beaufort County Documents used for Capability Assessment

BEAUFORT COUNTY	CITY OF BEAUFORT	TOWN OF BLUFFTON	TOWN OF HILTON HEAD ISLAND	TOWN OF PORT ROYAL
Comprehensive Plan,	Comprehensive Land Use Plan,	Comprehensive Plan,	Comprehensive Plan,	Comprehensive Plan,
Zoning & Development Standards,	Subdivision Regulations,	Development Standards Ordinance,	Land Management Ordinance	Subdivision Regulations,
Southern Beaufort County Plan	Zoning Ordinance,	Zoning Ordinance,	Ward One Master Land Use Plan,	Zoning Regulations and Map,
			Flood Damage Prevention Ordinance	Flood Damage Prevention Ordinance,
Beaufort Co. Above Ground Historic Resources Survey,	Beaufort Preservation Manual, and Supplement			
Northern Beaufort County Plan			Flood Hazard Mitigation Plan,	Overlay District Standards,
Stormwater BMP Manual; Stormwater Utility developed	Stormwater Utility developed in past five years	Stormwater BMP Manual; Stormwater Utility developed	Stormwater Utility developed	Stormwater Utility developed
All ICC Building codes without amendments	All ICC Building codes without amendments	All ICC Building codes without amendments	All ICC Building codes without amendments and "History of Building Codes"	All ICC Building codes without amendments
Hurricane Response & Recovery Guide,			Comprehensive Emergency Management Plan	
Emergency Operations Plan,			Emergency Operations Basic Plan	

¹ As part of the SWM Utility, all communities will eventually be required to adopt the BMPs as outlined in the BMP manual developed by the SWM Utility that is currently in effect in Beaufort County and The Town of Bluffton.

Below is a bulleted summary of how each of these documents contributes to an overall Hazard Mitigation framework. Each point identifies where and how mitigation concepts, principles and measures are integrated into the normal day-to-day activities of the local governments. Text that is highlighted **in bold underline** identifies opportunities to strengthen or improve activities to reduce future hazard-related losses further.

Beaufort County:

Comprehensive Plan, 2007:

- Document presents policies and strategies for growth management, a fundamental principle of coastal mitigation planning. The plan recognizes natural hazards as a constraint to growth.
- Beaufort County's vulnerability to hazards is acknowledged throughout the plan, and hurricanes appear as the area's most devastating, regularly occurring natural hazards.
- The Existing Land Use Element identifies Resource Conservation Zoning Districts and Overlay Districts. These districts regulate development in flood hazard areas. The Resource Conservation Zoning District protects and conserves sensitive environmental areas, maintains Open Space, and discourages growth in areas which "pose undue hazards to man." The element calls for lower densities within rural and critical areas.
- The Future Land Use Element stresses preservation of certain area-wide resources. It calls for infill development in the main urban centers. **This could be expanded to include property preservation by calling on development to take place only in areas that are less prone to hazards.**
- The Cultural Resources Element identifies the need to protect the County's valuable resources. **The plan could be strengthened by recommending a disaster preparedness plan to preserve the resources.**
- The Natural Resources Element identifies mainland geology, sea-level change, erosion and accretion, and drainage issues. It identifies the need for preparation for sea-level rise in the coming decades. It also recognizes the hazard Beaufort County faces especially hurricanes and flooding. **This plan could be strengthened by recommending strict building regulations to avoid loss in hazard prone areas.**
- The Regulatory section references the relationship to OCRM regulations and development.
- The Community Facilities section identifies the Emergency Management Department. It suggests a regional evacuation plan with agreements for cooperation from the surrounding counties; protecting the major evacuation routes, and to continue coordination efforts to ensure maximum efficiency in evacuations. **This section could be expanded to include mitigation by, for example, suggesting that new and or expanded community facilities take hazard protection into their siting decisions such as schools, wastewater, and cultural facilities. Could be expanded to identify existing critical facilities important to protect from disasters in order to preserve a minimum response capability.**

Zoning & Development Standards

- ZDSO is the tool to achieve the objectives of the Comprehensive Plan. ZDSO addresses setbacks, buffers, wetland and natural resources protection and drainage.
- Identifies flood control design criteria for retention/detention ponds; collector, local streets and closed drainage systems; roadside swales; canals and major ditches; and bridges.

Stormwater BMP Manual, 3/98

- Identifies existing federal, state and county regulations.
- Most of document recommends policies and standards for new and existing development. County aggressively pursues protection of water quality.
- Water quality and bacteria data is gathered under this plan.

Hurricane Response & Recovery Guide

- The Damage Assessment Emergency Support Function (ESF) identifies pre-disaster Preparedness and Mitigation actions. Procedures regarding “substantially damaged” structures are in the post-disaster assessment procedures of the Building Code. These procedures are important because when buildings are “substantially damaged” (damaged greater than 50% of their pre-damage value) their repair, reconstruction, or replacement are treated as new construction, requiring compliance with any new codes and standards adopted since the building was constructed. **The county could benefit by hosting pre-disaster training on FEMA’s Residential Substantial Damage Estimator (RSDE), a damage assessment software program specifically designed to support decision-making by local building officials when addressing “substantial damage” issues. Using FEMA’s RSDE program will qualify NFIP policy-holders for additional payments if their building is substantially damaged, within the mapped 100-year floodplain, and insured under the NFIP.**

Emergency Operations Plan

- The County Hazard Mitigation Plan is appended to this plan. It establishes a Mitigation Committee with listed responsibilities, and describes Pre- and Post-disaster actions.
- Attachment A to Appendix H describes 6 continuing mitigation projects; the Storm Water Utility Comprehensive Development Plan, The NFIP/CRS, The Land Purchase Project, the Flood Alert Program, the Drainage Program, and Mitigation Education. The Storm Water Utility regulates density and land-use, and establishes goals for future transportation requirements and road development. The land Purchase Project is a mechanism to preserve open zones and reduce development. The Flood Alert Program keeps citizens aware of potential flooding situations through cable TV and radio warnings. The Drainage Program is designed to eliminate existing drainage problems and provide drainage where it is

nonexistent. The Mitigation Education Project is a combined effort between the County Building Codes and Emergency Management Departments to teach citizens about potential hazards in order to reduce potential damage.

Other

- The County pursues Open Space preservation through its ZDSO, and a Rural and Critical Land Preservation Program. The R&CLP Program is a voluntary Program which provides the means for private landowners to permanently preserve or maintain the rural character of their land. The main goal of the Program is to preserve open space, protect critical and natural resources and preserve rural uses. Funds available for the Program can be leveraged with federal, state, local, or private conservation efforts and development rights purchase funds to protect property and purchase development rights.
- County promotes sustainability and Growth Management principles and programs through their Comprehensive Plan. The Plan specifically identifies the resident's vision for their future as integrating new development into the County in a way that will protect County values that include: protecting water quality, environmental quality, the scenic landscape of the rural communities and towns, the stability of the communities by retention of land by the residents, and their diversity in terms of age, income and race. A central theme of the Comprehensive Plan is to engender quality development that respects the local values and protects the residents from becoming Anywhere, USA. It is a Public Policy Goal of Beaufort County to "define and perpetuate the ethic of quality growth."

City of Beaufort:

Comprehensive Plan, 2009 revision

- The basic purpose of the land use plan is to provide direction for managing anticipated growth and change. Growth in the City however, has been slow compared to other parts of the County. There has been very little growth within the City limits in the last thirty years as the population has increased a relatively low rate.
- The plan's Natural Resources Element identifies several critical geologic features. First, there are basically two types of soils: soils generally associated with the locations of wetland areas, and soils associate with areas of stable ground. The wetland areas are rarely suitable for any type of development. Second, the highest elevations in the city are approximately 20 feet above MSL.
- The climate section describes the potential for devastating hurricanes, citing 60 tropical cyclones that passed within 75 nautical miles of the County's barrier islands from 1886-1993. According to the plan, hurricane force storms are expected approximately every 11 years.
- Beaufort's main water supply comes by pipe from the Savannah River. The City's back-up supply comes from wells that tap the Florida Aquifer. The plan states that the aquifer will not be a reliable source in the future due to overuse.

- The document discusses river corridors and floodplains. **This document could be improved with a quality map and discussion of the NFIP development regulations in connection with the map. This would create a nexus between existing and proposed development and the hazards associated with floodplains, and the benefits of river corridors.**
- Historic resources are described in depth in a separate element. The proposed policies promote the renovation and preservation of the Historic District and buildings. In addition, there is a Historic Preservationist working in the County, and the Beaufort Preservation Manual, and Supplement, have been developed to assist owners of historic structures. Also, included as recommendations of this Hazard Mitigation Plan, is the development of specific guidance to assist owners with damage assessment and repair and reconstruction in a post-disaster situation.
- The Housing Element describes how single family housing represents the largest percentage of buildings in the County, and points out that this is somewhat skewed by the resort development of multi-family housing in other areas of the county. Additionally, the plan states that there continues to be a significant surge in housing development with most of it occurring along the waterfront and marshland. **The housing element could be improved by creating a nexus between the proposed housing goals and the maintenance and creation of safe, disaster resistant housing.**
- The Facilities Element speaks to transportation (roads, bridges, bicycle paths), water and wastewater treatment, police and fire, health and medical facilities, parks and recreation, and public education (schools and libraries). The Fire Department maintains an ISO (Insurance Services Organization) Class 2 for fire, and 3 for codes enforcement. These ISO classes are the same type of rating system that ISO applies to the CRS program of the NFIP. The ratings range from 1 to 10; the lower the rating, the better the measurement of community performance (and the lower the rate applied towards that component of insurance cost). Thus, the City does a commendable job in maintaining its capability for fire defense and code enforcement. **The Facilities Element could be improved by including a list of critical community facilities and describing the need for protection of these facilities.**
- The Land Use Element provides a 20-year concept for future land use, and it strives to inventory future development. It defines future densities, **but this could be improved by creating a connection between the future development densities and the developable soils (and thus the reduction of potential storm and flood damage).**
- The Land Use strategies propose establishing criteria for a redevelopment policy within the city, aimed at historic structures and the Board of Architectural Review. **This could be strengthened by establishing and adopting redevelopment policies and procedures for post-disaster redevelopment, regardless of where it is located.**
- Modifications to the existing Zoning Ordinance are made, with particular reference to adopting a Tree Preservation Ordinance. **By including a “maintenance” provision in the proposed ordinance, the City would help to reduce the exposure to the high degree of damage and power losses created by breaking, falling, and uprooted trees during severe storms. A maintenance provision would ensure that trimming tree limbs away from power lines would take place on a routine basis, thus eliminating a major factor in**

incurring power losses. Such a provision can also strengthen the concept keeping new plantings a set distance away from power lines, and only planting vegetation with root systems appropriate to the local environment.

