Final Version

Horry County
South Carolina

BEACH

Management Plan

Your County. Your Voice. Our Beach.

TABLE OF CONTENTS

1 INTRODUCTION
- 1.1 Purpose
- 1.2 History of Plan Approvals and Revisions
- 1.3 Overview of County & History of Beach Management Approaches
- 1.4 Current Beach Management Issues

2 INVENTORY OF EXISTING CONDITIONS
- 2.1 General Characteristics of Unincorporated Horry County Beaches
- 2.2 General Land Use Patterns
  - 2.2.1 Beach Uses
  - 2.2.2 Benefits and Values of the Beach
- 2.3 Beachfront Developments and Zoning
  - 2.3.1 Beachfront Structural Inventory
- 2.4 Natural Resources and Ecological Habitats
  - 2.4.1 Threatened and Endangered Species
  - 2.4.2 Turtle Nesting
- 2.5 Existing Public Access and Map
- 2.6 Community Rating System

3 BEACHFRONT DRAINAGE PLAN

4 BEACH MANAGEMENT AND AUTHORITIES
- 4.1 State Authorities
  - 4.1.1 Overview of State Policies (Beachfront Management Act)
  - 4.1.2 Beachfront Setback Area
- 4.2 Local Government Authorities
  - 4.2.1 Horry County's Comprehensive Plan (Imagine 2040)
  - 4.2.2 Horry County's Hazard Mitigation Plan
  - 4.2.3 Horry County's Disaster Preparedness and Evacuation Plan
  - 4.2.4 Beachfront Development Regulations
  - 4.2.5 Regulations on Beach and Shoreline Protections
  - 4.2.6 Other Regulations on Beach Management

5 EROSION CONTROL AND MANAGEMENT
- 5.1 Shoreline Change Analysis
  - 5.1.1 Beach Profiles
  - 5.1.2 Long-Term Erosion Rates and Shoreline Change
  - 5.1.3 Climate Change and Sea Level Rise
- 5.2 Beach Alteration Inventory
  - 5.2.1 Beach Renourishment
  - 5.2.2 Emergency Orders and Sandbags
  - 5.2.3 Previous Hurricanes or Storm Events
- 5.3 Discussion of Erosion Control Alternatives
  - 5.3.1 Beach Renourishment
  - 5.3.2 Other Measures

6 NEEDS, GOALS AND IMPLEMENTATION STRATEGIES
- 6.1 Policy of Beach Preservation
- 6.2 Strategy for Preserving and Enhancing Public Beach Access

7 Appendix
- 7.1 Beach Management Overlays
- 7.2 Inventory of Beachfront Structures
- 7.3 Public Access Inventory Table
- 7.4 Prior Studies
- 7.5 Copies of Local Laws and Ordinances
- 7.6 Public Input Survey

§1. INTRODUCTION

1.1 PURPOSE

The purpose of this local comprehensive beach management plan is to synthesize and utilize the data collected in order to better manage the unincorporated beachfront within Horry County. In accordance with the state Beachfront Management Act, this plan includes the following ten elements:

1. An inventory of beach profile and historic erosion rate data for each standard and inlet erosion zone under local jurisdiction;
2. An inventory of public beach access along with a plan for enhancing public access and parking
3. An inventory of all structures located in the area seaward of the setback line
4. An inventory of turtle nesting and important habitats of the beach/dune system and a protection and restoration plan, if necessary
5. A conventional zoning and land use plan consistent with the purposes of the Act for the area seaward of the setback line
6. An analysis of beach erosion control alternatives, including renourishment of the beach under the County's jurisdiction
7. A drainage plan for the area seaward of the setback line
8. A post disaster plan including plans for cleanup, maintaining essential services, protecting public health, emergency building ordinances, and the establishment of priorities, all of which must be consistent with the Act
9. A detailed strategy that highlights both short- and long-term planning objectives to protect, preserve, restore, and enhance the beach/dune system
10. A detailed strategy for achieving the goals of preservation of existing public access and the enhancement of public access to full enjoyment of the beach by all residents of this state.

1.2 HISTORY OF PLAN APPROVALS AND RECOMMENDATIONS

Following the devastation of Hurricane Hugo in 1988, the State of South Carolina adopted the Beach Management Act in order to mitigate and address unwise beach management practices of the past. The goals of the Act and the Local Comprehensive Beach Management Plans sought to prevent further damage and increase beach visitor safety and accessibility. The first Local Comprehensive Beach Management Plan for Horry County was adopted in June of 1991. An update in 2002 brought Horry County's LCBMP to full compliance with the South Carolina Beach Management Act requirements and included a listing of all structures within the DHEC-OCRM setbacks, discussed public beach access points and any pertinent beach regulations. In 2013, the Beach Management Plan was rewritten to include the update of the DHEC-OCRM jurisdictional lines.

The current update has been triggered due to Act 173, the Beachfront Management Reform Act. The Act established the position of the jurisdictional baselines and setback lines for the 2018 establishment cycle. As a result, the 2018 jurisdictional baselines and setback lines established by the Act do not move landward from their positions set during the 2008-2012 establishment cycle.

Important Dates in Plan Approval History

- 1987: Horry County Urban Zoning Ordinance
- 1988: State adoption of Beach Management Act
- 1989: Hurricane Hugo
- 1990: Revisions to SCBMA to include protections of life and property, preservation of critical ecological habitat, and protection of beach for future use
- 1991: First Local Beach Management Plan adopted by Horry County. State Beach Management Plan was adopted
- 1998: Hurricane Bonnie
- 1999: Hurricane Floyd
- 2002: Horry County updates LCBMP
- 2004: Hurricane Charlie
- 2008-2010: DHEC-OCRM reevaluates jurisdictional lines
- 2013: Horry County Beach Management Plan update
- 2015: Hurricane Joaquin; 1,000 year flood
- 2016: Hurricane Matthew
- 2017: DHEC-OCRM begins jurisdictional line update; Hurricane Irma
- 2018: Act 173 Reform of the Beach Management Act adopts preservation policy; Hurricane Florence.
- 2019: Horry County begins Beach Management Act update
- 2022: Hurricane Ian

1.3 OVERVIEW OF COUNTY/HISTORY OF BEACH MANAGEMENT APPROACHES

Horry County is the largest county in South Carolina and has the longest stretch of sandy beach on the coast. The beachfront area was largely inaccessible for most of South Carolina's history. At the turn of the century, Burroughs and Collins Company opened up the Northeastern coastline of South Carolina by erecting a rail line into what is now Myrtle Beach. The establishment of this rail line encouraged decades of continued development beginning with the Seaside Inn of 1901.

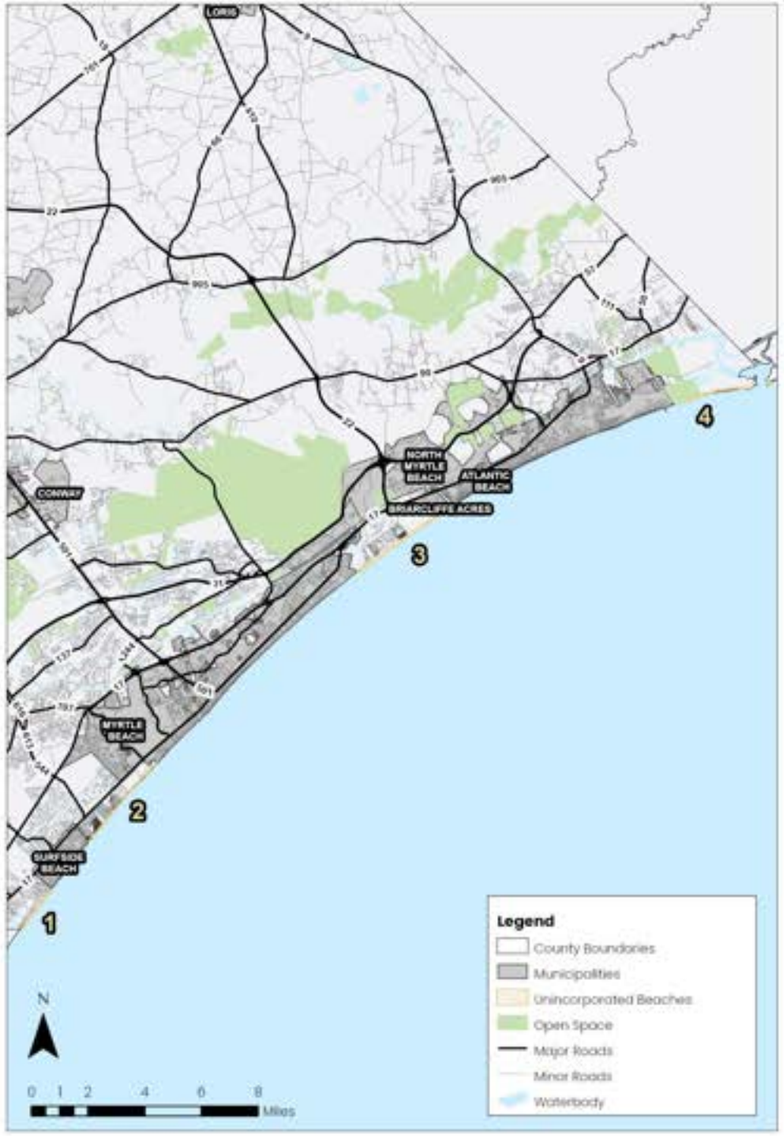
Development and migration boomed following the establishment of the Intracoastal Waterway in 1912 and erection of multiple bridges across the Waccamaw River. As access to the beachside improved, Horry County began to see the foundation of a rich culture of tourism that would grow over the following century.

Unique from other coastlines in the state, much of Horry County's beachfront is not separated from the mainland by barrier islands like Charleston or Georgetown Counties. This characteristic of a long stretch of uninterrupted coastline is what influenced the nickname the "Grand Strand." Ten miles of the more than 30 mile Grand Strand

beachfront are within unincorporated Horry County and include the following beach areas:

- Waties Island (3 miles)
- Arcadian Shores/Lake Arrowhead (3.5 miles)
- Ocean Lakes/Campgrounds/Long Bay Estates (2 miles)
- Garden City Beach (1.5 miles)

Unincorporated Beach Fronts of Horry County



1. Garden City

2. Surfside Beach to Myrtle Beach

3. Arcadian Shores

4. Waites Island

Prior to 1984, land use regulations did not exist within the County and some beachfront properties were developed without a community or regional vision. Additionally, Flood Insurance Rate Maps and regulations were not adopted until 1982. During the 1970s, a construction boom occurred as homes and businesses were erected within a narrow band along the coast which contributed to the loss of beaches and dunes. Many large condo towers, hotels, and campgrounds that were built prior to any flood, zoning, or beach regulations are still standing today.

Mild winters and hot summers paired with affordability has allowed Horry County to become a popular location for retirement. The County's population has more than doubled in the last thirty years and is currently one of the fastest growing counties in the Country. Additionally, the Grand Strand is estimated to draw over 20 million visitors annually, with the majority visiting during the warmer months.

To accommodate the needs of the residents and visitors to Horry County, redevelopment is expected to continue within the beachfront areas. The threat of sea-level change and increased intensity and frequency of severe storm events highlights the need for the County to reevaluate its beach management approach in order to ensure access for future generations.

1.4 CURRENT BEACH MANAGEMENT ISSUES

Generally, Horry County's codes do not address further restrictions to development along the beachfront beyond what DHEC-OCRM has determined the minimum necessary. The County did establish special land development guidelines for beachfront properties and Chapter 5 of the Horry County Code details beach-related restrictions and prohibitions. The lack of higher regulatory standards along the beachfront relates to the fact that most of Horry County's coastline is already built out. Those areas that are not built include areas protected by the Coastal Barrier Resource Act.

Development Concerns

Beachfront development along the unincorporated Horry County shoreline varies greatly. Many older resorts were constructed within or seaward of the frontal dunes, contributing to erosion over time. Even with established regulations and awareness of dune erosion, pressure from development to build within the established jurisdictional lines still exists. Protection of beachfront property is crucial to the economic stability of Horry County. Identified development concerns in Horry County are categorized into three distinct geographic areas:

1. Garden City shoreline located between Georgetown County and Surfside Beach in the southern-most region of the County's coastline is most vulnerable to flooding and other natural disasters. This is particularly true in the one mile reach north of Atlantic Avenue. Many structures in this area are large and encroach both the setback and baseline.
2. The half mile reach north of Singleton Swash (the Shore Drive area) located in the center of the County's stretch of coastline is also characterized by large structures lying seaward of the DHEC-OCRM setback line. However, this area is considered less sensitive than Garden City because of the extended beach widths and lower long-term erosion rates.
3. The area of beachfront near Kingston Plantation has no formal public access, resulting in a gap in adequate public access per the State's definition.
4. Waties Island, an undeveloped barrier island in the northern-most region of the coastline, has been partially set aside as conservation land by Coastal Carolina University, with another portion to be transferred to the Department of Natural Resources' Heritage Trust Program. A portion of the majority of the island remains in private ownership and could be developed.

Environmental Concerns

1. Stormwater management within the beach areas is identified as an ongoing concern especially during heavy rain events. Outfalls conveying untreated discharge often closes beaches from high levels of E. coli, restricting access and causing health concerns for beach-goers.
2. Coastal communities rely on renourishment projects as the primary shoreline management technique which is likely to become fiscally and physically unviable. A re-evaluation of this practice is needed as replenishment intervals become shorter due to the increased intensity and regularity of extreme storm events.
3. The overall protection and enhancement of the dune system and its vegetation needs to be incorporated into beach management practices. Vegetated dunes create a natural storm barrier to inland areas and establish critical habitat for a number of plants and animals, many of which are threatened or endangered. Preserving dunes and restoring diminished areas connected to the remaining dune system is needed to avoid the high cost of re-establishing dune habitat once permanently lost.
4. As made apparent by Hurricane Irma and Tropical Storm Joaquin, the beachfront of Horry County has experienced many dangerous flood events. An increase in flood events will have dramatic and long-lasting effects on the shoreline. Temporary impacts include an increase in dangerous bacteria on the beaches while more severe effects include continuous damage to property and beachfronts.
5. King tide (high tide/blue sky) flooding within Garden City is increasingly common. Limited options exist for mitigating these impacts due to the density of established development and the complete loss of dunes in many locations.

Tourism & Safety Concerns

Tourism is the main economic driver for the Horry County beach communities. Alongside the stability offered by the tourism industry is a myriad of regulatory concerns related to public safety and access for residents and visitors including overcrowding, limited off-street parking, littering, fireworks, swim advisories, wayfinding, commercial activities, surfing, and emergency response.

§2-INVENTORY OF EXISTING CONDITIONS

2.1 GENERAL CHARACTERISTICS OF THE BEACH

Horry County is the largest county within South Carolina, covering an area of over 1,100 square miles, and the fourth most populous county as of the 2020 census with over 350,000 residents. Horry County contains over 30 miles of sandy beaches and about 2,000 acres of salt marsh. The stretch of the Atlantic Ocean shoreline running from Murrells Inlet in Georgetown County to the Pamlico Sound in North Carolina is called Long Bay.

The shoreline is broad and crescent shaped with a continuous stretch of sandy beach. The coastline's shape is influenced by seasonal changes in wind direction, moving sediment alternatively up and down the coast. Unlike other coastal regions, tides play a relatively small role in sediment transport versus waves. Tides do not fluctuate as much as other regions of the coast, as the low mean tidal range is only 1.5 meters. Heavy sediment transport and the erosional response to these conditions means that barrier islands are usually not present and if they are, are narrow and separated by tidal inlets; such as Waties Island.

The portion of Long Bay located in Horry County is commonly known as the Grand Strand with sections noted as either North or South based on position from Myrtle Beach. Beaches near the south end of the County tend to be narrow and steep, whereas beaches near the north end of the shoreline tend to be wider and flatter. This difference is generally attributed to development patterns and natural erosion processes.

The dune system at the southern end of Horry County is greatly reduced and in several areas is non-existent. Replenishment and reestablishment efforts are not able to overcome the impacts of wave-driven erosion and intense beachfront development. The Garden City area is sensitive due to its morphological characteristics, being north of Murrells Inlet and the narrow width of the coastline, mean the area is naturally prone to erosion and is difficult to stabilize. Historically, prior to development, the area resembled Waties Island, with well-developed, vegetated dunes and a full maritime shrub thicket extending into the Inlet.

Until recent history, low natural dunes were a dominant feature of the shoreline of Horry County. As structures were placed along the coast, the line of frontal dunes began to disappear. Today, only fragmented sections of frontal and secondary dunes are present and continue to be threatened by development and erosion.

Decades of beach renourishment efforts allow the beaches within the Grand Strand to appear stabilized and maintaining the wide, sandy shoreline requires a continuous program of renourishment projects.

2.2 General Land Use Patterns

Horry County is rapidly changing. The beautiful beaches, warm climate, and low taxes attract vacationers and retirees to make Horry County their permanent or seasonal home. The population and housing stock have more than doubled over the past 30 years. According to the 2020 population estimates, Horry County has

Current Land Use

Garden City

Surfside Beach to Myrtle Beach

Arcadian Shores

Waites Island

approximately 351,029 permanent residents, over 230,000 of whom reside within the unincorporated County. The population is anticipated to surpass 580,000 residents by 2040 based on current projections.

The agricultural history is still present in the rural character outside major urbanized areas. Past military investments and activities also influence the land use patterns near the coast and transportation connections throughout the region. The County's most recent Comprehensive Plan update, Imagine 2040, clearly defines the human environment from rural to urban in a generally west to east arrangement from the rivers to the beach.

Current land use classifications include single-family residential, multi-family residential, transient lodging, business/commercial, industrial and utility, public or institutional, agriculture and farmland, conservation/preservation, golf courses, and vacant land. As the County remains largely rural, the predominant land uses in the unincorporated areas include: vacant land, agriculture and farmland, and single-family residential.

The beachfront outside of incorporated areas is largely used for single-family residential. Specifically, the Garden City area in the southern reach of the County is mostly single-family with a few areas of conservation. The Campgrounds/Long Bay Estates can be generally classified as transient dwellings or single family residential. North of Arcadian Shores near Singleton Swash is a mixture of single and multifamily residential with some public and institutional lands and golf courses. The northernmost region of the County is the Waties Island preservation area that remains as undeveloped vacant land.

Rapid growth coupled with the rural setting of Horry County, resulted in widespread concerns about future development. Imagine 2040 determined an appropriate plan for land use by identifying environmental constraints, development trends, population growth and infrastructure availability. The future land use plan sets aside 39% of the County for scenic and conservation areas, 35% for rural use and 9% for suburban. The majority of the suburban areas are concentrated around incorporated municipalities and along the coastal frontage. Mixed use is also concentrated in the coastal frontage surrounding the suburban center to allow for tourism and commercial usages in the same areas. The unincorporated sections of Highway 17 along the coast becomes an activity corridor to meet the economic growth potential of Garden City, Ocean Lakes and the Little River communities.

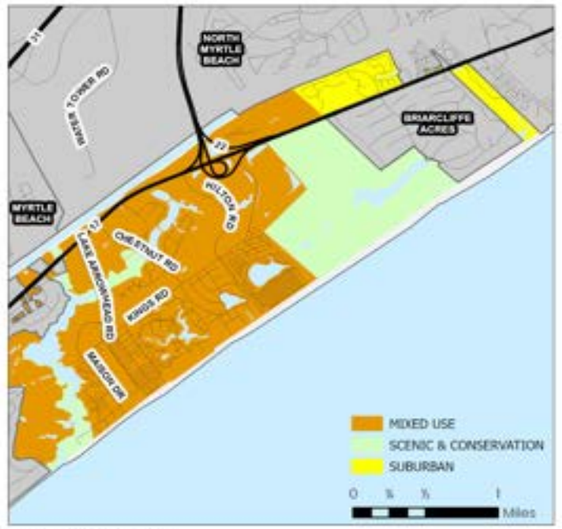
2.2.1 Beach Uses

Beaches within Horry County are used for common recreational activities including: beachcombing, sand sculpting, sunbathing, walking/jogging, cycling, fishing, surfing, swimming and general relaxing. Regulation is in place to prohibit certain beach uses such as beach fires, overnight sleeping, and motorized vehicles with the exception of emergency or beach service personnel. Restrictions are in place to limit commercial activities to prevent solicitation in public space, however, certain commercial activity is permitted through franchising agreements for lifeguards and umbrella rentals.

IMAGINE 2040 Future Land Use

Garden City

Surfside Beach to Myrtle Beach



Arcadian Shores

Waites Island

Beachfront policies including regulations and restrictions are in place to ensure a sense of safety for all visitors while respecting the established culture and composition of each beach community.

Garden City:

The majority of Horry County's public beach accesses are located within Garden City. The community of Garden City and Murrells Inlet houses a large percentage of full-time beach residents along with a strong seasonal tourist population making use of second homes and rental properties. Just shy of 700 feet long, the Garden City Pier is a major attraction, hosting an arcade, café and tackle shop, and two bars with live music. During the summer, fishing is permitted 24 hours a day, with fisherman-only hours from midnight to 6am. Shark or other dangerous marine fishing is prohibited and must be returned to the sea immediately upon realization. Swimming and surfing is prohibited with 75 feet of the pier due to the recognized conflict between fishing and surfing. Golf carts are the primary means of transportation to and from the beachfront as locals and tourists park golf carts at public access sites and along the roadsides. Within this community, golf carts are treated as cars and must follow all state driving laws.

Campgrounds/Long Bay Estates:

While there are not established public access points to the beach in this section of Horry County, the County has an agreement with Ocean Lakes Campgrounds to allow public parking for a fee within the campgrounds. These campgrounds allow for RV parking and traditional tent camping all year long. Many visitors find these areas to be perfect for their vacations. Just to the north lies the Long Bay Estates area. Currently, no beach accesses formally exist within this community, as no public easements are granted between property lines. However, this stretch does border Myrtle Beach State Park, a state owned and maintained access with preserved maritime forest and dune habitat.

Arcadian Shores:

The Arcadian Shores area features many resort-style hotels catering to tourists. Here, visitors can swim in an ocean front pool, eat at a beachfront restaurant and visit a golf course within viewing distance of the ocean. The Dunes Golf Course is situated at the cusp of the Singleton Swash while the Arcadian Shore Golf Club is situated behind a full-time campground servicing RVs. Public beach accesses are limited within this area as beachfront properties consist of resorts and private development. Visitors interested in fishing can visit the Apache Pier, which is accessed from the Apache Family Campgrounds. Amenities include fish cleaning stations, a restaurant, and an arcade. North of the resort area lies the Meher Spiritual Center, a preserved maritime forest area used for spiritual retreats by members.

Waties Island:

The most northern reach of beaches within Horry County, Waties Island, cannot be accessed by the public from the mainland. Portions of the land is currently zoned Conservation Preservation, however only the parts owned by Coastal Carolina University and the Open Space Institute (the latter to be transferred to SC DNR Heritage Trust) are litigated by a preservation agreement. Coastal currently uses their property for education and scientific research, monitoring beach and erosion change for the Marine Science Departments at the University. Other Portions of the Island are privately owned with development generally limited due to the presence of protected wetlands. Although public vehicle access to the beachfront is not provided, paddle boaters and kayakers view the island from the surf and experience what the coastline of Horry County looked like pre-development.

2.2.2 Benefits and Values of the Beach

The economic benefits and values of the natural environment in Horry County are immense. The ocean beachfront, tree canopy, plant and animal species, moderate climate, rivers and wetlands attract visitors, businesses and residents from all over the world.

A 2015 study conducted by Coastal Carolina University found that the tourism industry in Horry County brought in $7.0 billion in revenue. A recent Tourism Economic Indicator study determined that the tourism industry and associated businesses made up 41% of the job force in the County. The South Carolina Department of Revenue's report from 2018 showed that of the total revenues from Horry County included:

- $120.1 million from lodging
- $1.45 billion from retail
- $586.9 million from gasoline sales
- $1.51 billion from restaurant industry
- $1.19 billion from supermarkets
- $191.8 million from amusements and rides
- $43.6 million from golf courses

Beyond the recreational benefits of the beachfront, beaches provide a high quality and natural buffer against high winds and waters from the ocean and storm events (NC SeaGrant). Sand dunes are not only a significant contributor to the aesthetic quality of the beach but are also the single most productive erosion control and protection method against wind and waves. Even a greatly diminished sand dune provides erosion control, reducing the incoming wave heights compared to areas without dunes (Spencer Rogers, NC SeaGrant). High quality dunes, stabilized by native dune grasses and vegetation, have even higher erosion control values and can greatly reduce costs associated with renourishments.

2.3 BEACHFRONT DEVELOPMENT AND ZONING

Unincorporated Horry County includes more than 1,500 parcels that have beachfront property lines. The majority of those parcels lie within the Garden City area and are zoned for residential. In terms of land coverage, conservation and preservation areas are the predominant zoning for beachfront parcels mainly because of the unique zoning of Waties Island in the northern Strand and Meher Spiritual Center in the mid-Strand.

Specifically, parcels along the coastline are zoned:

- Garden City: RR, SF-6, RC, PDD
- Campgrounds: RC, DP, SF-6, SF-10
- Arcadian Shore: RC, CFA, RR or DP
- Waties Island: CP or CFA

Full descriptions of the eight zoning districts that encompass the beachfront properties within unincorporated Horry County are listed below can be found in Appendix 7.1.