- The Short-term Work Program in the Implementation Section recommends preparation of a Coastal Zone Management Plan as well as the preparation and implementation of a Stormwater Drainage Plan including the feasibility of developing a Stormwater Utility. **Storm damage reduction and property protection are additional benefits of these plans that should be mentioned. Drainage plans not only address existing drainage problems, but also establish standards for new development so as not to exacerbate the existing problem any further, thus reducing damage to infrastructure and property. Stormwater Utilities can provide a dedicated ongoing source of funding that can pay for maintenance, new construction, and public education.**

Unified Development Ordinance, 2006

- The document includes all of the City Ordinances. **The Floodplain Management Ordinance (Flood Damage Prevention Ordinance) required for participation in the NFIP should be included.**
- The Ordinance cites the Mobile Home District. However, the Building Code is where tie-downs, special foundation requirements, or on-site sheltering requirements are cited.
- Article six defines the Historic District that is bordered on 3 sides by water. **A reconstruction/redevelopment standard should be considered. This standard would reinforce that any post-disaster reconstruction, as well as normal redevelopment/rehabilitation must adhere to all other standards for historic preservation as well.**
- Article 7 Deals with nonresidential signs. **This section could be strengthened because it dictates the size and types of signs that can be erected and signs suffer and cause significant damage during windstorms. By restricting large, flat signs, and canopies, such as those frequently found at fueling service stations, certain frequent damages can be reduced. Additionally, collateral damage is often caused by flying debris in severe wind storms, so it is important to dictate how to securely attach signs that are permitted.** (Building Code contains requirements for fastening/ attachments.)
- The UDO references non-conforming buildings or uses. Zoning regulations require structures damaged greater than 50% of their pre-damage appraisal be removed and replaced with conforming buildings and uses.
- Article 3 requires drainage facilities as part of the review criteria for subdivision of land.
- The UDO requires underground utilities in new developments.
- Section 7.20 allows for emergency removal of storm-damaged trees (and allows trimming around utility lines, and sometimes requires trees to be replaced). **Consideration should be given to requiring native species within Article H, Landscaping and Tree Conservation.**

- The “Development Standard” section for the Beaufort Historical District should be expanded. **Reconstruction and redevelopment standards should be considered.**
- Appendix A: Preliminary reviews of subdivisions require that floodplains and any other conditions affecting the site be identified.
- Appendix A requires that the location of existing culverts and drainage pipes be identified.
- Appendix A allows the Planning Commission to require a topographic map at an interval deemed necessary by the Commission if conditions peculiar to the site warrant special consideration.
- Appendix A outlines requirements for final approval for subdivision of land. Appendix A outlines Required Street Improvements, drainage requirements and encourages the use of the most up-to-date and innovative drainage techniques. **This would be an opportunity for Emergency Management/Fire Department to conduct a preliminary review for access/egress and evacuation considerations. Many communities lament that Emergency Management is not involved in the Development process until after-the-fact.**

Town of Bluffton:

Comprehensive Plan, 2007:

- Since 1998, the town limits of Bluffton have increased from one square mile to approximately 54.24 square miles.
- In the Natural Resources Element floodplains and floodways are defined and addressed as areas where development and variances to floodplain development should be prohibited.
- The plan identifies and acknowledges the vast amount of wetlands within the Town and surrounding areas and the need to protect those systems.
- The Town requires all development to comply with the latest version of the their Stormwater Ordinance and Best Management Practices.
- The plan recommends review of ordinances and practices to ensure compliance with FEMA and National Flood Insurance programs.
- Water quality protection for the all watersheds is a priority with the Town of Bluffton with immediate attention being dedicated to the May River. The Town is currently developing the May River Action Plan to ensure a sustainable and protected watershed is maintained both now and in the future.
- Scenic River status for the New and May Rivers is recommended.

- The plan recommends reducing parking requirements, street widths, and driveway widths or imposing a maximum impervious surface percentage to help control increased surface runoff.
- Retaining or installing natural buffers along waterways and wetlands is recommended to reduce the potential for pollution from surface runoff.
- Open ditches and grass-lined swales are preferred to concrete lined or piped drainage ways and the plan states that the maintenance of such needs to be routine. Additionally, it notes that care must be taken to balance the designs to move stormwater quickly from potential flood locations while preserving water quality.
- **Plan states that the Old Town’s drainage system needs to be upgraded.**
- Through development agreements, all new development in the Town’s newly annexed areas will have proper supporting infrastructure i.e. BJSWA (water and sewer – no septic systems), stormwater BMPs, and roadways that meet County and SCDOT standards.

Zoning Ordinance

- The zoning ordinance includes a River Protection Overlay District with buffers and setbacks depending on use and distance from critical line.
- The Density Bonus Ordinance encourages sustainable development and protection of wetlands, trees, and floodplains.
- Revision to the tree ordinance is underway and recognizes the crucial role of trees in reducing stormwater impacts. **Consideration should be given to tree maintenance, tree trimming and “native” vegetation in order to reduce storm damage from falling trees and branches interrupting power.**
- Historic District Standards apply for Bluffton Conservation Neighborhood and the Bluffton Preservation Sub-District that are located within the Town’s original one-square mile area.
- Non-conforming buildings or uses with damage greater than 50% of the pre-damaged appraisal must be removed and replaced with conforming buildings and uses. However a pre-FIRM building within the 100-year mapped floodplain that is *substantially damaged* becomes nonconforming when that level of damage is incurred. Such a residential structure can be elevated in lieu of being removed or relocated. Commercial structures could be elevated or flood-proofed.
- Non-conforming buildings or uses must implement conforming practices such as landscaping, storm water retention and open space requirements as a condition of approval for redevelopment. Redevelopment is the term applied towards substantially improving existing buildings for reasons other than the repair of significant damage.

Stormwater BMP Manual, 2007.

- The Town is currently represented on the Stormwater Utility Advisory Board.
- The manual compiles federal, state, and Town regulations into one document thereby simplifying the process of stormwater treatment and mitigation.
- The stormwater ordinance is currently under revision to add additional measures to ensure that post-development surface runoff volume is the same as predevelopment surface runoff volume.

Unified Development Ordinance

- Unified Development Ordinance undergoing comprehensive overhaul to address form-based land use management techniques within a watershed framework
- The subdivision standards were adopted in June 2001.
- The subdivision review application requires identification of floodplains, topography, wetland, waterways, trees, drainage ditches, etc.
- Subdivision plans must be approved by each of the following entities: the County Engineer, the Town Engineer, the Fire Marshall, SCDOT, BJWSA, EMS Addressing and other utilities.
- Conservation and Flood Hazard Districts are defined with special standards applied in conjunction with NFIP.
- Development and building permits are valid for one year.

Town of Hilton Head Island:

Comprehensive Plan, 2009

- The Comprehensive Plan includes the Beaufort County Multi-jurisdictional Hazard Mitigation Plan as an Appendix.. Additional Appendices include:
 - Post-Disaster Recovery & Mitigation Plan
 - Beach Management Plan
 - Islandwide Drainage Study, and the
 - Fire and Rescue Master Plan
- The process of conducting the state mandated Comprehensive Plan update fulfilled the Town's Community Rating System (CRS) planning requirements by updating this Hazard Mitigation Plan.

- The Natural Resources Element identifies and assesses coastal resources, wetlands, floodplains and soils among other concerns.
- The Community Facilities Element includes an analysis of stormwater management and Fire Protection and Emergency Medical Services.
- Hazard Mitigation is promoted to minimize the vulnerability of Town infrastructure and public facilities to storm damage by including the Beaufort Multi-jurisdictional Hazard Mitigation Plan as an integral part of the Town Comprehensive Plan.
- The Land-Use Element includes a future land-use map, and includes redevelopment strategies and policies that address pre- and post-disaster issues. The strategies are within the Town's Land Management ordinance (LMO).
- The Land-Use Element includes the consideration of land purchases in areas of the Island that are vulnerable to severe storms and flooding and would be prime areas for future development.
- Implementation of the Islandwide Drainage Study is identified as a critical activity and its continued implementation is vital to the Island.
- The Natural Resources Element identifies 56 percent of the Island surface as having soils that are poorly drained and though Hurricanes pose a catastrophic threat the limited drainage capacity of the soils, the lack of connected wetlands and poorly maintained rural ditches cause sustained periods of rain to be the foremost threat of flooding.
- The Town supports the use of Best Management Practices including innovative nonstructural and structural technology for the prevention and control of urban runoff.
- The Town promotes the protection of water quality and combines those techniques to lessen drainage and flooding problems where appropriate.
- Sustainability and Growth Management are planning principles woven throughout the Comprehensive Plan.
- Maintenance of the ocean beachfront is described as a balance between tourism and the island's sensitive environment.

Beaufort County Hazard Mitigation Plan

- The Beaufort Multi-jurisdictional Hazard Mitigation Plan is an Element of the Comprehensive Plan.
- The Town is in the top 4% of communities nationwide that manage their floodplains well and exceed minimum NFIP requirements through the CRS program.
- The Town has a Public Information Program and an annual Flood Awareness Week

- The Town has more than 30,000 NFIP policies
- The Town has taken a proactive approach to Flood Hazard Mitigation. They developed a Disaster Recovery and Mitigation Plan in 1991 following the devastation Hurricane Hugo created in South Carolina. This was one of the first Recovery Plans in the nation, and the first that defined “re-entry” following an evacuation as the beginning of Recovery. In 1995 the Town recognized that while they are extremely vulnerable to hurricanes their foremost problem with flooding was due to inadequate drainage and the more normal rainstorms typical to coastal South Carolina. This led to the development of the Town *Island-Wide Drainage Study*, which continues to be updated. Then in 1999 the Town of Hilton Head Island developed their *Flood Hazard Mitigation Plan*. This was one of the first mitigation plans in the nation to be officially incorporated it with the Town *Comprehensive Plan*, a concept now embraced by the American Planning Association (APA) through their *Planning Advisory Series* and FEMA through the DMA regulations. The Town continues to enforce and update their plan when necessary and takes a proactive approach to flood mitigation.
- The Town is susceptible to drainage system flooding, coastal erosion and Tropical Storms and Hurricanes. Wind hazards present additional concerns.
- The highest priority flood mitigation issue is the coordination of new development with drainage improvements and stormwater management. This is followed by the protection of critical facilities, with an emphasis on water supply and wastewater treatment facilities.
- The Town pursues a variety of flood mitigation activities, including:
 - Preventative Measures
 - Open Space Preservation
 - Storm Water Management
 - Property Protection Measures
 - Building Elevation
 - Floodproofing
 - Flood Insurance
 - Natural Resources Protection
 - Structural Protection
 - Beach Nourishment
 - Sand Fencing
 - Drainage Improvements
 - Emergency Services

Island Wide Drainage Study, August 30, 1995

- Comprehensive study inventoried existing drainage facilities, determined major drainage paths, identified bottlenecks, and recommended prioritized improvements.
- Primary drainage problems within the Town include the changing drainage design standards over time while the island was being developed, separate systems not planned with an island-wide perspective, lack of maintenance of stormwater management facilities and the low and flat topographic nature of the island.

- The study notes that the Island is incapable of handling storm surge from Atlantic Ocean.
- Cleaning, dredging and maintaining the existing drainage system is the foremost priority.
- The study recommends that lagoon and ditch levels be lowered prior to major storm events.
- The study recommends that future construction require finished floor elevations to be 1 foot higher than existing lot topography and adjacent roadways.
- The study makes recommendations for improvements totaling \$17.5 million many of which have been completed.
- The drainage study is continually updated and the staff looks for improvements and recommendations on a regular basis.

Floodplain Management and Land Management Ordinance

Floodplain Management and Development policies and procedures are in good order and contribute to Hilton Head Island's commendable CRS Class 6 rating which provides a 20% reduction in the cost of flood insurance to the more than 30,000 policyholders. This represents an approximate annual savings of \$3.5 million.

Other Considerations:

- There are over 30,000 NFIP policies in force on HHI
- The 1999 Flood Hazard Mitigation Plan calculated damages to structures from the 100 year flood would be approximately \$680 million. If Hilton Head Island was not an active participant in the NFIP it estimates that the damage would have been \$1.66 billion.
- Hilton Head Island has an established beach renourishment program, funded by a local accommodation tax, which excavates sand from offshore shoals and places it onto retreating beaches every 5-7 years.
- Hilton Head Island has an extensive Sand Fencing Project aimed at preserving existing and enhancing new dunes. They have placed over 40,000 linear feet of fencing and indigenous vegetation.
- Hilton Head Island has adopted all ICC codes in full and enforces these codes stringently.

Town of Port Royal:

Comprehensive Plan (update nearly complete in 2009)

- The vision of Port Royal is to become the choice place to live and do business when considering small, unique, and *safe* coastal communities and neighborhoods.
- The Town strives for continuous improvement, orderly and planned growth, and Historic Preservation.
- The Natural Resources Element strives to ensure harmony between the natural and manmade environment.
 - The barrier islands that surround the Town provide some natural protection from severe weather events.
 - The highest points in Town are 20 feet above sea level.
 - The Town has two types of predominant soils, eighty-five (85) percent of which can be used for development as it can accommodate septic systems. Fifteen (15) percent cannot support development.
- Within the Natural Resources Element, the following are identified as implementation strategies:
 - Implement a program to bury overhead utility lines and require new utility lines be placed underground
 - Strengthen and enforce tree preservation ordinances
 - Encourage the use of indigenous plants
 - Designate areas for uses compatible with their natural functions and their potential for recreational and economic activities
 - Recognize and protect wetlands for their capacity to filter pollutants and control flooding and erosion
 - Employ wetland buffers and storm water Best Management Practices to reduce contamination into marshes
 - Budget to acquire undeveloped land that are set aside to remain in their natural state (greenways)
 - Minimize impervious surface roadways to reduce storm water runoff
 - Design storm water drainage systems to mimic the path of runoff in natural systems
 - Discourage the trading or filling of wetlands by developers
 - Develop programs to promote natural resources education, appreciation, and appropriate recreational use
 - Create a River Overlay District

Comprehensive Plan could be improved simply by making mention that each of the above strategies relates to, and contributes to natural hazard mitigation or loss prevention.

- The Cultural Resources Element seeks to preserve and enhance the Town's historical integrity.

- The Element details the 1893 hurricane that was responsible for “the loss of thousands of lives in Port Royal and the surrounding vicinity.”
- A survey is described that identified 1,506 historical sites within 1320 properties . A County survey identifies 1488 sites, 1121 of which are residences. These figures substantiate the enormous percentage of Port Royal that is culturally significant and worthy of special care and protection.)
- The Community Facilities Element cites the new Russell Bell Bridge as the replacement for an old drawbridge that was damaged extensively in Hurricane Hugo.
- The Land Use Element identifies the FH (Flood Hazard) Zoning District (which is delineated by the community’s NFIP map)

Plan could be enhanced by adding and describing how the Floodplain Management Ordinance/Flood Hazard Zoning District prevents future flood damages.

Building Regulations

- The Town uses the current IBC and International Mechanical, Fire, Fuel Gas, and Residential Codes. The Town also uses the current National Electric Code.

Town Code

- Chapter 9 of Port Royal Code is the Flood Damage Prevention Ordinance (standard). Section 9-73 requires that the Town Manager review and approve subdivision proposals and new developments to assure that:
 - They are consistent with the need to minimize flood damage,
 - Public utilities and facilities are located and constructed to minimize or eliminate flood damage,
 - Adequate drainage is provided to reduce exposure to flood hazards, and
 - All proposals include flood elevation data.
- Chapter 17.5 contains the Subdivision Regulations
 - Section 17.5.62 defines the Design Standards
 - Section 17.5.67 defines the Drainage System requirements
 - Section 17.5.68 defines the Flood Hazard Area requirements
- Chapter 22 contains the Zoning Ordinance of the Town of Port Royal, South Carolina
 - Section 22-73 defines the MH (Mobile Home) District, where subsection (h) (1) requires MH Parks be located on a well drained site
 - Section 22-77 defines the FH (Flood Hazard) District

The Local Government Capability Matrix

In addition to the assessment of community policies, regulations and plans the Planning Team also reviewed a matrix as a way of taking inventory of additional mitigation capabilities in each community. The intent of this effort was to see if there were any similarities or gaps in community programs and tools that might indicate where some improvements could be made.

There were some key improvements that have been made since the last plan.

- Jurisdictions have taken steps to protect their critical facilities as funds become available. While not all jurisdictions have a formalized critical facilities protection plan outside of the Hazard Mitigation Plan, all new construction has been built to mitigate loss and existing buildings have in some cases been retrofitted.
- Bluffton is now fully participates in the NFIP.

The matrix and the key to the matrix labels are located on the following pages. There are boxes that are shaded yellow, and others that are red. The yellow boxes highlight an opportunity to make an improvement.

- Moving forward with incorporating the Hazard Mitigation Plan into all comprehensive plans should be a priority. However, all jurisdictions have expressed the desire to put the Hazard Mitigation Plan into their plan, and all plans have elements of hazard mitigation in them. Hilton Head Island is currently updating their plan together with the hazard mitigation plan, and other jurisdictions (such as the County, City of Beaufort and Port Royal) which are updating their plans currently are doing so in conjunction with the update of this hazard mitigation plan and intend to include it as a part of the plans.
- Port Royal should consider joining the CRS program. The data indicates that Port Royal has 709 buildings within the 100-year floodplain, and only 181 flood insurance policies in force (25%). Interestingly, the Planning Team determined that many of the 709 are military facilities and wouldn't be insured under the NFIP. However, the fact remains that 75% of the floodprone structures are uninsured against flood damages. The public, and the military, should be informed of the community's flood vulnerability and the availability of flood insurance. Additionally, if insurance coverage and the number of policies in the community do increase, the Town should then consider joining the CRS program (because there would be a large enough policy base to make it cost effective). Community participation in the CRS program decreases the cost of flood insurance for all policyholders in the community.
- Monitoring the reduction of the number of Repetitive Losses on Hilton Head Island. There are 27 repetitive losses within the Town of Hilton Head Island. At first glance, this is a high concentration of repetitive losses. At second glance, it is only a little more than 1/10 of 1% of the total number of policyholders on the Island. The Planning Team knows that there is a drainage project underway that is intended to address the cause of these repetitive losses. Thus, this issue is worth noting as one to monitor, but it does not warrant being tagged a "red flag."

The red boxes highlight issues that should generate a higher level of concern, and thus warrant further investigation. For example, the red highlighted boxes indicate:

- That no incorporated municipality has undertaken any special efforts to create a water supply plan. This could easily be a mitigation priority.

Table 4.2 Capability Matrix

	Unincorporated Beaufort County	Beaufort City	Bluffton	Hilton Head	Port Royal
Comp Plan	Y	Y	Y	Y	Y
- with HM?		Y		Y	
Land Use Plan	Y	Y	Y	Y	Y
Subdivision Ord	Y	Y	Y	Y	Y
Zoning Ord	Y	Y	Y	Y	Y
BFM Plan	Y			Y	
HM Plan	Y			Y	
FPM Ord	Y	Y	Y	Y	Y
- Sub.Damage?	Y	Y	Y	Y	Y
- Administrator?	Y	Y	Y	Y	Y
- # of FP Bldgs?	7,667	1,254	42	9,149	709
- # of policies	12,347	1,106	264	29,515	181
- # of RL's?	0	2		27	0
CRS Rating	8	8		6	
Stormwater Program	Y	BMP	Y	Y	BMP
Building Code	Y	Y	C	Y	Y
Building Official.	Y	Y	C	Y	Y
- Inspections?	Y	Y	C	Y	Y
BCEGS Rating	4	6	4C	3	6
LEOP?	Y	C	C	C	C
Warning-sirens?	Y	Y	Y	Y	Y
- NOAA W.Radio?	Y	Y	Y	Y	Y
- Cable Override?	Y	Y	Y	Y	Y
- Reverse 911?					
- Lead Time	72 hours Parris Island and MCAS have own sirens				
Structural Projects	Bulkhead Permits at Cherry Pt			Y	Y
Property Protection	Stmwtr Util &	Detention/Retention		Y	Y
Crit.Fac.Protection				Y	
Water supply plan	Y	BJWSA	BJWSA	PSD	BJWSA
Nat/Cult Res. Inv.	Y	Y	Y	Y	Y
Erosion Control	Y	C	C	Y	Y
Sediment Control	Y	C	C	Y	Y
Pub. Info Prgm	Y	Y	Y	Y	Y
Env. Ed Prgm	Y	N	Y	Y	N

EXPLANATION OF CAPABILITY ASSESSMENT MATRIX

Comp Plan: Does your community have a Comprehensive Long-Term Growth Plan?

Land Use Plan: Does your community have a plan that designates Land Use regulations?

Subdivision Ordinance: Does your community have an ordinance that dictates lot sizes, density, setbacks, construction type?

Zoning Ordinance: Does your community have an ordinance that dictates type of use or occupancy in certain areas?

BFM Plan: Does your community have a Beachfront Management Plan as required by SC-DHEC

HM Plan: Does your community have an existing stand alone Hazard Mitigation Plan?

FPM Ord: Does your community have a Floodplain Management Ordinance that directs development in identified Flood Hazard Areas?

Sub. Damage: Does your FPM Ordinance contain language on Substantial Damage or Substantial Improvements?

Administrator: Does your community have a Floodplain Administrator?

of FP Bldgs: How many buildings are in the floodplain in your community?

of policies? How many buildings in the floodplain are insured through the NFIP?

of RL's: How many NFIP Repetitive Losses are in your community?

CRS Rating: Are you in the Community Rating System of the NFIP and if so, what's your rating?

Stormwater Program: Does your community have a Stormwater Management program?

Building Official: Does your community have a Building Official?

Inspections: Does your community conduct building inspections during and after completion of the development process?

BCEGS: What is your Building Code Effectiveness Grading System Rating?

LEOP: Does your community have a Local Emergency Operations Plan?

Warning: Do you have any systems such as sirens, NOAA Weather Radio reception, Cable TV Override, "Reverse 911"? How much "lead time" is provided?

Structural Protection Projects: Do you protect levees, critical drainage, detention/retention basins?

Property Protection Projects: Do you sponsor buy-outs, elevation of structures, floodproofing, small "residential" levees or floodwalls?

Critical Facility Protection: Do you protect power substations, sewage lift stations, water-supply sources, the EOC, police or fire stations, medical or essential services in the floodplain?

Natural And Cultural Inventory: Do you have an inventory of resources, maps or special regulations within the community?

Erosion Or Sediment Control: Do you have any projects or regulations in place?

Public Information Or Environmental Education Program: Do you have an ongoing program even if its primary focus is not hazards? Examples would be "regular" flyers included in city utility billings, a website or an environmental education program for kids in conjunction with Parks & Recreation?

There are some regional capabilities that should also be considered, and an additional layer of regulations at the State and Federal Level enhance these local capabilities. The Planning Team looked also reviewed the following:

State Plans and Regulations

The South Carolina Emergency Management Division (SCEMD) publishes an annual *South Carolina Hurricane Plan* which includes a listing of hurricane shelters for various regions in the state including the Southern Coastal Conglomerate of which Beaufort County is a part. While there are some shelters within Beaufort County they do not open for storms that are greater than a Category 1 Hurricane. However there are several shelters in adjacent counties that are meant for use by Beaufort County residents. These include schools and community centers in the adjacent counties of Colleton, Hampton, and Jasper as well as southern counties located further inland in Aiken, Allendale, Bamberg and Barnwell Counties. Some of these shelters are opened only for mandatory evacuations as ordered by the Governor while others are opened for both mandatory and voluntary evacuations. A third group of reserve shelters are opened as determined necessary by local officials. A list of these shelters in adjacent counties is provided as Table 4-3.

Table 4-2. Regional Hurricane Shelters in Adjacent Counties

Colleton County Shelters			Hampton County Shelters		
Shelter	Address	Type	Shelter	Address	Type
Northside Elementary	1929 Industrial Blvd Walterboro, SC 29488	V	Varnville Elementary	395 Pine Street, East Varnville, SC 29944	V
Colleton High School	1379 Mighty Cougar Drive Walterboro, SC 29488	M	Wade Hampton High School*	115 Airport Rd. Hampton, SC 29944	V
Contact: Suzanne Gant, Emergency Prep Director Phone: 843-549-5632			Hampton Elementary	705 South Hoover Street Hampton, SC 29924	M
Jasper County Shelters			Estill High School	1450 Columbia Hwy North Estill, SC 29918	M
Shelter	Address	Type	North District School	507 Tillman Avenue Varnville, SC 29944	R
Jasper County High School*	US Highway 278 West Ridgeland, SC 29936	V	Ben Hazel Primary School	628 West Railroad Ave. Hampton, SC 29924	R
Ridgeland Elem. School	Bees Creek Road Ridgeland, SC 29936	M	Estill Middle School	555 West Third Street Estill, SC 29918	R
Ridgeland Middle School	Bees Creek Road Ridgeland, SC 29936	M	Estill Elementary	318 Fourth Street, East Estill, SC 29918	R
Coosawhatchie Community Center	SC Highway 462 West Coosawhatchie, SC 29940	R			
Robertville Community Center	US Highway 321 Robertville, SC 29922	R	Contact: Suzanne Peeples, Disaster Prep Coordinator Phone: 803-943-7522		
Contact: Wilbur Daley, Disaster Prep Director Phone: 843-726-7797					

*These shelters are also special medical needs shelters. In Colleton County, the Colleton Medical Center in Walterboro serves as a special medical needs shelter.