Garden City

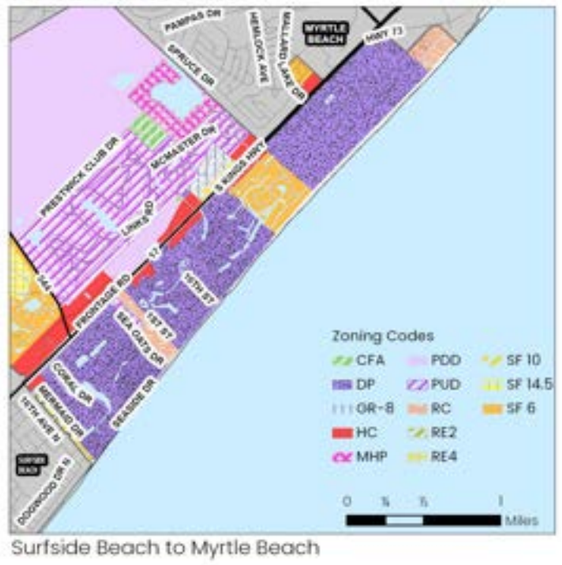
The Garden City area is mostly single-family residential with many occupied on a part-time, seasonal basis, along with multifamily condominiums, hotels, restaurants and a pier. Nearly all of the beachfront homes, condominiums, resorts, hotels and restaurants are built directly upon or abutting the dunes, offering virtually no protection to the natural areas, nor gaining the protection of the dunes from high water. With only a handful of exceptions, all front row development in the Garden City area encroaches upon the SCDHEC/OCRM jurisdictional setback line.

Campgrounds & Long Bay Estates

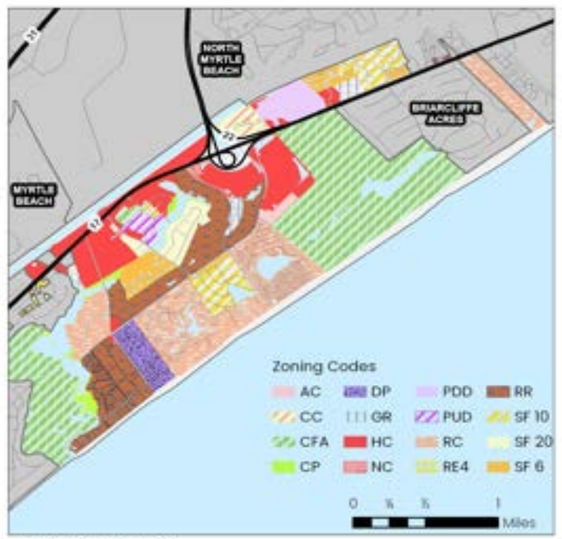
The campgrounds of Ocean Lakes, Lakewood, and PirateLand contributed minimal development to the beachfront as the front row land uses are RV or tent camping and parking. No substantial construction has occurred in the campgrounds on the beachfront, leaving the dunes and natural areas well preserved. Within the campground section is Myrtle Beach Resort, which occupies more than 700 feet of the coastline. The buildings of Myrtle Beach resort are not located within the setback area and a primary dune is present along the shoreline. Long Bay Estates is located immediately to the north of PirateLand Campground and is bordered to the north by Myrtle Beach State Park. Long Bay Estates is a private beachfront area, with no public access and is primarily developed with single-family residential homes. The beach itself is narrow at high tide and the existing dunes are well-maintained.

Zoning of Unincorporated Beach Fronts

Garden City



Surfside Beach to Myrtle Beach



Arcadian Shores

Waites Island

Arcadian Shores

The Lake Arrowhead area is the most diverse beachfront community within Unincorporated Horry County. Land use in this section includes single- and multi-family residential, commercial, short-term lodging, and conservation. Tourist and business-centered resorts and hotels outnumber single-family residences. A primary dune is present along most of this section of beachfront, with encroachments by swimming pools and other amenities from the resorts. The Lake Arrowhead region includes a large campground and the Meher Spiritual Center. The Meher Center is 500 acres of state designated wildlife sanctuary with more than 200 species of plants and nearly 150 species of birds and animals. The beachfront here is undeveloped, leaving the dunes and beach undisturbed.

Waties Island

Waties Island is the only barrier island within Horry County. The island is undeveloped and is considered a pristine natural environment along the Horry County coastline. Over 1,000 acres of the three-mile long island is under a conservation easement with Coastal Carolina University and is not publically accessible from land.

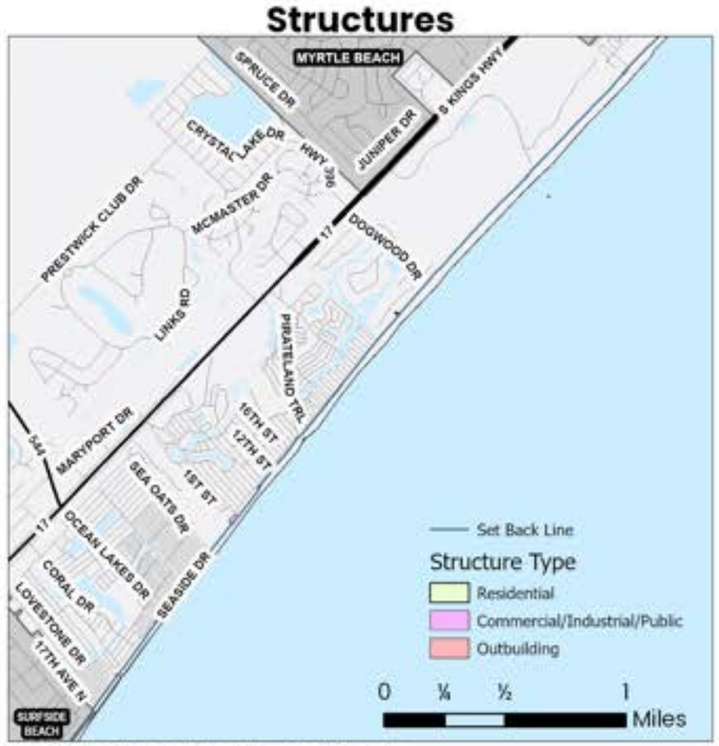
2.3.1 Beachfront Structural Inventory

The beachfront structural inventory is intended to identify all structures including erosion control or protection devices that encroach seaward of the SCDHEC/OCRM jurisdictional setback line. Structures were classified according to the following categories and were described based on conditions and defining characteristics:

- Habitable Structures (<5,000 sq. ft. or >5,000 sq. ft.)
- Ancillary Buildings
- Deck, Fence, Pool
- Recreational Amenity, Pier
- Erosion Control Structures (bulkheads, rock revetment, etc)

Generally, a large number of structures are present seaward of the setback line along the beachfront in Horry County. The majority are residential, ranging from single-family homes to large condominium complexes. Commercial and short-term lodging structures tend to be outside the setback area, however associate pools, decks, and

Garden City



Surfside Beach to Myrtle Beach

Arcadian Shores

erosion control structures are commonly present seaward of the setback line.

The full structural inventory and detailed aerial maps can be found in Appendix 7.2. In summary, Horry County found that at least a portion of over 300 structures lay seaward of the setback line in three of the four sections of unincorporated beach. Of these, decks (including decks with dune walkover structures) is the most common, making up nearly 40% of all structures seaward of the setback line. Habitable structures make up the second most common structures (30%). Of the 149 parcels that contain structures seaward of the setback line, only 9% have erosion control structures aside from dunes/dune vegetation (i.e. bulk head, revetment, etc.).

2.4 NATURAL RESOURCES AND ECOLOGICAL HABITATS

Although Horry County is dominated by blackwater rivers, wetlands, forestland and farmland, the majority of the developed area is located within a narrow-band along the coastline. Known as the Grand Strand, it is the longest stretch of beachfront in South Carolina. Unlike other beaches in the state, Horry County's shoreline is joined to the mainland and lacks many barrier islands. The sandy beachfront is only briefly interrupted by inlets and swashes, namely Singleton Swash, Midway Swash, Withers Swash, Hog's Inlet and the Little River Inlet. Estuaries are present in Horry County, capping the beginning and end of the Grand Strand at the southern and northern ends of the County. The beaches of Horry County are valuable ecological habitat along with being a draw for tourism recreation.

The natural dune habitat found in these areas can be classified as the following:

- Beach Community (frontal dune): Consists of open sandy beach, dunes, and foreshore zone that is inundated by tides, dominated by plants that are tolerant to blowing sand, salt spray, consistent flooding, drought, heat and low nutrient supply. The most common dune grasses are sea oats, bitter panicum and marsh hay cordgrass. Forbs such as sea rocket, sea purslane and morning glory are often found in the frontal dune sites as well. The primary dune and beachfront is full of animal life including crustaceans such as blue, mole, and ghost crabs, echinoderms such as sand dollars and sea urchins, along with a plethora of sea birds including piping plovers, least terns, sanderlings, and brown pelicans. The occasional jellyfish may wash ashore along with other ocean life. The frontal dune is also ideal for sea turtle nesting.
- Maritime Shrub (back dune): Located behind the primary dune and subject to migration of dune systems and storm-tide flooding, dominated by salt tolerant shrubs such as wax myrtle, yaupon holly and red cedar. Animal species common in this habitat are coastal birds such as the piping plover, loggerhead sea turtles, and some crustaceans.
- Maritime Forest: Located along the back dunes and are usually not influenced by storm-tide flooding or migrating dune systems, forests tend to be upland communities consisting of live oak, cabbage palmetto, and loblolly pines. Animal species common to this habitat are the federally protected bald eagle, state reptile loggerhead sea turtle, threatened least tern and other neo-tropical migratory birds.

Under natural conditions without human development, all three communities are present in this region. However, in Horry County, the most prevalent ecological habitat is the Beach Community or frontal dune system.

Maritime Shrub and Maritime Forest habitats are endangered in Horry County and can only be found in small pockets in three main areas of the Horry County shoreline, namely Myrtle Beach State Park, Meher Spiritual Center, and Waties Island. Currently there are no regulations in place to protect or restore these critical habitats.

Protecting and conserving critical habitat is up to property owners. Future land use dictated by Imagine 2040 indicate areas throughout the County that would be best used as preservation or conservation land. Within the beachfront area Waties Island and Myrtle Beach State Park are set aside as conservation. Additionally, the Meher Spiritual Center property is largely maintained in a natural state. Since much of the critical habitat on the coast has been developed, it is important to protect even small areas that still exist, and seek to connect the areas by means of greenbelts and habitat corridors. Future land use maps illustrate ways to connect inland marsh and wetland habitat and a similar process may be possible to determine how to preserve or restore greenspace to connect coastal habitat. Otherwise, these critical habitats face the threat of becoming fringe habitats with little species diversity and function.

2.4.1 Threatened and Endangered Species

South Carolina Department of Natural Resources through the Heritage Trust Program maintains a list of rare, threatened, and endangered species in South Carolina for each county. In Horry County, there are 17 animal species and two plant species considered federally endangered or threatened that are protected by the Endangered Species Act. In addition to federally mandated status, the State of South Carolina considers 19 animal species to be endangered or threatened.

The following chart indicates the status of these species:

Scientific Name	Common Name	Federal Status	State Status
Acipenser brevirostrum	shortnose sturgeon	Endangered	Endangered
Acipenser oxyrinchus	Atlantic sturgeon	Endangered	-
Alligator mississippiensis	American alligator	Threatened	Threatened
Balaenoptera physalus	finback whale	Endangered	Endangered

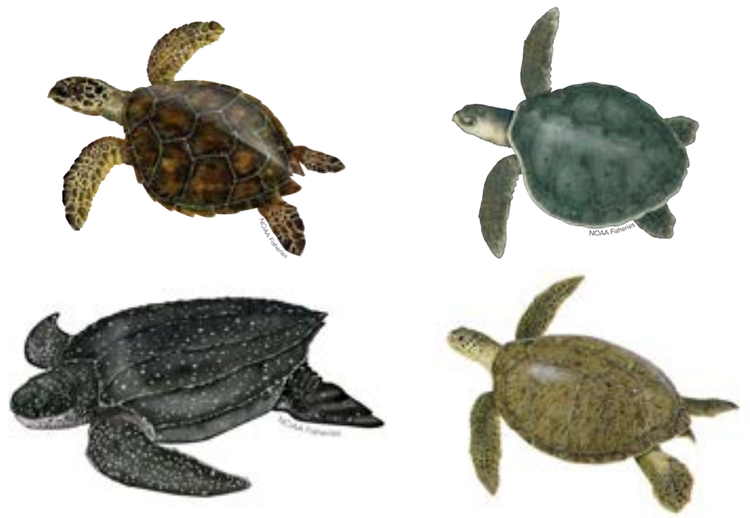
Scientific Name	Common Name	Federal Status	State Status
Calidris canutus rufa	red knot	Threatened	-
Caretta caretta	loggerhead sea turtle	Threatened	Threatened
Charadrius melodus	piping plover	Threatened	Endangered
Chelonia mydas	green sea turtle	Threatened	Threatened
Clemmys guttata	spotted turtle	At Risk	Threatened
Corynorhinus rafinesquii	Rafinesque's big-eared bat	-	Endangered
Dermochelys coriacea	leatherback sea turtle	Endangered	Endangered
Elassoma boehlkei	Carolina pygmy sunfish	At Risk	Threatened
Eubalaena glacialis	Atlantic right whale	Endangered	Endangered
Haliaeetus leucocephalus	bald eagle	-	Threatened
Heterodon simus	southern hognose snake	At Risk	Threatened
Laterallus jamaicensis	black rail	Threatened	-
Lepidochelys kempii	Kemp's ridley sea turtle	Endangered	Endangered
Megaptera novaeangliae	humpback whale	Endangered	Endangered
Mycteria americana	wood Stork	Threatened	Endangered
Picoides borealis	red-cockaded woodpecker	Endangered	Endangered
Pterodroma hasitata	black-capped petrel	Threatened	
Sterna antillarum	least tern	-	Threatened
Trichechus manatus	Florida manatee	Threatened	Endangered
Amaranthus pumilus	seabeach amaranth	Threatened	-
Schwalbea americana	chaffseed	Endangered	-

Horry County's beachfront diminished the existing critical habitats for threatened and endangered species. Many species of shorebirds nest and migrate here during the winter months, including the least turn, red knot, wood stork, and the piping plover. The main threat to nesting, resting or foraging shorebirds, such as the least tern, are harassment by unleashed dogs and human activity.