Although these shelters are available for use by Beaufort County residents, many residents are not aware of their existence and their function during disaster situations. **Beaufort County citizens should be better informed about the existence and locations of the shelters and the fact that they are available for their use.**

The South Carolina Local Government Comprehensive Planning Enabling Act of 1994 gave local governments (counties and incorporated towns/cities) five years to bring their planning programs and regulatory ordinances into compliance. The Act repealed existing planning legislation as of May 4, 1999, requiring that a Comprehensive Plan be used as a tool for guiding future development. The Act consolidates existing planning legislation for local governments into one law and defines a set of requirements that must be met for the planning activities of a local government to be legal. In particular the Act describes required comprehensive plan elements, defines the roles of the town council, planning commission, and zoning board of adjustment and outlines the public review process and procedures for adopting comprehensive plans and land use ordinances.

***South Carolina Department of Health and Environmental Control (SC-DHEC)
Ocean and Coastal Resource Management (OCRM)***

- ***The Coastal Tidelands and Wetlands Act*** (1977) was amended in 1993, creating the South Carolina Coastal Zone Management Act.
- ***The South Carolina Coastal Zone Management Act***, which merged the South Carolina Coastal Council with DHEC, creating OCRM whose general purpose is to:
 - Protect the coastal environment, and
 - Promote economic and social improvement of the Coastal Zone
 - It identifies “Critical Areas” as coastal waters, tidelands, dune systems, and the beach, and gives DHEC permitting authority in those areas.
 - Identifies salt/brackish marshes as protecting highlands from erosion and storm damage
- ***The Beachfront Management Act*** (BFMA, 1988) establishes authority to address erosion hazards due to persistent sea level rise, a lack of comprehensive beach management planning, and poorly planned coastal development. The BFMA establishes “retreat” as the basic approach to beachfront management, rejecting “armoring” and including beach nourishment as a mechanism to assist in retreat.

The basic policy is one of a 40-year retreat, and establishes a Baseline and Setback on all oceanfront properties. The Baseline is the crest of the primary dune or the line where it *would have been*. The Setback is 40 times the annual rate of erosion but always at least 20 feet.

The BFMA also establishes rules for rebuilding structures, seawalls and bulkheads. Structures including swimming pools cannot be repaired or replaced if they are destroyed or damaged greater than 66.67% of their replacement cost. Seawalls and bulkheads cannot be repaired or replaced if they are destroyed or damaged greater than 66.67% of their replacement cost between July 1, 1995 and June 30, 2005. Beginning July 1, 2005 seawalls and bulkheads cannot be repaired or replaced if they are destroyed or damaged greater than 50%.

Federal Regulations

- ***The National Flood Insurance Program (NFIP)***: Established in 1968, the NFIP provides flood insurance in communities that agree to regulate new development in identified Special Flood Hazard Areas through the adoption and enforcement of a minimum Flood Damage Prevention Ordinance. It also requires, as a condition of every federally backed mortgage within an identified Special Flood Hazard Area to require the purchase and maintenance of a flood insurance policy for the life of the loan.
- ***The Coastal Barrier Resources Act (CoBRA)***: Established in 1972, the CoBRA is environmental legislation administered by the Fish & Wildlife Service. It provides for the identification and protection of Coastal Barrier Resources. It prohibits the availability of federally backed assistance within identified areas, including grants, loans, mortgages and flood insurance.
- ***Coastal Zone Management Act (CZMA)***: Established in 1972, and amended by the Coastal Zone Protection Act of 1996 the CZMA defines a national interest in the effective management, beneficial use, protection and development of the Coastal Zone and identified the urgent need to protect this natural system from these competing interests. The Act encourages states to exercise their full authority over the lands and waters of the Coastal Zone. Annual cost-share grants to states creates an incentive to establish land-use and environmental protection standards that have served to reduce damage from coastal storms, as well as achieve its other multi-objective goals.

5. Mitigation Goals and Objectives

Introduction

This section of the Beaufort County Hazard Mitigation Plan describes the goals and objectives established by the Hazard Mitigation Planning Committee and the completed and anticipated actions for implementation and maintenance of this plan in an ongoing effort to achieve these goals.

Goals and Objectives for the Mitigation Plan

The Beaufort County Hazard Mitigation Planning Committee has established a number of goals and objectives to guide its work in the development of this plan. The goals and objectives help to focus the efforts of the group in the mitigation planning effort to achieve an end result that matches the unique needs, capabilities and desires of Beaufort County. Recommendations were evaluated against these goals and objectives by the representatives of the jurisdictions and later by the entire Committee; changes were made as needed.

The goals and objectives selected by the Hazard Mitigation Planning Committee for the planning process are listed below. In the planning approach, the goals are established for the entire County. As this is an update to the original plan, the updated goals are listed here and have changed slightly from the original goals and objectives. The action items that were created in the original goal are addressed in terms of their completeness and the reasons why any item may have not been completed in Table 5.3. The goals were reviewed by the Hazard Mitigation Planning Committee and it was determined that their ranking remained the same as the original Plan. Some language was changed but the general principles behind each goal was agreed to have remained the same. The goals and objectives are listed below:

1. Improve the protection of critical facilities.

- a) Identify at-risk facilities in the 100-year floodplain and within areas subject to Storm Surge inundation.
- b) Develop measures to address the risk to vulnerable critical facilities to prevent future damages.

2. Enhance the Hazards Education/Public Information Program

- a) Identify and solicit low cost or no cost Partners such as TV, radio, newspapers
 - Promote Flood Insurance in B/C/X zones through Agents, Realtors and Banks
 - Promote Public Awareness of FEMA Regulations
 - Continuing Education of Elected Public Officials
 - Seismic Safety
 - Provide education for Building Inspection staff
 - Conduct Building Code Workshops for contractors and other stakeholders

3. Continue to update all Comprehensive Plan land use ordinances and other relevant policy documents in a way that supports mitigation activities.

- a) Promote appropriate designations:
 - Land-use
 - Affordable Housing Issues
- b) Integrate vulnerability data into the Zoning and Land Use policies
 - The Floodplain Ordinance is already integrated into the Comprehensive Plan
- c) Incorporate Hazard Mitigation Plan into the community Comprehensive Plan and work to integrate mitigation into all community decisions
 - Get concept accepted by political body
 - Identify appropriate as a Comprehensive Plan element or include as an appendix

4. Protect Community Historic Preservation Resources

- a) Identify all historic resources and utilize the list compiled for historic resources in the County
- b) Identify repair and reconstruction rules and policies where they differ for policies for other types of structures
- c) Continue with pre-disaster coordination with SHPO and local Historic Preservation groups.

5. Promote Seismic Safety

- a) Implement and Enforce Seismic Safety Provisions

6. Continue to Identify Drainage Problems and Work towards their Resolution

- a) Ensure the proper maintenance of existing drainage systems and the improvements and replacements as necessary
- b) Expand the existing drainage system to meet increasing demands

7. Preserve and Protect Natural Resources

- a) Much of the county's marshland should be preserved for water quality and flood water storage purposes through the use of wetland buffers, wetlands protection and river buffers.
- b) Promote open space initiatives.
- c) Continue the planning and implementation of projects from the Island Wide Drainage Study

8. Continue to Ensure Emergency Response Personnel are Adequately Equipped

- b) Focus on pre- and post-disaster coordination and access to important information.

9. Ensure the Communities Continue to be Compliant with NFIP Requirements, that Flood Risk Maps are accurate and up to date and that the Flood Maps are used to achieve FEMA mandated compliance within in the special flood hazard area.

- a) Work with FEMA to conduct restudies as necessary to ensure that maps are accurate.
- b) Continue to include flood development permitting as an important part of building and development permitting.

10. Promote building code enforcement by encouraging all policymakers to adopt the most up-to-date versions of universally accepted codes.

- a) Inform state and local lawmakers about the importance of following all newly adopted codes.
- b) Promote building codes without amendments to homeowners and homebuilders, demonstrating the added safety measures and cost savings benefits that come with applying the universally accepted building codes to new construction and significant renovations.
- c) Encourage property owners to retrofit and renovate homes to meet the current building codes standards as part of continuing maintenance

6. Mitigation Action Plan (and update of previous actions)

Based on the goals and objectives the Hazard Mitigation Planning Committee established several action items that they intend to implement over the next five years. These action items were carefully considered and they were developed to address the protection of both new and existing buildings and all critical facilities. As the funding and political timing deems implementation appropriate the actions will be undertaken by the appropriate jurisdiction and department. Particular mitigation actions were considered and all are focused on continued compliance with Federal Programs such as NFIP. Throughout the process there was frequent consultation with the representatives of the jurisdictions to discuss and improve the specific recommendations. When the assessment was completed the Committee reviewed the results and made further County wide and individual municipality recommendations that were incorporated into the final document.

Explanation of Tables

For clarity's sake a brief explanation of the mitigation action table should be addressed. There are three tables pertinent for clarification: Table 6.1 was created as a scoring table was created as cost benefit review tool to further prioritize the actions. Based on this table, each mitigation action was given a score and a priority designation of High (a score greater than 20), Medium (a score of 10-19) and Low (a score less than 10).

Table 6.2 is a status report of what happened with all of the proposed mitigation actions from the previous plan. This prioritization is intended to comply with the intent of the NFIP and reflect a cost-benefit review of each action. Any action that has not been completed or is ongoing is indicated and it is reflected in table 6.3.

Table 6.3 through Table 6.7 are the most up-to-date list of the goals, actions, prioritization, , approximate time of completion and approximate cost for each jurisdiction. It reflects the work of the HMPC throughout this process, and it gives an idea of where we would like to be in five years. Each action is given a designation of high, medium or low based on the score it received. This enables the Beaufort County Hazard Mitigation Planning Committee to identify which of the established goals and objectives are to be addressed by the proposed action item. By considering the goals when establishing new action items the Hazard Mitigation Planning Committee focused its efforts on implementing mitigation actions based on the established goals and objectives.

Each of the four jurisdictions has its own table. While some of the actions are similar or the same it is necessary for each jurisdiction to have its own list of actions to mitigate hazards.

National Floodplain Insurance Program—prioritization and participation

All of the actions that the Hazard Mitigation Planning Committee developed were established and prioritized using several criteria. Primarily the Hazard Mitigation Planning Committee established the actions based on the National Floodplain Insurance Program. The actions are intended to fulfill the requirements of the NFIP and the goals and mitigation actions reflect this. All participating jurisdictions are participants in the NFIP and are not under any sanctions. Beaufort County and its municipalities participating in this Plan have current Flood Insurance Rate Maps. All of the communities in Beaufort County are committed to NFIP's continued success. All of the identified hazards are addressed by an action item and a significant number of the mitigation actions were formulated in order to reduce loss and damage from flood.

The Prioritization Scoring Table (6.2) was developed as a means of ranking the action items based on the NFIP. The scoring criteria represent a cost-benefit review and the project's feasibility is reflected from these scores. A score was figured for each mitigation action which was evaluated on the criteria from Table 5.2, with the highest score being 27 and the lowest being zero 0. The actions were then prioritized based on the scores.

Table 6.2 was created as a scoring table and a cost benefit review tool to further prioritize the actions. Based on this table each mitigation action was given a score and a priority designation of High (a score greater than 20), Medium (a score of 10-19) and Low (a score less than 10).

Addressing Known Risks and Vulnerabilities

The process of selecting actions to mitigate known threats to hazards began with a review of the previous action items and goals as mentioned in the Planning Section of this Plan. Committee members also consulted personnel from within their respective agency or organization. The resulting list is part wish list and part a reflection of Beaufort County's hazards. This list is an indication of the problems that Beaufort County needs to address based on necessity, cost of repairs and future needs.

As the Beaufort County Hazard Mitigation Plan is reviewed and updated by the Hazard Mitigation Planning Committee the goals and objective statements are also reviewed to ensure they are still applicable to meeting the unique needs, interests and desires of the community.

Table 6.1, Prioritization Scoring Table

Priority Criterion	Numeric Score			
	0	1	2	3
Strategy effectiveness	No affect on risk or hazard	Affects several structures within the community	Affects many structures within the community	Affects most structures within the community
Percentage of population benefitted	Less than 10% benefitted	10% to 15% benefitted	50% to 75% benefitted	Greater than 75% benefitted
Time to implement	Cannot be implemented	Long term	Within one year	Immediate
Time to impact	Cannot be implemented	Long term	Within one year	Immediate
Cost to community	Completely unaffordable	Expensive	Inexpensive	Little to no Cost
Funding source	No known Funding source is available	Requires outside Funding	Requires budget consideration	Within existing county budget
Cost to others	Cost to others is unacceptable	Expensive, but manageable	Cost is easily managed by others	No cost to others
Community support	Opposed by the entire community	Some community opposition	Acceptable only to those affected by the project	Acceptable community wide
Project feasibility	Not possible	Accomplished with extensive design and planning	Accomplished with some design and planning	Easily accomplished

Benefit-to-Cost Review

A key analytical measure commonly used in vulnerability assessments is the benefit to cost ratio which expresses the estimated benefits in dollars in comparison to the estimated costs to implement and maintain the proposed mitigation initiative. For an action to be considered cost effective the dollar value of the benefits derived needs to exceed the costs to implement and maintain the initiative. The benefit to cost ratio should be greater than 1.0. The process for calculating a benefit to cost ratio begins with estimating the direct and indirect costs of the situation that the mitigation initiative is intended to address. If the initiative were to be implemented these are the future costs that would be avoided or the benefits derived from implementing the action.

Both direct costs of the situation are considered such as structural damages as well as indirect costs such as lost wages. The total of the direct and indirect costs are then divided by the predicted life of the initiative in years. This then gives the dollar benefits of the project on an annual basis. The cost side of the benefit to cost ratio is by determining the estimated cost to initially implement the proposal such as initial construction cost for a project or the development costs for a training program. To this amount is then added any annual costs that implementation of the project would incur such as annual operations and maintenance costs or annual implementation costs.

Next the approach then considers any cost impact of the proposal or the costs that would be incurred by others in the County due to implementation of the initiative such as the economic effect on new construction of adopting a more stringent building code. The cost impact figure is also annualized by the life of the project and then any annual cost impact values such as an annual user fee or tax is added to give a total annual cost impact. Finally by dividing the annual costs of the benefits of the proposal by the annual cost and cost impact necessary to implement the proposal a benefit to cost ratio is estimated. A more sophisticated methodology for calculating a benefit to cost ratio is likely to be necessary at the time of actual implementation, when applying to state or federal agencies for funding or for the design and construction stage of development.

Cost Benefit Review—Prioritization of Mitigation Actions

Currently no benefit-cost analysis has been conducted for each of the mitigation actions in this Plan. This is due to both the lack of information and this type of evaluation is beyond the scope of the Plan. However the Hazard Planning Committee considers the priority scoring table a valuable cost-benefit review tool and thus has prioritized the actions based on those scores. The higher scored mitigation actions reflect actions that meet a higher standard on more criteria and are thus considered much more cost efficient and beneficial to the community. Furthermore when each mitigation action is considered for particular funding the responsible agency will conduct an in depth cost-benefit analysis of the project.

It is possible to see from this table that the minimum priority rank for a proposed initiative would be zero while the maximum would be twenty seven. As noted above this priority ranking may differ from the true priority for implementation assigned to a specific mitigation initiative based on unanticipated conditions or situations occurring at a certain time. The priority ranking given through application of the ten criteria in the table will remain constant through time because of the inherent characteristics of the proposed initiative unless those characteristics are also modified.

All of the actions are listed with their priority designation assigned to each in Table 6.4 as a result of the common process to characterize and prioritize mitigation initiatives that was used in the planning process. This priority ranking is a long term characterization value directly associated with each specific initiative based on its own merits at the time it was first proposed by the individual participant. The priority ranking is intended to serve as a guideline for the Hazard Mitigation Planning Committee regarding the relative desirability of implementation of a specific mitigation initiative in relation to the other proposed initiatives incorporated into the plan.

Multi-jurisdictional action items

As reflected in Table 6.3 each mitigation action is assigned to a particular jurisdiction and when possible a particular department within that jurisdiction. Table 6.3 shows the action items that were taken from the previous plan. The status of these items was reported and the update is given. For this Plan's update while some action items may have been modified no mitigation action was deleted from the list. If the item has not been completed since the original plan the reason is listed in Table 6.3 and the item reappears as a new mitigation action. The original action items are shown with their status. If the project is listed as "ongoing," some form of that mitigation action still appears in the updated plan.

Table 6.2, Previous Mitigation Actions and Status Report

<u>Project</u>	<u>Implementation</u>	<u>Community/Agency Responsible</u>	<u>Status Report</u>
Goal 1			
Fortify County Archive Facility at 2727 Depot Road to protect it and its contents from flooding and high winds.	Inspect facility and find funding for retrofits	County building codes; archives personnel	Facility has been relocated. The new facility is in zone C and building is wind resistant.
Relocate the Archer Road Communications Facility	Identify new sites and ensure new building is resistant to damage.	HHI communications system administrator; EMD	Facility has been relocated to a C zone and building is wind resistant.
Retrofit both the Cleveland Point and Shell Point Communications Facilities to increase their ability to withstand flood and high wind events.	Relocate Cleveland site. Inspect Cedarbrook site to determine potential mitigation measures	Beaufort County EMD; building codes	Project has been completed
Conduct engineering inspections of county fire stations to determine mitigation retrofitting measures necessary	Application for federal funds	County EMD; building codes from all communities	Hilton Head Island has completed all inspections and three new facilities have been built. HHI has shutters able to withstand a category 5 hurricane. All HHI fire facilities have fire sprinklers.
Make improvements to the St. Helena Wastewater Treatment Plant to protect it from flood damage	BJWSA and County EMD Office to pursue mitigation funding for the proposed project.	Unincorporated Beaufort County; BJWSA Safety & Risk Manager	not done; no funding
Protect the Chelsea Water Treatment Plan from flood damage.	BJWSA and County EMD Office to pursue mitigation funding for the proposed project.	Unincorporated Beaufort County; BJWSA Safety & Risk Manager	not done; no funding
Protect the Bay and Lauren Streets stormwater collection systems from inflow problems.	BJWSA and County EMD Office to pursue mitigation funding for the proposed project.	Unincorporated Beaufort County; BJWSA Safety & Risk Manager	Bay Street upgrade completed in FY 2009
Maintenance and replacement of critical bridges	Engineers to develop inventory and prioritize improvements	Community engineering departments; Beaufort County EMD; Beaufort County Council and Community Councils.	Not done; No funding

Goal 2			
Train Building Officials on most up to date code requirements for hazard resistant construction	Annually evaluate their building inspectors' capabilities and recent training experience.	Beaufort County Building Codes Director; building codes officials from all municipalities	Annually review with staff all updates for current Codes and procedures ongoing
Sponsor and conduct workshops for local engineers, architects and contractors on IBC and hazard resistant construction	Will quarterly advertise these training sessions via the community web site and by using flyers to be posted in building permit offices.	All communities building codes officials	All jurisdictions conduct classes as an ongoing effort. HHI held a FEMA sponsored class based on Guide to Coastal Construction; HHI also has annual June Hurricane forum with chamber of commerce
The county will work with stations WTOC and WSAV to promote public awareness of disaster preparedness	Coordination with the local station reporters to promote public awareness of disaster preparedness and mitigation.	All communities Beaufort County public information; Beaufort County EMD; municipal EMD.	TV stations broadcast disaster awareness messages as an ongoing effort
Goal 3			
All Municipalities will include the Hazard Mitigation Plan as an element of the Comp Plan.	Each community responsible for incorporation of the hazard mitigation plan into their comprehensive plan and other planning tools.	All municipalities/ planning directors and floodplain officials	The Beaufort County Hazard Mitigation Plan was adopted as part of the Beaufort County and City of Beaufort's Comprehensive Plans in July 2004. Port Royal adopted the Hazard Mitigation Plan as Appendix J of the Town's Comp Plan on August 2004. Plan was adopted by Town of Hilton Head Island August 2004.
Goal 4			
Prepare pamphlet for mitigation and recovery issues for historic structures	Greenhome & O'Mara, Inc. will provide text to the county for the county to use in developing the pamphlet by September 2003; distribution in 2004.	Beaufort County; City of Beaufort Historic preservation officers	The City of Beaufort prepared a Hurricane Preparedness Brochure for Historic Properties in 2005. This brochure has been included in mailings on an annual basis to all property owners in the flood hazard area.

Mitigation Action Plan (and update of previous action)

Work to develop public education program for historic property	Target meeting date December 2003 to discuss coordination of the program and to schedule the first property owner workshop.	Beaufort County; City of Beaufort; Town of Bluffton historic preservation officers.	Preservation Planners work with property owners on a regular basis to educate them on the importance and value of their properties and to guide them in making improvements.
County to expedite re-building of historic structures post disaster	Gather better historic property value data and resources for estimating costs of repair and materials for historic structures.	Beaufort County; City of Beaufort; Town of Bluffton historic preservation officers.	All communities have damage assessment and emergency permitting processes after major disaster. These expedited permits for structures in Historic Districts are issued after applicant consultants with team comprised of the Preservation Planner and building inspector to discuss damage with applicant and agree on appropriate repairs.
Provide technical assistance to historic property owners and advise them of funding sources.	Historic preservation officers in all communities will provide technical assistance to property owners.	Beaufort County; City of Beaufort; Town of Bluffton historic preservation officers.	All communities Preservation Planners assist property owners completing forms for state and federal income tax credits for repair of properties.
Goal 5			
The County will enforce seismic provisions in their building code.	Building Code Department will continue to enforce the seismic provisions.	Beaufort County building department	ongoing
Goal 6			
Hilton Head will implement structural drainage projects identified in the 1995 Island Wide Drainage Study.	Continue funding structural drainage projects in the annual CIP budget development process	Hilton Head Island Engineering department	All 16 original projects have been completed (\$15M). Second phase will continue inventory of Shipyard, replace 12 miles of culvert pipe, Jarvis Creek wetland restoration, Tide Point ditch improvement, stormwater easements, 278 at Arrow road study, continue maintenance

Mitigation Action Plan (and update of previous action)

All communities to continue to support Beaufort Co.'s SWM Utility/plan for future SWM projects.	The advisory board has begun work on the county wide inventory and analysis of the SWM facilities which has a completion date of September 2004.	All communities; chairman of the stormwater utility advisory board.	This is a continuing project. HHI has completed stormwater management agreements
County use the Zoning Ordinance and best management practices to mitigate stormwater and erosion protection	Ongoing effort	Beaufort County engineering department	ongoing
Goal 7			
Hilton Head will use their land purchasing plan to obtain floodprone properties and designate them as open space.	Continue to collect the real estate transfer tax and use proceeds for the land purchasing plan.	Town of Hilton Head Island Town Manager and Town Council	ongoing
Hilton Head will continue to perform periodic renourishment of its beaches.	Use proceeds from the beach preservation fee to conduct renourishment projects.	Town of Hilton Head Engineering department	This is a continuing project. HHI spent \$17M in 2005, dune accretion has occurred, critical stormwater protection zone laws passed
Goal 8			
Town of Hilton Head Island will create a centralized information technology system to access pertinent information during a disaster to be used county wide.	Town of Hilton Head Island to research information technology options	Town of Hilton head Island GIS and Floodplain Administrator	Town has computerized FEMA damage assessment forms and developed a spreadsheet linked to the County Assessors data to expedite the damage assessment reporting process. Information will be available to Town's emergency permitting center to expedite permitting. Information shared with all municipalities with MOU.
City of Beaufort to be equipped with radios for use during emergency to improve communications	Apply for funding for radio equipment to guarantee reliable emergency communications	City of Beaufort Emergency Service appointee	The City has purchased satellite phones for the key departments involved in disaster recovery.

Goal 9			
SCDNR to sponsor revised Flood Insurance Rate Maps based on newer and more accurate topographic data.	All municipalities to partner with SCDNR State floodplain coordinator to produce digitized versions of revised FIRM's	Floodplain Administrator all municipalities	Draft FIRM's to be released early 2012.
Hilton Head Island will provide data based on USACE and FEMA mapping guidelines for the FIRM's restudy to SCDNR	The Town will continue to work with the USACE and FEMA to restudy and create the FIRM's.	Town of Hilton Head Island Floodplain Administrator	Draft FIRM's to be released early 2012
Enforce floodplain regulations to ensure proper development in compliance with all building codes, FEMA regulations and any other pertinent ordinances.	This is a continuing effort	Beaufort County building codes and department of inspections; City of Beaufort Codes enforcement; Bluffton planning department ; Town of Hilton Head Island building and fire codes department; Port Royal planning administrator	All municipalities enforce the ICC building code regulations and the FEMA regulations for any development in the flood hazard area. The Beaufort City's local flood hazard mitigation ordinance is more stringent than FEMA requirements. City's regulations require residential additions in the flood hazard area be elevated and non residential additions to be dry flood-proofed.