Maritime shrub and forest communities in Horry County support the state-threatened bald eagle and federally-endangered red-cockaded woodpecker. Recent reports indicate species presence within the existing habitat.

Four federally-protected sea turtles are found in Horry County. The next section discusses sea turtle nesting more in depth, but it should be noted that Horry County's turtle nesting counts remain consistently low when compared to other coastal regions.

The seabeach amaranth is a salt-tolerant forb found in frontal dune communities above the high tide line on the ocean-side of the dune. Beach erosion is the biggest threat to this plant whether from natural processes or development.



As mentioned, the County has not established code to protect critical habitat. Development has been a priority of the County since the adoption of ordinances and zoning. To protect endangered and threatened plants and animal species, land must be allocated for beach conservation in order to establish safe and functioning habitat. Several options such as a coastal habitat mitigation bank, a land trust, and a development fee structure to fund a conservation agreement may be possible as a mechanism to restore the ecological functions of the diminished habitat.

2.4.2 Turtle Nesting

Sea turtle nesting season runs May 1 through October 31, which overlaps with peak tourism season. Proper signage to encourage turning off beachfront lights is prevalent all over the coastal routes to the shore. A local organization, the South Carolina United Turtle Enthusiasts (SCUTE), is a group of volunteers permitted by SCDNR to protect nests, relocate nests if necessary and record turtle deaths in Horry and Georgetown Counties. This group also works towards controlling beachfront light to limit confusion of female turtles during nesting seasons.

There are four species of sea turtles that can be found nesting on the beaches of Horry County. All of these species are federally protected by either threatened or endangered status and include the loggerhead (*Caretta caretta*), Kemp's ridley (*Lepidochelys kempi*), leatherback (*Dermochelys coriacea*) and green (*Chelonia mydas*) sea turtles (pictured above).

The loggerhead and green sea turtles regularly nest along Horry County beaches. In the last ten years, nesting sites have been dynamic with no specific patterns, and nesting and success does remain consistent in areas of quality habitat. The nesting data in Horry County is collected by the SCDNR Sea Turtle Conservation Program.

As presented below, the reported data includes turtle sites from unincorporated and incorporated Horry County as there is overlap in collection areas.

Recorded Nests (Source: SCDNR Sea Turtle Conservation Program)

BEACH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Waties Island	9	9	14	10	6	28	14	14	27	20
North Myrtle Beach	21	9	6	6	8	8	21	1	25	10
Briarcliffe Acres	-	-	5	2	9	6	4	1	9	6
City of Myrtle Beach	16	12	24	1	3	20	14	5	31	12
Myrtle Beach State Park	4	3	4	1	2	2	4	1	2	2
Long Bay Estates	2	1	2	-	-	3	2	1	1	1
Surfside Beach	5	7	1	-	1	4	4	2	5	2
Garden City	6	16	10	4	7	14	22	-	35	10

Mean Hatch Success (Source: SCDNR Sea Turtle Conservation Program)

BEACH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Waties Island	57.7 %	81.2 %	74.1 %	82.5 %	63.3 %	64.1 %	69%	78.8 %	75.3 %	26%
North Myrtle Beach	85.8 %	88.4 %	85.5 %	47.4 %	88.9 %	88.3 %	92.1 %	87%	83.3 %	67.9 %
Briarcliffe Acres	-	-	92.7 %	95.2 %	87.2 %	90.6 %	78.9 %	92.6 %	87.6 %	12.8 %
City of Myrtle Beach	76.4 %	86.1 %	84.6 %	77.6 %	67.5 %	91.8 %	80%	87.1 %	75.6 %	45.1 %
Myrtle Beach State Park	83.2 %	87.1 %	76.1 %	90.9 %	46.1 %	84.2 %	59.2 %	-	72.7 %	0%
Long Bay Estates	96.5 %	96.9 %	92.9 %	-	-	69.5 %	87.2 %	86.9 %	22.7 %	0%
Surfside Beach	78.4 %	89.6 %	89.8 %	-	95.8 %	92.9 %	69.3 %	91.9 %	92%	47.8 %
Garden City	68.3 %	88.9 %	89.2 %	77.6 %	91.8 %	86.3 %	81.7 %	-	82.9 %	25.2 %

Of the nests counted, the species distribution was as follows:

Species Distribution (L: loggerhead, G: green Sea Turtle, K; Kemp's ridley, UN: Unknown species)

BEACH	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Waties Island	L	L	L	L, UN	L	L	L, G	L	L	L
North Myrtle Beach	L	L	L	L	L	L	L	L	L	L, K
Briarcliffe Acres	-	-	L	L	L	L	L	L	L	L
City of Myrtle Beach	L	L	L, G, UN	L	L	L, G	L, G	L	L, G	L
Myrtle Beach State Park	L	L	L	L	L	L	L	L	L	L
Long Bay Estates	L	L	L	-	-	L	L	L	L	L
Surfside Beach	L	L	L	-	L	L	L, G, UN	L	L	L
Garden City	L	L, G	L	G	L, G	L, G, UN	L, G	-	L, G	L

Unsurprisingly, nest sites are recorded at higher numbers along less developed sections of the beachfront. However, as indicated in the table, nesting sites are found along stretches of beach with higher development impacts. With this information it should be understood that consistent signage and education should be provided along the entire beachfront in an effort to increase the success of nesting attempts and hatchling survival.

In terms of current conservation efforts, most nests in Horry County are relocated to Myrtle Beach State Park. The State Park is an ideal location because of dune protections and light restrictions. Nests are marked with orange signs and covered with plastic mesh screens. The beach at Myrtle Beach State Park and Long Bay Estates is patrolled daily for sea turtle activity from mid-May to mid-August. The park also conducts educational programs about sea turtle conservation and ways to be better stewards of our coast.

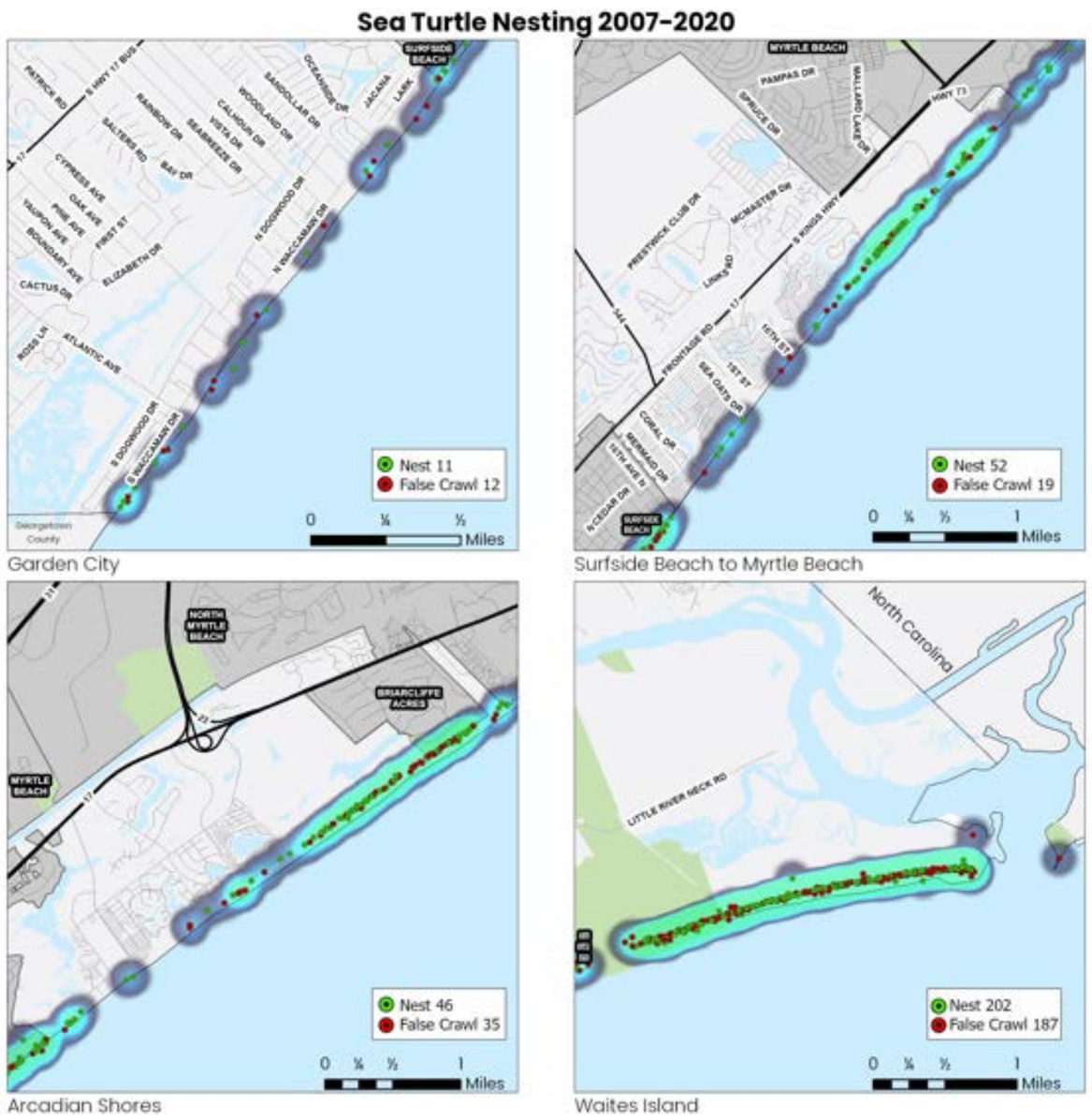
The largest threat to sea turtles on the Horry County shoreline is nighttime beach raking. Beach raking is a mechanical procedure to remove human generated debris from the beachfront. This process is done at night in order to avoid the beach-going crowds, and is known to severely impact nesting sea turtles. Drivers of tractors may completely destroy a nest, leaving no evidence or trace behind. Beach raking may frighten nesting females due to the light and noise from the tractor. The tractor may crush hatchlings as they emerge from the nest on the way to the ocean. Beach raking can damage dunes and promote erosion. Ideally, beach raking would be prohibited to protect dunes and nesting turtles. Since this

is not likely, tractors should maintain a minimum distance of ten feet from dunes at all times.

Horry County is the only county with beach habitat on the South Carolina coast without habitat protective lighting restrictions. In an average season, Horry County has the lowest number of turtle nest sites along the coast. Methods of protections must exist to encourage proper nesting.

Examples of proper lighting restrictions are as follows:

- New developments cannot have artificial lighting beachside of structures or property.
  - o Prohibition of floodlights;
  - o Encouragement of full-cut off fixtures;
  - o Limited allowance for pole lights;
  - o Tinted glass or shades on beach facing windows;
  - o Maximum height of 15 ft for temporary security lights.
- For existing constructions retrofits are required.
  - o Shields or screens on beach facing windows from May to October with lighting bans after 10 pm;
  - o All beachside lighting must be turned off by 10 pm during nesting season;
  - o Low profile or full-cut off security lighting.
- Public lighting must be located away from the beach and shaded or off during turtle nesting months.