Implementing the Actions

The Beaufort County Hazard Mitigation Plan contains the compilation of the proposed mitigation actions that have been formulated as the result of the planning efforts by the Hazard Mitigation Planning Committee. The matrix below demonstrates how the plan will be administered and implemented based on jurisdiction, department responsible, potential funding sources, implementation timeline and a cost estimate based on the Hazard Planning Committee's evaluation. These mitigation actions form the fundamental mechanism for the implementation of the local mitigation plan. When the resources and opportunity to do so become available the responsible organization implements an action to address the vulnerability of the facility, system or planning issue that was identified through the mitigation planning process. After each successful implementation of an initiative the benefited community will become that much more resistant to the impacts of future disasters.

Following is the Hazard Mitigation Action Item Matrix (Tables 6.3 through 6.7) which describes all of the newly formulated actions, their related goal, their priority based on the prioritization score, funding sources, impediments, estimated cost and approximate implementation date.

For the purposes of the edition of the Beaufort County Hazard Mitigation Plan shown here and to be included as an Appendix to the Town of Hilton Head Island's Comprehensive Plan only Table 6.4 showing Hilton Head Island's new mitigation actions will be printed. The mitigation actions of other Beaufort County municipalities are available upon request.

Table 6.4 Hilton Head Island New Mitigation Actions

Mitigation Action	Associated Hazards	Priority/Score	Goal	Estimated Cost	Department	Potential Funding	Schedule	obstacle
Continue engineering inspections of fire stations and Town owned buildings to determine retrofitting measures necessary especially for wind and flood.	All Hazards	Medium/17	1	\$20,000.00	Facilities Maintenance Engineering	Town CIP	2010 (ongoing)	funding
Inspect vulnerable bridges and causeways to determine ones to be replaced or retrofitted. Prioritize maintenance.	Hurricane, wind, earthquakes	Medium/15	1	unknown	SCDOT, Engineering	SCDOT, PDM, HMGP, County, Federal Highways	2014 or as funds are available	funding
HHI will work with regional media to promote public awareness of disaster preparedness and mitigation strategies.	All Hazards	High/24	2	\$2,000.00	Community Development	County, all municipalities	2009	funding
Distribute "Citizen's Guide to Flood Awareness" and "Citizens Guide to Emergency Preparedness" publications regularly	All Hazards	High/25	2	\$10,000	Community Development	HHI	2010 (ongoing)	funding
Use EMD's centralized information technology system to access pertinent information during a disaster.	All Hazards	Medium/11	2	\$10,000.00	Emergency Preparedness	County, HHI, PDM, HMGP	2010	funding

Mitigation Action Plan (and update of previous action)

Hilton Head will continue to implement structural drainage projects	flood	High/27	6	CIP budget	Engineering	HHI CIP, HGMP, PDM	2010 (ongoing)	funding
Hilton Head Island will continue to support Beaufort County's SWM Utility plan	flood	High/21	6	n/a	Engineering	BJWSA, all jurisdictions	2010 (ongoing)	funding
Hilton Head island will study poorly drained areas and remedy them through best practices.	flood	Medium/17	6	CIP budget	Engineering	HHI CIP budget HGMP, PDM	2010	funding
Hilton Head will continue to use their land purchasing plan to obtain flood prone properties and designate them as open space.	flood	Medium/17	7	unknown	Administration	HHI, PDM, HGMP	2010 (ongoing)	funding
Hilton Head will continue to perform periodic renourishment of its beaches	flood, erosion	Medium/17	7	\$17,000,000.00	Planning, Public Works	HHI, PDM, HGMP	2010 (ongoing)	funding
GPS systems available for emergency personnel	All Hazards	Medium/19	8	\$5,000.00	Building, Emergency Management	HHI, PDM, HGMP	2012	funding
Conduct periodic surveys of the equipment used by emergency personnel and budget upgrades to facilitate safety and rapid recovery	All Hazards	Medium/18	8	n/a	Emergency	HHI, PDM, HGMP	2010 (ongoing)	funding
Complete work with SCDNR to update FIRM's based on more accurate topography.	flood	High/20	9	unknown	SCDNR, Community Development	SCDNR	2012	funding

Mitigation Action Plan (and update of previous action)

Complete work with the USACE and FEMA to develop new maps and incorporate into county FIRM's	flood	High/20	9	unknown	SCDNR, Community Development	USACE, Town of Hilton Head Island	2012	funding
Update all flood maps with new municipal and county boundaries	flood	Medium/12	9	unknown	SCDNR, Community Development	SCDNR	2012	funding
Hilton Head Island will continue to enforce all floodplain regulations to ensure proper development in compliance with building codes, FEMA regulations and any other pertinent laws and ordinances without exception	Flood, wind	High/25	10	unknown	Community Development	Town budget	2010 (ongoing)	none
Continue to train Building Department personnel on most up to date code requirements for hazard resistant construction	All Hazards	High/22	10	\$5,000.00	Building Division	Town budget	2010 (ongoing)	none
Sponsor and conduct workshops for local engineers, architects and contractors on International Codes and hazard resistant construction	All Hazards	High/21	10	\$5,000.00	Building	Town Budget	2010 (ongoing)	funding
Actively advocate to public officials the adoption of the latest version of universally accepted building codes without amendments	All Hazards	High/20	10	unknown	Community Development, Administration	Town Budget	2010 (ongoing)	funding

Actions Incorporated into the Mitigation Plan and Implementation

The mitigation action matrix table reflects the prioritization that was conducted by the Hazard Mitigation Planning Committee during development of the Hazard Mitigation Plan. That table contains the most up-to-date information regarding mitigation actions. The proposed actions discussed in this section are specific mitigation actions and projects being considered to reduce the effects of each hazard pursuant to federal regulations.

Each proposed mitigation action was subjected to a review and analysis by the Hazard Mitigation Planning Committee. The purpose of this review and analysis is to ensure that an initiative proposed by a participating organization or community group is based on an adequate level of technical analysis, that all needed information about the proposal is presented, that any assumptions utilized are reasonable and logical, that the proposal is consistent with the goals and objectives of the Hazard Mitigation Planning Committee and that it is addressing identified vulnerabilities of the community or shortfalls in the communities' mitigation policy framework. More specifically the review and analysis process is focused on ensuring the technical validity of the proposal, making a judgment whether the initiative would be technically effective and cost-beneficial, if it is duplicative or in conflict with other proposed initiatives or if its implementation would have an adverse affect in another jurisdiction.

All actions were proposed by the committee assembled and sent to the members for review and comment. Over the course of several meetings the list of action items was refined, shortened and crafted for viability. The Hazard Mitigation Planning Committee then reviewed the proposal for any other concerns such as its consistency with other plans and political and community objectives. By doing this thorough review of the actions the plan reflects the values of the community and will be met with less resistance in the future.

All of the actions listed in this plan have been approved by the Hazard Planning Committee. An approved mitigation action is one that has been fully reviewed and deemed acceptable to be incorporated in the Hazard Mitigation Plan. However it is appropriate to report that many of the actions from the previous plan were completed and the following chart reports the progress of the actions and goals of the previous plan.

The Mitigation Action Matrix Table lists actions that are currently in the Beaufort County Hazard Mitigation Plan and their priority scores. The priority scores are based on 10 separate prioritization criteria used by all of the planning participants to allow the Beaufort County Hazard Mitigation Planning Committee to compare various mitigation actions. The specific priority scores are based on a numeric classification system shown in table 6.1.

Implementation through Existing Plans and Programs

One of the methods to most effectively implement the Beaufort County Hazard Mitigation Plan is to propose and implement actions that will modify other community plans, policies,

and programs. By including personnel from a variety of departments in the hazard mitigation planning process concepts derived from the planning process will be spread throughout County departments such as, public works, storm water management, GIS, building codes and planning. Mitigation activities initiated by this plan have been incorporated into the Community Rating System (CRS) plan. As discussed in the community capability portion of this plan other planning documents should reflect the objectives of the Hazard Mitigation Plan. Beaufort County and its municipalities are committed to hazard mitigation and it is shown that some comprehensive plans include the Hazard Mitigation Plan by reference. As the goals state there is a consensus that all Comprehensive Plans should have the Hazard Mitigation Plan appended in some fashion. Such commitment is reflected in the fact the participants intend to either include the Hazard Mitigation Plan as a separate element of their Comprehensive Plans or Development Codes or that this Plan would be at least appended to all other plans.

As all of the Comprehensive Plans for each jurisdiction go through their state mandated updates every five years Hazard Mitigation Plans as an element will also be reviewed. For instance the Town of Hilton Head is joining this year's update of their Comprehensive Plan with the update of the Hazard Mitigation Plan and public meetings are being held in conjunction. The Hazard Mitigation Plan capability section shows where hazard mitigation elements have been incorporated into existing documents and ways each jurisdiction should incorporate these elements in the future.

Continued Public Involvement

The Hazard Mitigation Planning Committee will continue efforts to develop and implement a year round program to engage the community in the mitigation planning process and to provide them with mitigation related information and education. These efforts will be to continually invite public comments and recommendations regarding the mitigation goals for the community, the priorities for the planning and the unique needs of each community for mitigation related public information.

Public information activities that have been completed or are planned by the organizations making up the Beaufort County Hazard Mitigation Planning Committee are listed in Section 6 of this Plan. Each of these activities continues to engage the community in the planning process through the presentation of a specific topic or program related to, or relevant for, hazard mitigation.

The Next Planning Cycles

The Beaufort County Hazard Mitigation Planning Committee has established a schedule and procedure for both plan implementation and plan maintenance that will improve and expand the mitigation planning process.

In addition to these activities for plan maintenance, the Hazard Mitigation Planning Committee will establish a recommended schedule for implementation of the proposed priority initiatives included in this edition of the Plan. It is expected that the agencies and organizations that sponsored these initiatives for the Plan will during the next planning cycles take advantage of timely opportunities and available resources to implement them on the desired schedule.

The Beaufort County Hazard Mitigation Plan is a dynamic document reflecting a continuing and expanding planning process. The efforts of the Disaster Mitigation Committee will continue into the future ensuring that all of the jurisdictions of Beaufort County become truly disaster resistant communities.

Idealized schedule of implementation

The Mitigation Action Matrix Table in this section also includes an ideal schedule of implementation of the action items. This time table is based on the Hazard Mitigation Planning Committee's knowledge of the feasibility of completion.

Monitoring, Evaluating, and Updating the Plan

Unincorporated Beaufort County, City of Beaufort, Town of Bluffton, Town of Hilton Head Island and the Town of Port Royal have developed a method to ensure that regular review and update of the Hazard Mitigation Plan occurs. The HMPC Chairman is responsible for ensuring viability of the HMPC. If a member is inactive or wishes to no longer participate the chairman is responsible for finding a replacement.

Plan Maintenance

The HMPC will meet once a year at a date to be set by the current Committee Chairman to be coordinated with the participating communities and their local governing bodies. At this meeting, the Committee will review the plan to determine if the information is up to date and should be updated or modified. The parties responsible for implementing action items detailed in Chapter 6 of the plan will report on the status of their projects. The chairman will be responsible for updating the Hazard Mitigation Plan to reflect the progress made of the annual meeting.

The Committee may choose to meet more often as the need requires such as if there is a change in State or federal policy or after disasters affect the County. Committee members will be responsible for monitoring and evaluating the progress of the mitigation strategies outlined in the Plan.

The chairman will be responsible for ensuring that updated copies of the Plan are made available at the Beaufort County Administrative Building. If deemed necessary and appropriate a public meeting will be held after each annual Hazard Mitigation Planning

Committee meeting. This meeting will provide the public an opportunity to ask questions about the progress of the items in the Action Plan as well as make suggestions for updates to the Plan.

Updating the Plan

No later than five years from now the committee will meet in order to conduct the required FEMA five year update of the Plan. The next planned update to this plan will be in 2014.