2.5 EXISTING PUBLIC ACCESS AND MAP

As part of the Beach Management Act, ensuring full public access to the beach is a priority element. Of the 350 public beach access sites along the Grand Strand, 22 are maintained by and located within unincorporated Horry County. Damage during recent storms prompted renovation and repairs of many public beach accesses . Regular maintenance and monitoring of condition is needed.

Parking:

Currently, Horry County owns and maintains more than 250 public parking spaces in nineteen parking areas across the Grand Strand. Additionally, the County negotiated agreements with Ocean Lakes Campground, Lakewood Campground, and Apache Campground to allow for public use of designated parking spaces within the campground property. A fee is charged to enter and park, similar to Myrtle Beach State Park.

Despite efforts to provide parking for the public, the increasingly large number of tourists visiting the beach exceeds the number of parking spaces available. This results in congestion and on-street parking, especially within Garden City. Creating more parking is difficult due to the high cost of land near the beachfront. Vacant beachfront land is not likely to be bought by the County to be converted into surface parking.

A potential solution may be creating public parking areas further from the beachfront where property is cheaper. Potentially private bike share programs, scooter rentals, or park and ride with shuttles (especially from hotels/resorts) could then be used to reach the beach access locations. Additionally, better signage and walkable streets will allow for safe pedestrian access from inland parking areas.

The East Coast Greenway is established in a few areas near the Horry County coastline. In Horry County, the areas of Garden City, Myrtle Beach and North Myrtle Beach have dedicated paths to the East Coast Greenway trail. Proper signage and public knowledge could increase local usage and encourage biking and walking to the beach.

Access:

Beach access points vary in design and amenities according to the needs of the communities they serve. The majority of the accesses are dune walkovers with sand paths leading to the beach. In order to allow access by all visitors, ADA compliant wheelchair mats are available to enable safe travel through the sand paths.

Horry County's beach access points have seasonal showers and restrooms along with limited off-street parking. The exception is Hibben Memorial Park, which is a path between two condominium communities.

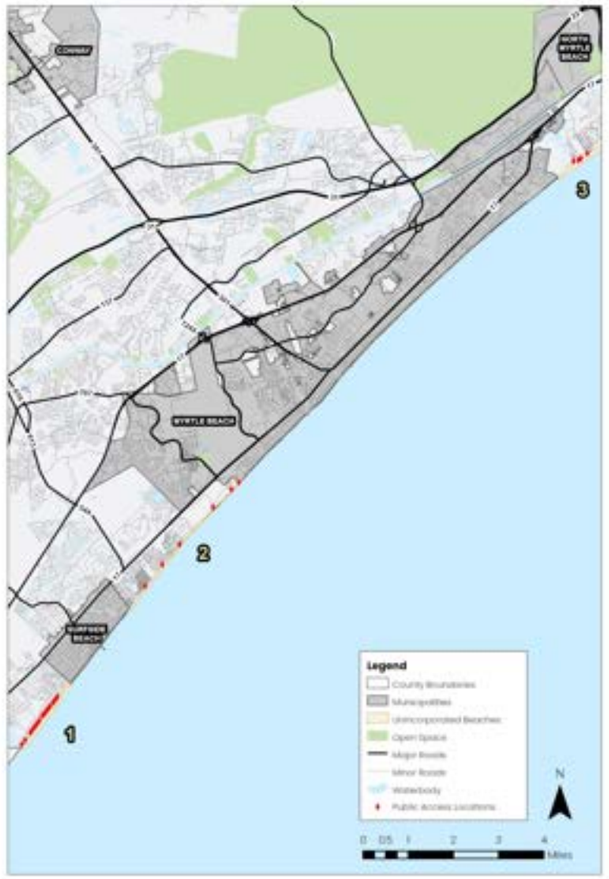
In 2018 sign design was modernized with simple cohesive aesthetics that detail parking prohibitions and fee structure, and list current beach policies including: emergency access, dog waste, dune protection, and lost child services.

Improvements

Following damages from storm events in 2018, the 22 public beach access points maintained by Horry County were repaired and improved. In total, $3.5 million in projects were completed along the coast with a new signage program, updated beach walks and dune walkovers, bike racks, and new vegetation.

A table with the full listing of public beach access points and their amenities is in Appendix 7.3.

Horry County Beach Access



1. Garden City

2. Surfside Beach to Myrtle Beach

3. Arcadian Shores

2.6 COMMUNITY RATING SYSTEM

Horry County participates in the Community Rating System (CRS), a voluntary program administered by FEMA as part of the National Flood Insurance Program (NFIP) that rewards communities for engaging in activities that reduce flood risk with discounts on flood insurance premiums. Summary information is provided below:

Current class:

On March 22, 2022, Horry County completed the most recent full cycle verification. In May 2023, Horry County received a Class of 5 with 2,637 points. This is an 810 point and two class category increase from the 2016 cycle verification score of 1827and class 5.

Categories receiving credit:

Horry County is currently receiving CRS credit in:

- Public Information
  - Elevation Certificates
  - Map Information Service
  - Outreach Projects
  - Hazard Disclosure
  - Flood Protection Information
  - Flood Protection Information
  - Flood Insurance Promotion
- Mapping and Regulations
  - Floodplain Mapping
  - Open Space Preservation
  - Higher Regulatory Standards
  - Flood Data Maintenance
  - Stormwater Maintenance
- Flood Damage Reduction
  - Repetitive Loss Category
  - Floodplain Management Planning
  - Acquisition and Relocation
- Flood Warning and Response

Current activities:

- **Activity 310 – Construction Certificate Management:** Credit is provided for having written construction certificate management procedures for all new and substantially improved/substantially damaged buildings. (38 points)
- **Activity 320 – Map Information Service:** Credit is provided for furnishing inquirers with basic flood zone information from the community's latest Flood Insurance Rate Map (FIRM). Credit is also provided for the community offering additional FIRM information, historical flood information, and natural floodplain functions. The service is publicized annually, and records are maintained. (90 points)
- **Activity 330 – Outreach Projects:** Credit is provided for informational outreach projects, general outreach projects, and targeted outreach projects. These projects are disseminated annually. (137 points)
- **Activity 340 – Hazard Disclosure:** Credit is for state and community regulations requiring disclosure of flood hazards. (10 points)
- **Activity 350 – Flood Protection Information:** Documents relating to floodplain management are available in the reference section of the Horry County Library. Credit is also provided for floodplain information displayed on the community's website. (75 points)
- **Activity 360 – Flood Protection Assistance:** Credit is provided for offering one-onone advice regarding property protection. The service is publicized annually, and records are maintained. (25 points)
- **Activity 370 – Flood Insurance Promotion:** Credit is provided for assessing the community's current level of flood insurance coverage. (15 points)
- **Activity 410 – Floodplain Mapping**: Credit is provided for conducting and adopting flood studies for areas not included on the FIRMs and that exceed minimum mapping standards. (39 points)
- **Activity 420 – Open Space Preservation:** Credit is provided for preserving approximately 23 percent of the Special Flood Hazard Area (SFHA) as open space, protecting open space land with deed restrictions, and preserving open space land in a natural state. (429 points)
- **Activity 430 – Higher Regulatory Standards:** Credit is provided for enforcing freeboard for new construction and substantial improvement, cumulative substantial improvement, protection of critical facilities, enclosure limits, local drainage protection and coastal A Zone structures to meet V Zone building criteria. Credit is also provided for the enforcement of building codes, a Building Code Effectiveness Grading Schedule (BCEGS®) Classification and regulations administration. (499 points)
- **Activity 440 – Flood Data Maintenance:** Credit is provided for maintaining and using additional map data in the day-to-day management of the floodplain. Credit is also provided for establishing and maintaining a system of benchmarks and maintaining copies of all previous FIRMs and Flood Insurance Study reports. (174 points)
- **Activity 450 – Stormwater Management:** The community enforces regulations for stormwater management, soil and erosion control, and water quality. (353 points)
- **Section 502 – Repetitive Loss Category:** Based on the updates made to the NFIP Report of Repetitive Losses as of March 29, 2022, Horry County, SC has 469 repetitive loss properties and is a Category C community for CRS purposes. The community is required to submit either a Repetitive Loss Area Analysis or Floodplain Management Plan. (No credit points are applicable to this section)
- **Activity 510 – Floodplain Management Planning:** Credit is provided for the Horry County Multijurisdictional All-Hazards Plan, adopted on March 2, 2021. A progress report must be submitted on an annual basis. (239 points)
- **Activity 520 – Acquisition and Relocation**: Credit is provided for acquiring and relocating (38) buildings from the community's regulatory floodplain. (144 points)

- **Activity 610 – Flood Warning and Response:** Credit is provided for a program that provides timely identification of impending flood threats, disseminates warnings to appropriate floodplain residents, and coordinates flood response activities. Credit is also provided for the designation as a Storm Ready/Tsunami Ready Community by the National Weather Service. A description of the flood exercise or After-Action Report from an actual flood event must be submitted on an annual basis. Warning information and safety measures must be publicized annually. (370 points)
- **Activity 710 – County Growth Adjustment**: All credit in the 400 series is multiplied by the growth rate of the county to account for growth pressures. The growth rate for Horry County, SC is 1.14.

Plans for involvement:

Horry County plans to continue to remain active with NFIP and CRS. Many county departments participate in an on-going effort to continuously improve not only the CRS rating, but ensure the community benefits from the work. Participating departments include Emergency Management, Stormwater, Code Enforcement, Community Development, Planning & Zoning, and IT. Fostering comprehensive floodplain management is a priority.

§3- BEACHFRONT DRAINAGE PLAN

Stormwater management is extremely important in maintaining the health and aesthetics of Horry County beaches. Prior to an appropriate stormwater management plan, much of the bacteria ridden stormwater was discharged into the ocean. In fact, even with a stormwater management plan, Horry County beaches are often faced with swimming advisories due to high levels of fecal coliform bacteria from runoff.

Horry County approved the creation of a stormwater utility in 2000. With this came the stormwater utility fee collected from developed property within unincorporated Horry County that utilizes the public stormwater system. This fee is standard on all residential properties and based on a formula for nonresidential. In 2018 and 2021, the utility fees were increased from $29.40 per one equivalent residential unit (ERU) to $44.40 ERU and $89.40 ERU, respectively. Utility fees generated $15.9 million in 2021 for stormwater collection and water quality improvement projects.

A stormwater management plan was completed in 2005 and updated in 2007 to include the EPA's Phase II National Pollution Discharge Elimination System (NPDES) stormwater regulations. The County received permitting coverage that year and operates as a small municipal separate storm sewer system (MS4). To meet compliance, the County maintains six minimum control measures including public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction site stormwater runoff control, post-construction stormwater management, and pollution prevention and good housekeeping.

Though the beaches of Horry County are the primary source of local economy, often areas of the beach are closed due to pollution from stormwater runoff. There are multiple areas of the beach in unincorporated Horry County that have long-term swimming advisories due to Enterococcus bacteria. The following table indicates Coastal Carolina University's long term monitoring of Enterococci levels at certain stations along Horry county's beaches.

Enterococci Levels (MPN/100mL)

SITE NAME	# OF SAMPLES	AVERAGE	LOCATION	TREND
WAC-12	557	97	Chapin Road	26%-50%
WAC-13	599	72	Lake Arrowhead	26%-50%
WAC-14	554	40	Shore Drive	26%-50%
WAC-28	672	823	Swash between Pirate Land and Lakewood Campground	51%-75%
WAC-29	722	345	Pipe discharge at northern point	26%-50%
WAC-29A	476	292	Swash confluence at southern point	51%-75%
WAC-36	538	39	Hawes Ave	26%-50%
WAC-37	537	31	Azalea Ave	26%-50%
WAC-38	178	22	Inlet Point Drive	26%-50%

Source: Coastal Carolina University Enterococcus Database

Sites WAC-29 and WAC-29A are both located within the campground area of unincorporated Horry County between Surfside Beach and Myrtle Beach. WAC-29A and WAC-29 are both discharge sites and have long term advisories for exceeding the standard ETOC 10% to 15% of the time surveyed. WAC-28 is located at the Beaverdam Creek Swash near Long Bay Estates and has a long term advisory due to exceeding standards 20% to 25% of time.

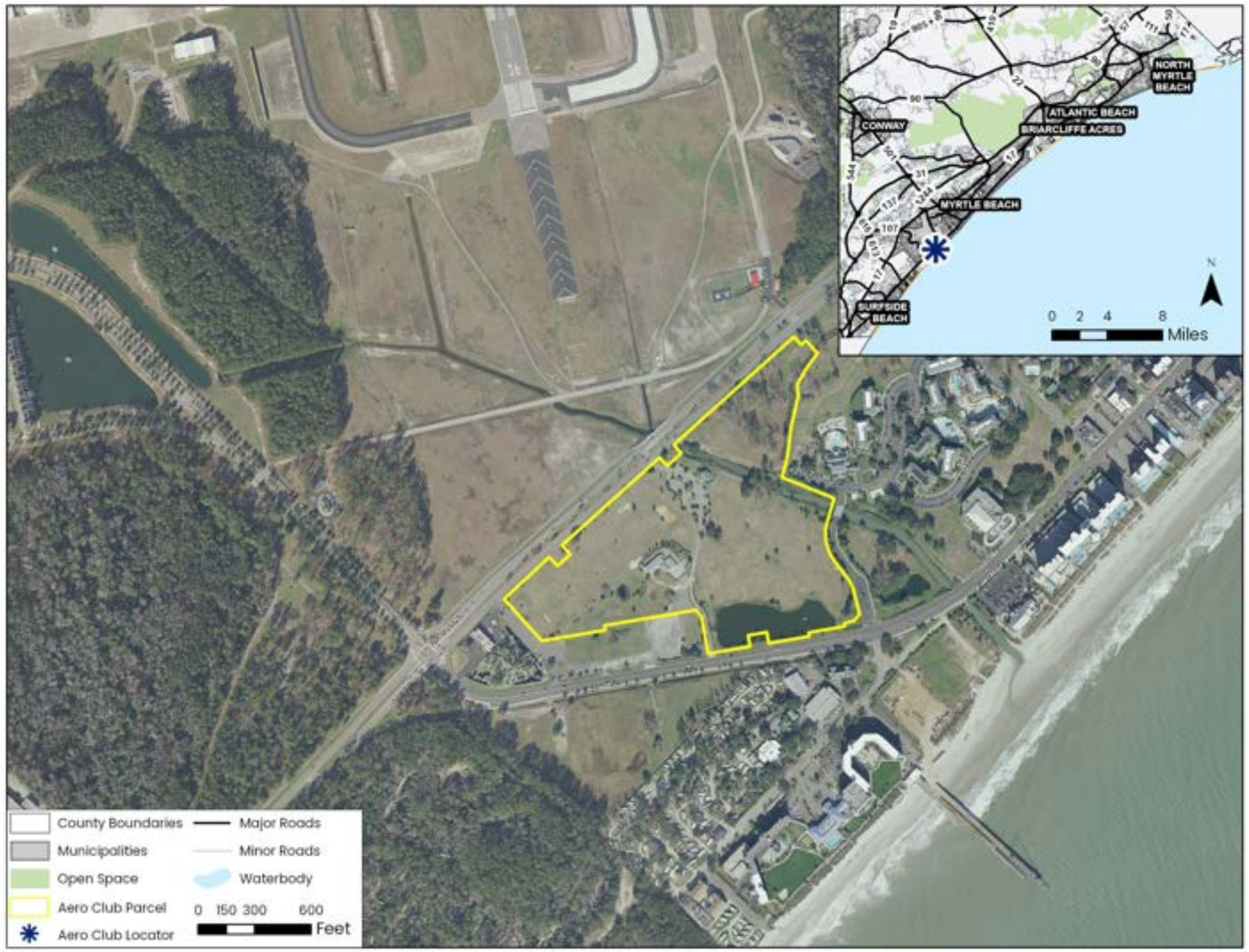
Outfalls

Surfside Beach to Myrtle Beach

Arcadian Shores

The Singleton Swash area of Arcadia Shores has two long term advisories, one at Bear Creek Swash and the other at Singleton Swash. Bear Creek exceeds standards 20% to 25% of time and Singleton Swash exceeds standards <10% of time.

Multiple campgrounds are located within unincorporated Horry County beachfront. Because of the nature and design of these campgrounds, they can be especially vulnerable to stormwater runoff. Many of these sites are located near swashes or tidal inlets which often become heavily polluted. These pollutants are then washed ashore and create unhealthy swimming conditions for visitors. These campgrounds require creative solutions to reduce non-point source pollution. For example, the stormwater department has installed ultraviolet filters at Pirate Land Campgrounds that treat bacteria infested water before it is discharged onto the beaches. Additionally, rain tank infiltration systems are installed under the roads in Ocean Lakes Campground. This system collects and treats stormwater by means of filtration before being discharged into the dune system.



Long Bay Golf Course Site

Other stormwater control measures include the use of pervious pavers in updated public beach access points. Pervious pavers reduce stormwater runoff by allowing stormwater to pass through the pavers into the ground to be filtered naturally. Horry County's Stormwater Department has recently updated their stormwater management plan to include reference to the Low Impact Development in Coastal South Carolina Planning and Design Guide. Within this manual includes planning and regulation guidance for municipalities that wish to begin incorporating LID techniques for stormwater and landscaping. The manual identified gaps between other LID guidelines in SC that do not focus on the unique characteristics of the coastal regions in South Carolina. Open space requirements were identified as extremely important and useful tools for low impact developments. A switch to cluster developments and sustainable development practices paired with open space could prevent stormwater runoff into riverine, estuary or coastal waterbodies. The open space allows for natural stormwater recharge that allows it to reenter the water table in a safe manner. Other engineered tactics involve bioretention ponds, bioswales, greenroofs, and pervious surfaces. The stormwater department is already using pervious pavers at newly renovated public accesses and other public spaces that are appropriate. For all future development and redevelopment there should be incentives to encourage open space along the beachfront and estuary system, and bioretention and bioswales in the form of manufactured

wetlands, streetscaping, and dune recreations. Greenroofs could be installed on existing condo or resort developments in exchange for stormwater fee reductions or credits. These greenroofs could collect rainwater before it enters the streetscape and beachfronts, and contributes to beach runoff.

Ideally, the number one priority is to remove all existing beachfront stormwater discharge pipes and work to reduce pollution within swashes. These goals can be achieved by committing to low impact development, or redevelopment, practices.

A potential and specific project the County could pursue would involve the recently acquired property seaward of the Myrtle Beach International Airport, Long Bay Golf Course. The Long Bay Golf Course is located north of Mid-way Swash, which is one of the most polluted swashes along the beachfront. Runoff from surrounding development, the airport and the campgrounds southward is fed into Mid-way Swash and enters the beachfront. Often times this area is under beach closures from high levels of Enterococcus bacteria and is under a long-term advisory due to consistent levels. Since the golf course cannot be used as private property because of the proximity to the airport and need of emergency landing space, the space is a great option for open space and stormwater treatment. Stormwater treatment through bioretention ponds could be established. Additional vegetation and wetland plants could be planted in strategic locations to provide natural absorption of bacteria and pollution. If designed appropriately, the system could be established and left to do its job with little maintenance.

Image: Render of Wetland Treatment Park from AECOM

Current funding limitations greatly affects how the stormwater department can manage discharges. Much of the regulation relies on enforcement of property owners and developers to install proper stormwater management devices. Stormwater utility fees should be increased to allow for an increase in the Stormwater Department's budget. Additionally, discharge fees and stricter regulations and penalties should be established to promote better stormwater management. Only with continued education and stricter regulations can the County meet its goals to improve water quality on the beaches.

§4- BEACH MANAGEMENT AND AUTHORITIES

4.1 STATE AUTHORITITES

The South Carolina Department of Health and Environmental Control Office of Ocean and Coastal Resource Management (DHEC OCRM) is responsible for the management of the state's beachfront. The state "Beachfront Management Act" (Coastal Tidelands and Wetlands Act, as amended §48-39-250 et seq.) establishes statutory guidance and state policies for the beachfront, including a requirement that ocean beachfront counties and municipalities prepare local comprehensive beach management plans in coordination with DHEC OCRM. Once adopted by the community, local comprehensive beach management plans are then submitted to DHEC OCRM for review and state approval.

4.1.1 Overview of State Policies (Beach Management Act)

The Beach Management Act includes several key legislative findings including:

a. the importance of the beach and dune system in protecting life and property from storms, providing significant economic revenue through tourism, providing habitat for important plants and animals, and providing a healthy environment for recreation and improved quality of life of all citizens;
b. unwise development has been sited too close to and has jeopardized the stability of the beach/dune system;
c. the use of armoring in the form of hard erosion control devices such as seawalls, bulkheads, and rip-raps to protect erosion-threatened structures has not proven effective, has given a false sense of security, and in many instances, has increased the vulnerability of beachfront property to damage from wind and waves while contributing to the deterioration and loss of the dry sand beach;
d. inlet and harbor management practices, including the construction of jetties which have not been designed to accommodate the longshore transport of sand, may deprive downdrift beach/dune systems of their natural sand supply;
e. it is in the state's best interest to protect and promote increased public access to beaches for visitors and South Carolina residents alike: and,
f. A coordinated state policy for post-storm management of the beach and dunes did not exist and that a comprehensive beach management plan was needed to prevent unwise development and minimize adverse impacts.

The Beachfront Management Act then establishes eight state policies to guide the management of ocean beaches:

1. Protect, preserve, restore, and enhance the beach/dune system;
2. Create a comprehensive, long-range beach management plan and require local beach management plans for the protection, preservation, restoration, and enhancement of the beach/dune system, each promoting wise use of the state's beachfront;
3. Severely restrict the use of hard erosion control devices and encourage the replacement of hard erosion control devices with soft technologies which will provide for the protection of the shoreline without long-term adverse effects;
4. Encourage the use of erosion-inhibiting techniques which do not adversely impact the long-term well-being of the beach/dune system;
5. Promote carefully planned nourishment as a means of beach preservation and restoration where economically feasible;
6. Preserve existing public access and promote the enhancement of public access for all citizens including the handicapped and encourage the purchase of lands adjacent to the Atlantic Ocean to enhance public access;
7. Involve local governments in long-range comprehensive planning and management of the beach/dune system in which they have a vested interest; and
8. Establish procedures and guidelines for the emergency management of the beach/dune system following a significant storm event.

DHEC OCRM is responsible for implementing these policies through a comprehensive management program that includes research and policy development, state and local planning, regulation and enforcement, restoration, and extension and education activities.

4.1.2 Beachfront SetbackArea

Under Section 48-39-280 of the Beachfront Management Act, as amended, DHEC OCRM is required to establish and periodically review (once every seven to ten years) the position of the two lines of beachfront jurisdiction, the baseline and the setback line, as well as the average annual erosion rate for all oceanfront land that is developed or potentially could be developed. The purpose of these jurisdictional lines is to implement §48-39-280(A) of the statute, which reads as follows:

> *"A policy of beach preservation is established. The department must implement this policy and utilize the best available scientific and historical data in the implementation. The department must establish a baseline that parallels the shoreline for each standard erosion zone and each inlet erosion zone."*

The baseline is the more seaward line of jurisdiction and is typically located at the crest of the primary oceanfront sand dune. The setback line is the landward line of the jurisdiction and is established landward of the baseline at a distance equal to 40 times the average annual erosion rate, as calculated from the best historical and scientific data, or at a minimum distance of 20 feet landward of the baseline for stable or accretional beaches.

To establish the baseline position, the shoreline must first be classified as an inlet zone or a standard zone. Areas that are close to inlets and have non-parallel offshore bathymetric contours and non-parallel historical shoreline positions are classified as inlet zones, while all

other areas are classified as standard zones. Inlet zones are further classified as stabilized if jetties, groins, or seawalls are present, or as unstabilized. In unstabilized inlet zones, the baseline is located at the most landward shoreline position at any time during the past 40 years, unless the best available data indicates the shoreline in unlikely to return to its former position.

In stabilized inlet zones and standard zones, the baseline is located at the crest of the primary oceanfront sand dune using beach survey data or dune field topographic data such as LiDAR (Light Detection and Ranging). If the shoreline is armored with a seawall or bulkhead and no primary oceanfront sand dune exists, then a theoretical dune crest position is calculated from beach survey data.

DHEC OCRM maintains an interactive mapping tool, the SC Beachfront Jurisdictional Line Viewer for public access to information and data at https://gis.dhec.sc.gov/shoreline/

Source: SCDHEC OCRM

4.2 LOCAL GOVERNMENT AND AUTHORITIES

Horry County Government has jurisdiction over unincorporated areas within its county boundary, and is responsible for beach management through the functions of the following departments:

- Police and Fire (public safety, emergency operations, evacuations, regulatory enforcement and awareness)
- Planning and Zoning (regulation of new and existing development, land use policy, and zoning code)
- Public Works (solid waste collection, beach maintenance, roadway signage, right-of-way maintenance)
- Parks and Recreation (events and access maintenance)
- Solicitor/Judicial (adjudication of beach-related violations).

4.2.1 Horry County Comprehensive Plan:Imagine 2040

Imagine 2040 is intended to document the history of development and land use, identify opportunities for improvements, and determine specific goals and strategies to meet these goals. The plan should guide future developmental decisions that affect the physical, social and economic growth within the County. Comprehensive plans are not final products and are updated and revised every five years to comply with state statutes. Imagine 2040 was approved by Horry County Council on December 10, 2019 and was last updated December 8, 2020.