Potential Funding Sources

Each initiative incorporated in the Beaufort County Mitigation Plan has been ranked based on the ability to fund it either within County budget or from outside funding sources. The Hazard Mitigation Planning Committee developed a subset of the potential sources for the approved initiatives, shown below. Using this list funding sources are assigned to initiatives by their primary area of appropriateness.

As of the current date on this plan Beaufort County has not verified the true availability of all sources on this list. Some may no longer be available while others may have come into existence since this list was developed.

It is the expectation of the Hazard Mitigation Planning Committee of the Disaster Mitigation Committee that the agencies and organizations that sponsored a specific initiative would utilize the information given in this report to pursue funding opportunities to implement the initiative.

Potential Funding Sources

- Local Governments
- Lowcountry Council of Government Based Grants
- Federal Funding Sources for Mitigation
- State Resources

- ❖ **FEMA's Hazard Mitigation Grant Program (HMGP)** assists states and local communities in implementing long-term hazard mitigation measures following a major disaster declaration. As of November 1, 2004, all communities must have an approved hazard mitigation plan in place to remain eligible for HMGP funding. HMGP grants can be used to fund projects that provide protection to either public or private property. HMGP eligible projects include structural hazard control such as debris basins, floodwalls, or stream restoration, and retrofitting measures such as floodproofing, acquisition, or relocation of structures.

FEMA can fund up to 75 percent of the eligible costs of each project. The State or local match does not have to be cash; in-kind services or materials may be used. Federal funding under the HMGP is based on 7.5 percent of the Federal funds spent

on the Public and Individual Assistance programs (minus administrative expenses) for each disaster. Eligible applicants must apply for the HMGP through the South Carolina Emergency Management Division – Recovery and Mitigation Group.

- ❖ **FEMA’s Pre Disaster Mitigation (PDM) Funds** provide both planning and project funding to eligible communities. PDM project funding is nationally competitive; there is no ‘base’ amount guaranteed to each state. A national priority is placed on projects that address NFIP repetitive loss properties and a benefit cost analysis is required for each proposed project. Projects are awarded priority based on the state’s analysis and resulting ranking, and on factors such as cost effectiveness, addressing critical facilities, and the percent of the population that benefits from the project.

FEMA funds up to 75 percent of the cost of the project, or up to 90 percent for small, impoverished communities. There is a \$3 million cap on the federal share of the cost per project. Eligible applicants must apply for the PDM through the South Carolina Emergency Management Division – Recovery and Mitigation Group.

- ❖ **FEMA’s Flood Mitigation Assistance Program (FMA)** provides grants to states and communities for planning assistance and mitigation projects that reduce the risk of flood damage to structures covered by flood insurance. The types of grants available include planning and project assistance. FMA monies are available to eligible applicants when a Flood Mitigation Plan has been developed and FEMA has approved it.

FEMA may contribute up to 75 percent of the total eligible costs. At least 25 percent of the total eligible costs must be provided by a nonfederal source. Of this 25 percent, no more than half can be provided as in-kind contributions from third parties. There are limits on the frequency of grants and the amount of funding that can be allocated to a State or community in any 5-year period. The South Carolina Department of Natural Resources (SCDNR) serves as the administrator of the planning and projects portions of the grant. The State’s FMA Coordinator is within the Land, Water and Conservation Division of SCDNR. The agency’s web page is www.dnr.state.sc.us.

- ❖ **Continuing Authorities Program (CAP)** initiates a short reconnaissance effort to determine Federal interest in proceeding. If there is interest, a feasibility study is performed, and then the project might move on to a plans and specifications phase. Finally, the project goes to its construction phase. A local sponsor must identify the flood-related problem and request USACE Assistance. Small flood control projects are also eligible.

The cost share for the CAP is 65% USACE and 35 % local. The federal project limit is \$7,000,000. The USACE’s Charleston District office would review the local sponsor’s request for assistance and would request funds from the USACE’s annual appropriations.

- ❖ **USACE’s Floodplain Management Services Program** aims to support comprehensive floodplain management planning to encourage and guide sponsors to prudent use of the Nations’ floodplains for the benefit of the national economy and welfare. Some examples of the types of projects that would be funded include:
 - flood warning and flood emergency preparedness
 - floodproofing measures
 - studies to improve methods and procedures for flood mitigating damages
 - preparation of guides and brochures on flood-related topics

A local sponsor must identify a problem and request USACE assistance under the Floodplain Management Services Program. The USACE may provide up to 100% of funding at the request of the sponsor. The USACE’s Charleston District’s office would review the local sponsor’s request for assistance and determine if it fits within the program.

- ❖ **Department of Housing and Urban Development’s (HUD) Community Development Block Grant - Disaster Recovery Initiative (DRI)** program provides flexible grants to help cities, counties, and States recover from Presidentially-declared disasters, especially in low-income areas. Since it can fund a broader range of recovery activities than most other programs, the DRI helps communities and neighborhoods that otherwise might not recover due to limited resources.

When disasters occur, Congress may appropriate additional funding for the Community Development Block Grant and as DRI grants to rebuild the affected areas and bring crucial seed money to start the recovery process. Grantees may use DRI funds for recovery efforts involving housing, economic development, infrastructure and prevention of further damage, if such use does not duplicate funding available from the Federal Emergency Management Agency, the Small Business Administration, and the U.S. Army Corps of Engineers. Examples of these activities include:

- buying damaged properties in a flood plain and relocating them to safer areas;
- relocation payments for people and businesses displaced by the disaster;
- debris removal;
- rehabilitation of homes and buildings damaged by the disaster;
- buying, constructing, or rehabilitating public facilities such as water and sewer systems, streets, neighborhood centers, and government buildings;
- code enforcement;
- planning and administration costs (limited to no more than 20 percent of the grant).

HUD notifies eligible governments, which must then develop and submit an Action Plan for Disaster Recovery before receiving DRI grants. The Action Plan must describe the needs, strategies, and projected uses of the Disaster Recovery funds.

- ❖ **Certified Local Government (CLG) Grants** are available for historic preservation through the **State Historic Preservation Office (SHPO)** which is part of the **South Carolina Department of Archives and History (SCDAH)**. Although the funding for this program is administered by state, the funding is allocated by the U.S. Department of the Interior. Ten percent of the total federal appropriation to the State Historic Preservation Office's is awarded annually to Certified Local Governments (CLGs). The City of Beaufort and the Town of Bluffton are both Certified Local Governments and are thus eligible for this funding source. The grants can be used for projects related to historic structures and preservation, and requires matching funds (50/50 share) with awards generally ranging from \$1,500 to \$25,000. Historic Preservation projects often overlap with hazard mitigation efforts and include Identifying, Recording and Recognizing Historic Properties; Planning for Historic Districts and Multiple Historic Properties; Building Stabilization Projects; Planning for Individual Historic Properties; Preservation Education; and Strengthening Local Government Historic Preservation Programs.

- ❖ The **SHPO** also administers the **State Development ("Bricks and Mortar") Grants** which can be used for stabilizing historic buildings and structures, or protecting historic buildings and structures from the adverse effects of the weather. Eligible applicants include local governments, nonprofit organizations applying for the grants for buildings or structures that are listed in the National Register of Historic Places or eligible for the National Register and have a planned or current public use. The grants are reimbursable, have a 50/50 cost match requirement and generally range from \$5,000 to \$20,000. SHPO's website is located at www.state.sc.us/scdah/histrcpl.htm.

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Appendix A

May 14, 2009

Hazard Mitigation Planning Committee

First Meeting/Kick-off

Participants present:

Ed Nelson

Trudie Johnson

John Webber

Ginnie Kozak

Libby Anderson

Juan Fui

Linda Bridges

Matthew Brady

Wayne Walters

Alice Howard

Jay Hogan

Ken Jordan

Tony Criscitiello

Arthur Cummings

Marjorie Arnold

The meeting began with discussion of the formation of the committee. The group was presented with a list of last plan's participants, and were informed that they were invited because they were on that list. The group generally agreed that the people present and the list represented the necessary staff for the update. The agreed that the previous plan's list should serve as the foundation for the Hazard Mitigation Planning Committee, and that LCOG staff should be responsible for contacting and setting up HMPC meetings. Mr. Brady stated the importance of the planning process, and noted that public meetings should be held and that the HMPC meetings should be documented.

Mr. Brady stated that any information about hazard mitigation should be given to them that they have, included updated planning documents, GIS, etc. He also stated that with the help of data they collect, the LCOG will play the primary role in updating hazard information such as profiles and vulnerability. He discussed what he learned at the SCEMD training session, and gave a brief overview of the materials to be updated. Mr. Brady gave a review of all FEMA requirements for all sections of the plan per the “Guidance.”

Finally, Mr. Brady went over all of the sections/elements of the plan with the HMPC. He stated that some of the most important things that the planning committee will need to do will be update the goals/objectives/actions that are associated with the plan. They would also ultimately be responsible for scheduling public meetings. The next meeting time was discussed (June), and the HMPC was instructed to start revising their actions for their particular jurisdiction.

He also discussed the capability section, and stated that he would review the documents for accuracy and that the HMPC would need to check his work to make sure he had the right capability documents in the plan, etc.

Trudie Johnson discussed the important of adhering the NFIP and CRS standards, and stated that they wanted to do a more thorough job in order to produce a higher CRS rating.

After discussion ended, the group was dismissed

Beaufort County Hazard Mitigation Plan Stakeholders Meeting

June 18, 2009

- Overview of community mitigation capability initiatives and documents
- Review action item update list
- Review of goals from hazard mitigation plan
- Update on USC's hazard assessment efforts
- Next meeting and in-office meetings

Beaufort County Hazard Mitigation Meeting, June 19, 2009
Location: Beaufort County Administration Building.
Time: 10: 00a.m.

Attendance:

Edward Nelson, Beaufort County
Marcy Benson, Town of Hilton Head,
Trudie Johnson, Town of Hilton Head
Jay Hogan, Beaufort County
John Webber, Beaufort Country
F. Wayne Walters, Beaufort County Government
Ginnie Kozak, Lowcountry Council of Governments (LCOG)
Matthew Brady, Lowcountry Council of Governments
Jon Lattimore, Lowcountry Council of Governments

- The meeting started at 10:05am

- Matthew Brady began by discussing the previous plans goals/actions/objectives. These were brought up at the first meeting, and each of the members had time to look over them and updates were given to be finalized for the plan. Any other updates for these items were to be sent to Matthew either via email or by individual meetings.
 - Ed discussed the first Action item on the list, mentioning that the archive facility was moved from its former location

 - Emails will be sent on implementation status. Trudie mentioned the construction of new fire stations and also mentioned that the mayor of Hilton Head wanted the bridge in Beaufort County to be retrofitted to mitigate a potential hazard.

 - Edward Nelson said that he will contact someone from Beaufort County engineering in reference to HMP retrofitting. In terms of preparation of employees, Trudie Johnson said that training is being done with the building officials.

- Matthew Brady also discussed the review of mitigation initiatives, requesting each representative at the meeting table to evaluate the list of updated goals, objectives and actions and to check for mistakes or make suggestions for things to be added to the list. Also, the Hazard Mitigation chart with the document checklist for the County and the municipalities was presented with a request that it be evaluated by the representatives at the table. The list was intended to give HMPC a direction to go with new action items that Matthew may have left off the list.