Some examples of goals and specific objectives of the Imagine 2040 plan that apply to beach management are listed below:

"Revitalization, Redevelopment, and Infill"

- Promote revitalization and infill efforts

"Healthy, Livable Communities"

- Revise Horry County Zoning Ordinance and Land Development Regulations to support a full range of land use and form
- Ensure recreational amenities and programs are accessible to all residents

"Safe Communities"

- Reduce the degree of risk to life and property from disasters through adequately trained staff, educated public and adequate facilities
- Minimize future flood losses through regulations, policies, education and training

"Community Facilities and Services"

- Identify funding opportunities or efficiencies to support capital improvements and services

"Mobility and Transportation"

- Maintain county road and transportation infrastructure
- Pursue complete streets policies and regulations to support an integrated road network and transportation options

"Environmental Sustainability"

- Minimize habitat fragmentation in sensitive environmental areas
- Improve the County's understanding of water quality and drainage problems
- Maintain and improve water quality
- Encourage development techniques which maintain and improve water quality and drainage maintenance
- Conserve the essential pollution filtering, groundwater recharge and habitat function of wetlands and floodplains
- Preserve and enhance existing dune systems, beaches, and marshes to provide habitat for wildlife and protect coastal property
- Identify renewable energy opportunities that may be harnessed by local businesses, industries and residents

4.2.2 Horry County Hazard Mitigation Plan

In 2016, Horry County along with multiple jurisdictions within the Horry County boundary adopted the All Hazards Mitigation Plan. The purpose of the multi-jurisdictional plan was to ensure compliance with the National Flood Insurance Program across the County boundary along with ensuring public safety to all residents.

The planning process for the Hazard Mitigation Plan involved reviewing and incorporating existing plans, studies, reports and technical information concerning hazards. Local governments were encouraged to include the All Hazards Mitigation Plan into their comprehensive plans along with any local ordinances concerning flood management, drainage, lot coverage and other development codes in order to incorporate the recommendations of the Plan.

The Plan initially sought to identify any risks and to rank them according to a hazard index based on frequency of occurrence. Of those hazards ranked, the highest ranked were hurricanes, flooding and hazardous materials. Each of these affect the coastal regions. Hazard profiles were made concerning each ranked hazard including definitions, history of past events if any and a summary and conclusion concerning each hazard. Hurricanes were ranked critical in terms of future probable severity and considered highly likely to happen each year. Hurricanes were the single most critically effective hazard in the plan, impacting the public, property, facilities, the economy and tourism. Flooding was also identified as highly likely to occur in the next year. Flooding associated with storm events has been very common in Horry County because of the riverine and marsh systems that have been developed, removing natural flood protections and absorption. Flood zones were identified across the County and mapped. Hazardous material spills occur frequently within the County and mostly involve gasoline and diesel spills from boating and recreational activities along the waterways.

The All Hazards Mitigation Plan assessed vulnerabilities of each jurisdiction and area within the County for each hazard. This assessment included identification of structures and facilities potentially effected and when and how they were to be affected. Additionally, the Plan rated each community and discussed repetitive losses. Within Horry County, 142 residential properties were repetitive loss properties. Financial vulnerabilities were figured. The potential loss of structures within flood areas of unincorporated Horry County total to $1.36 billion. Potential losses from storm surge events totaled to $2.16 billion.

Mitigation techniques were identified as (1) prevention through activities such as planning and zoning, open space preservation, floodplain regulations, storm water management, drainage system maintenance, capital improvements, and shoreline setbacks; (2) property protection through acquisition, relocation, building elevation, facility protection, retrofitting, and insurance; (3) natural resource protection through beach and dune preservation, buffers, floodplain protections, erosion and sediment control, slope stabilization habitat preservation and wetland preservation and restoration; (4) structural projects through reservoirs, levees, floodwalls or seawalls, diversions, channel modifications, beach nourishment, and storm sewers; (5) emergency services through warning systems, evacuation planning and management, sandbagging for flood protection and wind protection shutters; and lastly, (6) public information and awareness through outreach projects, speaker series and demonstrations, hazard map information, real estate disclosures, library materials, school children education and hazard expositions.

4.2.3 Horry County Disaster Preparedness and Evacuation Plan

The Horry County Comprehensive Emergency Management Plan (CEMP) was developed to enhance Horry County's ability to manage emergency and disaster situations. The plan identifies four phases of emergency management:

- Preparedness
- Response
- Recovery
- Mitigation

The Plan aids the local government in establishing a framework to guide response during emergency and how to enhance each of these four phases of emergency management. The most recent update to the CEMP was in January of 2019.

Preparedness is very important to the County, especially with the increase likelihood of events such as flooding and hurricanes. In order to better prepare the County for emergency, the Emergency Management Department has spent extensive time developing training and exercises for staff. The emergency management training program utilizes established curriculum from State and Federal levels to strengthen the capabilities of the department. The courses are offered locally along with State and federally sponsored events. Exercises are also conducted to apply the training to potential emergency events. The Emergency Management Department has created exercise worksheets for staff to review and practice skills.

A crucial step in preparedness is public information and outreach. Goals to meet this requirement includes public education in emergency preparedness and disasters, encouraging participation in emergency actions such as evacuations, strengthening of relationships between businesses and regional partners to improve public messaging concerning emergencies, and increasing Horry County EMD media presence as a trusted source on issues surrounding emergency preparedness, response and recovery.

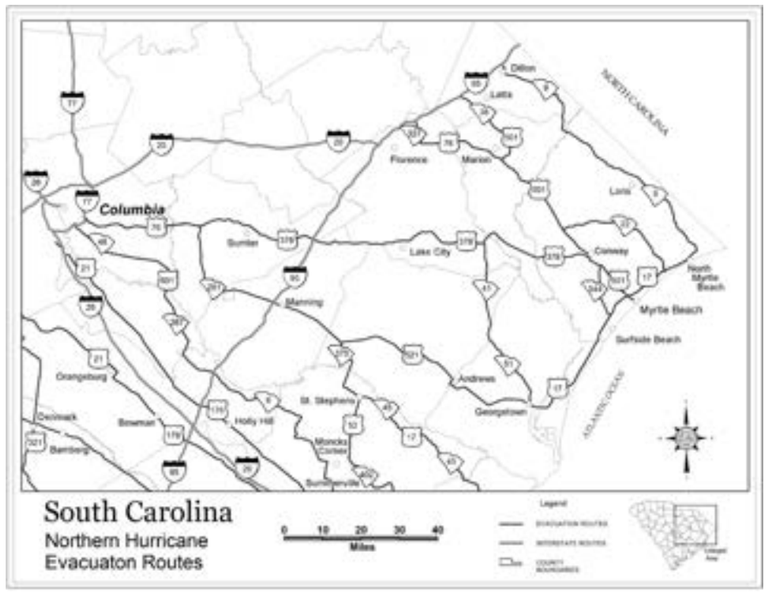
Hurricanes remain the most disastrous threats to Horry County's coastline. Flooding associated with hurricanes and other storm systems has caused the most damage in terms of life and property. Hurricane season begins in June and continues until October. The operating schedule during disaster events is as follows:

1. *OPCON 5: Normal day to day operations*
2. *OPCON 4: Storm poses possible threat: The possibility of an emergency or disaster situation that may require activation of the Emergency Operation Center (EOC).*
3. *OPCON 3: Storm poses significant threat: A disaster or emergency situation is likely. Most likely the Emergency*

Operation Center (EOC) has been or will be activated (either partially or fully based on the severity of the event).

4. *OPCON 2: Evacuation order imminent: A disaster or emergency situation is imminent or in effect.*
5. *OPCON 1: Evacuation order issued: A major disaster or emergency is in effect. This is the highest state of emergency situation and the Emergency Operations Center is fully activated. This also applies to post disaster operations.*

Blue hurricane evacuation signs are posted along roads to guide residents and visitors inland to safety in the event of an evacuation of the beachfront. Designated evacuation routes are shown in the following map and described following:



Source: SCDOT

North Myrtle Beach and Northward

Evacuees from Briarcliff Acres and northward will take SC 9 north to I-95 and beyond

Briarcliff Acres south to Myrtle Beach 10th Avenue North

Evacuees from Briarcliff Acres south to 10th Avenue North will take SC 22 (Conway Bypass) to US 501 to Marion. In Marion, they may then take US 76 to Florence to access I-95 southbound or they may stay on US 501 to SC 38 to access I-95 northbound.

Myrtle Beach, from 10th Avenue North south to the Myrtle Beach Airport

Evacuees from the Myrtle Beach area south of 10th Avenue North and north of the Myrtle Beach Airport will take US 501 to Conway. They may then take US 378 to Columbia or continue on US 501 to Marion. In Marion, they may then take US 76 to Florence to access I-95 southbound or they may stay on US 501 to SC 38 to access I-95 northbound.

Myrtle Beach Airport southward through Surfside Beach

Evacuees from the Myrtle Beach area from the Myrtle Beach Airport southward through Surfside Beach will take SC 544 to US 501 to Conway. They may then take US 378 to Columbia or continue on US 501 to Marion. In Marion, they may then take US 76 to Florence to access I-95 southbound or they may stay on US 501 to SC 38 to access I-95 northbound.

Garden City Beach south to Winyah Bay

Evacuees from Garden City Beach southward to Winyah Bay will take US 17 south through Georgetown. They will then take US 521 to SC 261 to US 378 to Columbia. Alternatively, they may take US 17 south to US 701 in Georgetown to SC 51 to US 378 at Kingsburg.

Recovery following disaster is based on short-term and long-term goals. Short-term recovery priorities include damage assessments, debris management, re-entry, human services, operation of government, utility restoration, establishment of temporary housing, early economic recovery and public information. Long-term recovery priorities include community redevelopment, economic restoration and implementation of plans such as the comprehensive plan and capital improvement plan.

Short-term recovery primarily seeks to restore the community to normal functioning safely, while long-term recovery is a community driven process that involves prevention of future disasters through community involvement.

4.2.4 Beachfront Development Regulations

Horry County regulations pertaining to beachfront development can be found in Chapter 18 and Appendix B of the Code of Ordinances. DHEC-OCRM requires additional permits and development requirements along the beachfront within jurisdictional boundaries. All oceanfront areas are subject to periodic inundation, which presents potential safety concerns. DHEC-OCRM may offer suggestions to minimize potential damage and improve public safety.

Zoning District Regulations

Horry County addresses development on oceanfront and second row parcels within the General Residential district (GR). GR was retired and replaced with the MRD zoning district. Currently, MRD does not include language on beach area development.

Non-Conforming Structures

When Horry County's Zoning Ordinance was adopted in the 1980's, this resulted in the creation of a larger number of legal non-conforming lots and structures. Notably, lots in the Garden City area are commonly smaller than allowed by the applied zoning and structures often encroach upon setbacks, including beachfront lines established by DHEC-OCRM.

Building on a legal non-conforming lot is the same process as building on a conforming lot. Proper permits must be obtained through DHEC-OCRM before the County will issue any approvals. Reconstruction of damaged property or any improvements made to non-conforming structures require the same permits. The County is not stricter than the existing State regulations.

As stated, any property located on the beachfront must obtain proper permitting from DHEC-OCRM and receive approval from the Horry County Floodplain Manager, before construction can begin.

Flood Plain Management

Currently, the Federal Emergency Management Agency (FEMA) considers the entire coastline of Horry County to be within the "VE" flood zone. This is the highest classification and most sensitive area prone to flooding. Generally, V flood zones include beachfront properties that would experience special hazards from increased wave velocities, hence the "V" classification. Flood zones labeled "A" are also high hazards because of proximity to rivers, lakes, estuaries, or other water bodies that may be subject to flooding. Proposed flood zone classification downgrades many of the beachfront properties to the "AE" flood zone, which is still subject to a 1% chance of annual inundation, but removes the velocity, or wave action, hazard. The downgrade of flood zones removes many structures from threat of velocity hazard, but leaves the beachfront and much of the dune systems at hazard from inundation.

While less than 1% of the County falls within the coastal high hazard area, these areas represent the majority of the County's land values and tax base. Development along these front row properties varies greatly in density and character depending on region. The most vulnerable region to shallow coastal flooding and storm surge inundation is Garden City. It's low-lying topography, lack of established dune system and the fact that it is most effected by tidal action on the beach front and marsh front makes it especially susceptible to flooding. The most vulnerable area of Garden City is the one mile stretch of Atlantic Avenue, which is prone to flooding during king tides and is often impacted from normal highs. Due to extreme susceptibility to flood damage and presence of critical habitat, FEMA limited the use of federal financial assistance programs and flood insurance policies in areas that are part of the Coastal Barrier Resource System (CBRS). While these areas are not barred from development, property owners bear the brunt of disaster-related repairs. Currently designated areas include Meher Spiritual Center, the maritime forest and beach front of Briarcliff Acres, the inlet at White Point Swash and, Waites Island.