- Capability documents were also discussed again, with Matthew stating that the LCOG staff had reviewed the Community’s mitigation Capability, and that he would be going around to each individual community to make sure he had their particular situation reflected correctly.
- Matthew asked about the Town of Yemassee’s participation in the Hazard Mitigation Plan. Ed Nelson said that there was no participation from Yemassee previously. Trudie Johnson and John Webber felt the Town of Yemassee should be invited to participate and to attend all meetings. LCOG will take care of this. Town of Yemassee is part of the HMP because 10 percent of it is in Beaufort County and must be included in the planning process. It is important to invite Yemassee because of the part the Town will play in Beaufort County’s evacuation and recovery and because there is a large Beaufort County Housing Authority project there.
- Matthew discussed talking to the Department of Natural Resources about repetitive loss structures, and that it is necessary to have the information about those structures in each jurisdiction. Trudie said the Town of Hilton Head’s Geographic Information System’s manager could provide that information, both numbers and general locations of the properties and which have already been mitigated. to get data in reference to the repetitive loss structures. Ed said that he would provide the data for Beaufort County.
- Matthew mentioned that he talked to University of South Carolina (USC) about their hazard assessment project that is ongoing. USC will have completed hazard assessment data for the County once this project is complete. Also, he briefly went over the status of the Capability, Vulnerability and Hazard profiling portion of the plan, explaining that most of the updated information had been updated and asking for any input into the available updates.
- Matthew initiated a discussion of the Hazard Mitigation Plan (HMP) goals/objectives/actions from the 2004 document. He also went on to discuss vulnerability to each hazard for the County and its jurisdictions. The information would be based on data from the COG, and he took comments
 - Trudie asked what can be done in reference to the HMP goal number 9. Ginnie Kozak felt as though the Beaufort Country evacuation plan is more important and should have be updated.
 - Edward Nelson mentioned evaluating property owners that are remodeling to ensure that they are in compliance with hazard mitigation. Trudie Johnson mentioned the 2006 International Residential Code. Homebuilders have lobbied against it in Columbia, because they felt they would losing money. She feels the code should be adopted in full, because of its strong building codes and the particular susceptibility to hazards we face on the coast. It is

possible that the Community Rating System (CRS) could be lost. Further discussion, Ginnie Kozak and Edward Nelson, it was a general consensus of establishing stringent codes/standards on the coastal line. Ginnie Kozak mentioned the importance of education when it comes to CRS, floodplains, etc.

- John Webber feels as though mitigation improves the recovery process. Trudie Johnson mentioned that a strong link should be connected to HMP and DRP. John Webber said that the municipalities are working collaboratively for HMP (i.e., impact assessment). Ginnie Kozak requested to have combined meetings with representatives from the surrounding counties and other municipalities. Trudie Johnson felt as though that Goal 8 was a little weak and an evaluation of where the emergency personnel stand needs to be performed, and the Goal 8 needed its progress documented.
 - Matthew Brady then discussed the flood maps-----how can they be enforced, with a strategy of how people cannot be penalized due to flood map updating. Goal 9 needs to be rewarded to ensure the process of updating the flood maps.
 - John Webber felt as though Goal 3 of the Action Items General Goals need to be more detailed. Trudie Johnson mentioned that the comprehensive plan for the Town of Hilton Head was being updated. John Webber asked about the drainage in reference to water pollution, in reference to Goal 6. Trudie Johnson said that it is not about water pollution but about the maintenance of stormwater.
- Matthew Brady discussed the survey that can be disseminated to the public and how it can be submitted back by the public (i.e. newspaper websites). Ginnie Kozak felt as though this would be a good idea to get public input about Hazard Mitigation. John Webber mentioned the possibility of using the questionnaire as an opportunity to inform the public of lawmakers' influence with the adoption and enforcement of stringent building codes. There were also suggestions of using the questionnaire and related media coverage to provide information about some of the key issues of Hazard Mitigation Planning.
 - Matthew Brady mentioned eligible grant activities in which the departments could get FEMA funding for hazard mitigation and hazard recovery projects. There has also very recently been a request to the COGs by SCEMD to encourage local governments to apply for funding for Flood Mitigation since available funding has not been utilized John mentioned that he would like to look into eligible building improvements for the County Administration Building Although no one from the Storm Water Management utility was there, they may have an eligible project available. Another potential project is the completion of Hilton Head's drainage plan.

- Matthew also discussed prioritization of the goals based on NFIP and the methodology to prioritize. He stated that the prioritization was not “set in stone” but required by FEMA.
- Matthew Brady said that he will be contacting everyone in the meeting to talk to each one individually, with the assistance of Jon Lattimore, in order to discuss individual parts of the plan and any other concerns. Matthew Brady mentioned that the next meeting will be on Thursday July 16th @ 10am in the Executive Conference Rm 170, Beaufort County Administrative Building.

Agenda
Flood Mitigation/Hazard Mitigation Planning Meeting
August 27, 2009
(items subject to change)

1. Prioritization of goals in accordance with NFIP
2. Cost Benefit Review/Discussion of Feasibility of action items
3. Timeline for completion of any new action items
4. Planning the Public Meeting schedule (please be thinking of dates)
5. Ranking of Hazards
6. Dismissal

Hazard Mitigation Meeting

Meeting Minute Notes August 27 2009

HMPC members present:

Ed Nelson

Linda Bridges

Matthew Brady

Jay Hogan

Marcy Benson

Trudie Johnson

Arthur Cummings

John Webber

Libby Anderson

Todd Furgeson

Melissa Easler

Colin Kinton

George Owens

Ginnie Kozak

Maggie Hickman

Russell Byrd

Roni Abdella

Robert Klink

Jain Fui

Matthew Brady (did not sign in)

7. Prioritization of goals in accordance with NFIP

- Mr. asked for the group to look over the revised goals and determine if they were written as the HMPC had directed him. Furthermore, he asked them to review the goals for NFIP compliance. It was generally agreed that the goals/objectives/actions were final, and that any changes would be sent directly to Matthew from the HMPC members.

- Mr. Brady emphasized that all of the goals need to be prioritized and written in a manner that is compliant with the NFIP.
- The group made several suggestions (both grammatical and substantive)
 - Expand on all goals to ensure NFIP complians
 - Ensure that FEMA guidelines are emphasized in the objectives and goals
- After the comments, the group decided to allow the LCOG staff to make the changes, and offer any changes within seven-to-ten days for the goals.
- Overall, the group did decide that the goals met the requirements and were established in accordance with NFIP.

8. Cost Benefit Review/Discussion of Feasibility/Prioritization of action items

- Mr. Brady discussed the necessity of a cost-benefit review for the actions that were listed.
- He also presented a chart that would allow all stakeholders to assign a numerical ranking to each of the proposed action items.
- The chart/worksheet gave a score to each item based on nine criteria: strategy effectiveness, percentage of population benefitted, time to implement, cost to community, funding source, cost to others, community support and project feasibility. The worksheet will produce a score.
- Mr. Brady also stated that he will electronically send everyone the worksheet.
- He asked every to make changes to the action items as they saw they were appropriate.

9. Timeline for completion of any new action items

- Mr. Brady mentioned that all of the stakeholders should look at the action items, and the responsible jurisdiction should give an estimated time for completion of the action item, cost, etc.
- Any changes to the first drafts of action plans were decided to be on track and finalized

- Matthew also generally discussed where the draft of each section of the plan stood.

10. Planning the Public Meeting schedule (please be thinking of dates)

- Mr. Brady mentioned that the HMPC should come up with dates for two more public meetings regarding this plan.
- Mr. Cummings stated that they would look into a meeting time.
- Ms. Johnson and others stated that having a meeting while the planning commission meets would involve more stake holders in the process.

11. Ranking of Hazards

- Mr. Brady mentioned that only four main hazards were reported according to the data previously, and these generally fall in line with the data reported this time
- He also mentioned, however, that during hazard assessment, there were other hazards that could pose a threat and that the HMPC should rank them
- The HMPC decided to keep the ranking of the hazards as the original plan had them described, as nothing had changed dramatically since the original plan

12. Dismissal

**APPENDIX B
SIGN IN**

**APPENDIX C
PUBLIC MEETING NOTICES**



TOWN SEEKS INPUT

By DANIEL BROWNSTEIN
dbrownstein@islandpacket.com
843-706-8125

The Town of Hilton Head Island is asking the community to comment on the first three chapters of its upcoming comprehensive plan during two meetings Thursday.

The chapters on land use, economic development and natural resources will be available at the meetings.

Senior planner Shawn Colin said the town plans to unveil the comprehensive plan three chapters at a time over three months before the entire package heads to the Planning Commission and on to the Town Council this fall.

The comprehensive plan is used as a blueprint for all planning decisions on the island.

Titled "Charting the Island's Future from Here to 2030," it will be the first full update since the plan was created in 1999, though some changes were made in 2004.

Before town employees and a board of residents began crafting the new plan, they met with more than 300 people and organizations and considered about 500 responses to a survey.

The meetings will also include a presentation about disaster plans.

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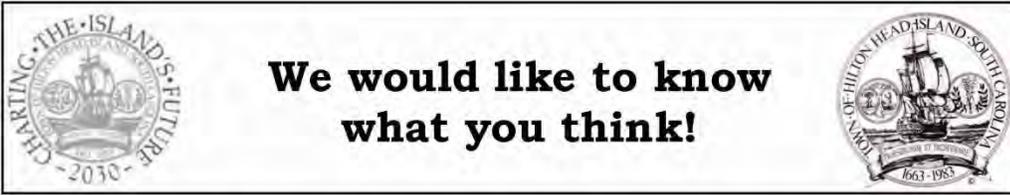
IF YOU GO:

Both meetings soliciting input on the comprehensive plan are Thursday.

• **10 a.m.**, Hilton Head Island Public Library, 11 Beach City Road

• **6 p.m.**, Benjamin M. Racusin Council Chambers, Town Hall, One Town Center Court

More information about the comprehensive plan is available online at www.hiltonheadislandsc.gov. Click on the "Charting the Island's Future" link on the home page.



We would like to know what you think!

Neighborhood Meeting

"Charting the Island's Future - from Here to 2030"
(Town of Hilton Head Island Comprehensive Plan Update)

The Comprehensive Plan Committee of the Planning Commission would like to present a summary of broad strategies developed for three elements to the community and ask for input. The elements to be presented include:

- **Community Facilities**
- **Transportation**
- **Recreation**
- **Priority Investment**

Each meeting listed below will include a formal presentation and a facilitated discussion.

"Charting the Island's Future from Here to 2030" is a collaborative effort between the community and its leaders to form a vision for the future of the Town over the next 20 years.

So far, more than a hundred stakeholder interviews, over 500 responses from a community assessment survey, and input from over 200 citizens during a series of neighborhood meetings, have provided important information that has been considered during the update of the plan.

In addition, there will be a presentation on the updated draft of the Hazard Mitigation Plan.

Please plan to attend one of the meetings and join us in "Charting the Island's Future from Here to 2030!"

Neighborhood Meeting Choices

(A map for each location can be found on the page that follows.)

1. **Thursday, October 29th in Benjamin M. Racusin Council Chambers at Town Hall. Presentation at 10am.**
2. **Thursday, October 29th at Hilton Head Island Public Library. Presentation at 6pm.**

Location of Neighborhood Meetings



Hilton Head Island Library
11 Beach City Road
Hilton Head Island, SC 29926

Thursday, October 29th at 6:00pm



Hilton Head Island Town Hall
1 Town Center Court
Hilton Head Island, SC 29928

Thursday, October 29th at 10:00am

NOTES:

Information on the plan can also be found on the Town's website at www.hiltonheadislandsc.gov
(Click on: "Charting the Island's Future - Comp Plan Update.")

or

Contact Shawn Colin at 843-341-4696 or shawnc@hiltonheadislandsc.gov

**APPENDIX D
SURVEY**

Beaufort County Multi-jurisdictional Hazard Mitigation Plan Survey

7. If damage occurred, please describe the date of the event and the cost of damage.

8. If flooding caused the damage, what was the source of the flooding? (Check all that apply)

- Storm Surge
 Insufficient storm Drainage
 overbank flooding of an adjacent stream or river

Other (please specify)

9. If the damage was caused by wind, what type of wind event was it?

- Tropical Storm
 Tornado
 Nor'easter

Other (please specify)

10. If the damage was caused by events other than flooding or wind, please describe the event and how the damage was caused.

11. Please describe any corrective measures taken to protect your property from damage due to natural hazards such as flooding, wind, erosion, etc. Please include the cost and effectiveness of these measures, if available.

*** 12. Protective mitigation measures have several benefits, including decreasing damage from hazards (such as flooding) and lower insurance rates. In light of this, would you be willing to pay for any retrofits to your property in order to mitigate from hazard damage?**

- Yes
 No

Beaufort County Multi-jurisdictional Hazard Mitigation Plan Survey

13. Would you support the enforcement of more stringent building codes on new construction and significant improvements to existing structures?

Yes

No

14. If you ever received any federal assistance or assistance from your county/town/city for damage to your property due to flooding, wind, erosion, etc. , please describe.

15. Please provide any suggestions your have on how to protect your property/neighborhood from flooding, wind, erosion or other types of natural hazards.

16. Please provide any additional comments.