High tide flooding (blue sky floods) is an increasingly common occurrence in Horry County. Sea level along Horry County's coast has risen approximately 1.29 feet in the last century. While this equates to roughly 4 mm/year, this number is expected to increase with further global change. The National Oceanic and Atmospheric Administration (NOAA) estimates that sea level will rise between 1 and 6 feet by 2100 at the Grand Strand. At the lower end of the model, a rise of 1 to 2 feet would have major impacts to coastal communities, especially those located near the marsh. Consistent record breaking flooding over the last 4 years illustrates the effects of climate change. The increase in flooding, erosion, and runoff are just a few challenges these communities will face with rise in sea level. Flood management policies should address these concerns and measures should be taken to reduce vulnerability to floods while supporting long-term recoveries. For example, the County should reevaluate the potential to mandate commercial activity within the flood zone to be elevated under the same regulations as homes. Flood resilience should be the new priority for development within flood prone areas.

Flood Damage Prevention

Horry County flood damage prevention and control regulations are found in Chapter 9 of the Code of Ordinances.

General standards are established as follows:

- New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
- Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces.
- New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- Electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
- On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- Any alteration, repair, reconstruction or improvements to a building which is in compliance with the provisions of this article, shall meet the requirements of "new construction" as contained in this chapter
- Any alteration, repair, reconstruction or improvements to a building which is not in compliance with the provisions of this article, shall be undertaken only if said nonconformity is not furthered, extended, or replaced.
- Specific standards are also required in regards to residential, nonresidential, elevated structures, manufactured homes, floodways, coastal high zones, and accessory structures.
- Prior to development practices, maintaining the natural erosion control structures, or dunes, along the beachfront is

the greatest defense against flooding. The County should be in the business of enforcing protections of dunes and preventing future developments from degrading these structures, as erosion of dune features will exasperate flooding.

Debris Removal

In the event of debris accumulation from storm events caused by high winds or tides, it is the responsibility of the property owner to remove debris. The private property owner must inform the public of the potential hazards from any debris. If the property owner does not remove the debris within a specified timeframe a fine will be assessed. In the event of a hurricane, the property owner must contact DHEC-ORCM to obtain the required permit and provide a copy of that permit to the Horry County Flood Plain Manager to repair or redevelop a structure that was damaged. Properties considered repetitive losses will be assessed and potentially removed in order to prevent future damages.

Height & Wind

Zoning Districts along the beachfront allow for structures of significant height, with many being well beyond a typical 35 foot home. As wind damage is more likely with increased building heights, precautions should be taken to minimize damages.

4.2.5 REGULATIONS ON BEACH AND SHORELINE PROTECTIONS

Horry County's Zoning Ordinance and Development Codes do not mandate beachfront protection or regulation beyond the DHEC-OCRM permit requirements.

Imagine 2040 seeks to apply additional shoreline protections by considering an evaluation of the existing zoning, land use and development regulations. Additional shoreline protections could restore dune systems and beachfront habitats along with sea turtle nesting protections and lighting regulations. Special considerations should be in place to relocate certain repetitively damaged structures located seaward of the DHEC-OCRM jurisdictional setbacks along with stipulations and fines for reconstructions and stormwater discharges from pools or commercial properties. Horry County does not currently regulate development for preservation of the beach

4.2.6 OTHER REGULATIONS ON BEACH MANAGEMENT

The Horry County Code of Ordinances indicates appropriate use of the beach and marine resources in Chapter 5 Beaches.

Public Safety

Horry County's Beach Regulations seeks to limit certain activities in order to maintain public safety. Examples of these regulations include:

- Restricted hours for dogs on the beach
- Prohibition of beach fires
- Restricted hours for sleeping on the beach
- Prohibiting glass bottles and alcohol consumption
- Prohibiting reckless or hazardous behaviors
- Restricting horses and vehicles to safety officers

Surfing Zones

Surfing Zones are established by government councils and are identified at the beachfront. Generally, surfing is permitted during peak tourist season (May 1-Labor Day) between the hours of 10 am and 5 pm. After Labor Day and until May 1 surfing is permitted from sunrise to sunset. All surfers are required to use a surfboard leash with a maximum length of 7 ft. Surfers may not create a safety hazard or nuisance to others in the ocean or beach. Soft-sided boogie boards and other small padded devices are not considered surfboards and therefore are not required to follow these time restrictions.

Piers

To protect the safety of visitors, no aquatic activities such as swimming or surfing is allowed within 75 yards of a pier. Jumping or diving from the pier is prohibited. Fishing is permitted, but baiting or attempting to catch a shark or any other marine animal that may endanger the public is not allowed and is also prohibited on the shores. If an animal is caught that may pose a threat to other visitors the animal must be released upon recognition.

Beach Maintenance and Conservation

In order to conserve and maintain the current beach conditions, removal of beach vegetation or dune stabilization device is prohibited. This regulation extends to any dune vegetation, public access, sand fencing, or structures occurring naturally or erected by government as part of beach renourishment or preservation.

Littering on the beach, in the dune systems, or in the water is also prohibited. However, littering commonly occurs within in the beachfront areas. In order to mitigate this pollution, the practice of beach raking is in place to remove trash and littered items.

The future land use plan of Imagine 2040 establishes specific criteria for conservation of natural resources and lands which includes sensitive habitats along the coastline of unincorporated Horry County. At this point in time there is not lighting specifications in the ordinance to protect sea turtle nesting sites. Regulation to prevent vehicle operations on the beach and in the dunes is in place within any public beach.

§5- EROSION CONTROL AND MANAGEMENT

5.1 SHORELINE CHANGE ANALYSIS

The Beachfront Management Act classifies shorelines as either inlet or standard zones. A standard erosion zone is a segment of shoreline that is not influenced by inlets or associated shoals. Inlet zones are characterized by non-parallel bathymetric contours and historic shorelines. Inlet zones are further classified as either stabilized or unstabilized, which is an erosion zone not stabilized by jetties, terminal groins, or other erosion control structures.

All beaches within unincorporated Horry County are considered standard zones except Waties Island. The southern end of Waties Island adjacent to Hog Inlet (south of OCRM monument 5905) is an unstabilized inlet zone. The northern end of the island adjacent to Little River Inlet (north of OCRM monument 5930) is a stabilized inlet zone. The middle part of the island (between OCRM monuments 5905 and 5930) is classified as a standard zone.

5.1.1 Beach Profiles

Thirty-seven permanent beach profile monuments are installed along Horry County's unincorporated beachfront. These sites have been routinely surveyed by DHEC-OCRM since 1987, providing a basis for monitoring short-term beach changes.

Beach profile monitoring sites are labeled as the following:

Garden City Beach Monuments:

4999, 5000, 5005, 5010, 5015, 5020, 5025, 5030, 5035

Surfside Beach to Myrtle Beach Monuments:

5200, 5210, 5220, 5230, 5240, 5250, 5260, 5270, 5280

Arcadian Shores Beach Monuments:

5510, 5513, 5515, 5518, 5520, 5530, 5535, 5540, 5550, 5560, 5570, 5580

Waties Island Beach Monuments:

5905, 5915, 5930, 5945, 5960, 5975, 5995

The following maps, tables, and charts were generated using data from the DHEC-OCRM Beach Erosion & Monitoring Profile Viewer – B.E.R.M. Explorer. The data covers years 2014 through 2021. For purposes of this plan, representative beach profiles from the following SCDHEC-OCRM Beach Zones from south to north are discussed:

1. Standard Zone 1a (Garden City): Monument 4999 E
2. Standard Zone 1b (Garden City): Monument 5035
3. Standard Zone 2a (Surfside Beach to Myrtle Beach): 5200 E
4. Standard Zone 2b (Surfside Beach to Myrtle Beach): 5280 E
5. Standard Zone 3a (Arcadian Shores): 5510 E
6. Standard Zone 3b (Arcadian Shores): 5580
7. Unstabilized Inlet Zone (Waites Island): 5905 B
8. Standard Zone 4 (Waites Island): 5930 B
9. Stabilized Inlet Zone (Waites Island): 5995 E

Data collection typically starts at or very near the beach front geodetic monuments. However, monuments are periodically replaced which can mean being relocated several feet or yards from the previous location. Due to monument replacement, as well as other factors, collection does not begin at the exact same location each year, there is sometimes a substantial landward or seaward difference in collection sets. Due to these potential year-to-year differences in starting points, volume calculations were based on the highest elevation point (landward) to the 3000 ft distance mark (seaward) along the perpetual easement line using the B.E.R.M. volume calculator tool. For Standard Zones 1, 2, and 3 listed above sand volume values were obtained for the southern and northernmost monuments in the unincorporated sections of Garden City, Surfside Beach to Myrtle Beach, and Arcadian Shores.

Sand volumes in the Standard Zones along the four stretches of unincorporated Horry County beach front have fluctuated relatively little over the last eight years. The volumes appear to gradually increase over time with the exception of monuments 5200 E, 5280 E, and 5995 E. Monument 5200 E peaked in 2019 at 818.15 yd^3 and then decreased in 2020 and 2021 to 763.55 yd^3. Monument 5280 E peaked in 2016 at 808.84 yd^3 and has since decreased to 789.67 yd^3 in 2021. Monument 5995 E peaked in 2015 at 657.40 yd^3 and has trended downward in the following years.

The volume of sand at the southernmost monument in Horry County (4999 E; Garden City) has averaged 582.45 yd^3 over the past eight years. This average gradually increases going northward along the coast with the highest average volume of 1,273.36 yd^3 at monument 5905 B of the Waites Island Unstabilized Inlet zone. The sand volume then drops off markedly at monuments 5930 B (910.59 yd^3) and 5995 E (581.21 yd^3) at the Waites Island Standard Zone and Stabilized Inlet Zone, respectively.

A pair of jetties flank Little River Inlet at the north end of Waites Island. The jetty on the southern side of the inlet forms the Stabilized Inlet Zone. The jetties create a barrier to sand deposition resulting in the lower sand volumes observed in the Waites Island Standard and Stabilized Inlet Zones. Conversely, where the southern jetty extends landward onto the beach, it prevents erosion. Here the dune is at its highest elevation along Horry County coastline measured at 23.84 ft in 2021 (monument 5995 E; distance 662.58 ft). This elevation jumped from 12.92 ft in 2015 to 24.05 ft in 2016 presumably due to hurricane Matthew which made landfall in the Carolinas in early fall of 2016 (see chart below).

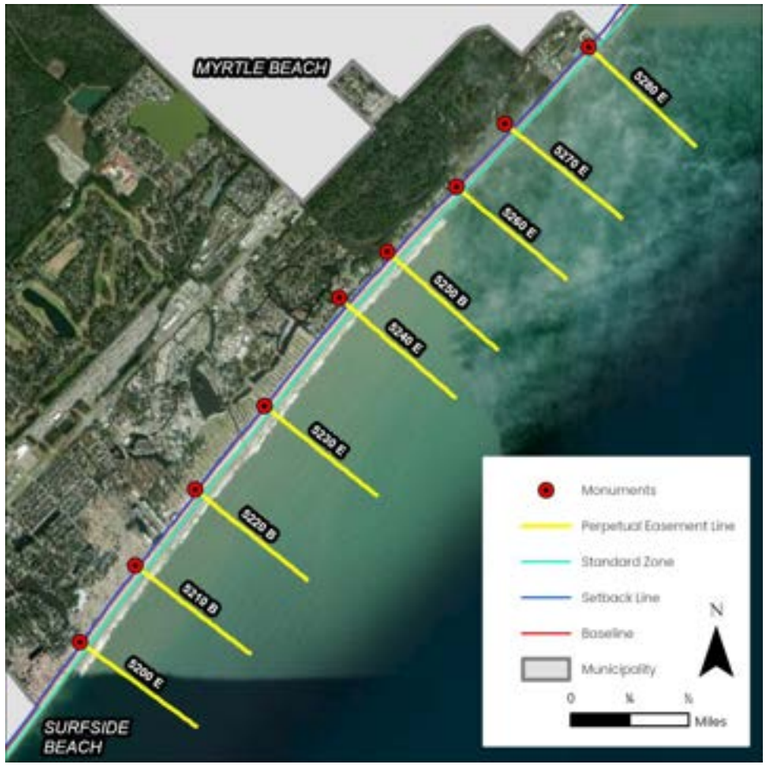
Garden City:

Garden City monument and transect locations

MONUMENT 4999 E	
YEAR	VOLUME (yd³)
2014	556.20
2015	557.36
2016	537.26
2017	589.93
2018	595.90
2019	591.19
2020	612.87
2021	620.45
AVERAGE	**582.45**

MONUMENT 5035	
YEAR	VOLUME yd³)
2014	670.18
2015	628.21
2016	627.13
2017	684.37
2018	665.61
2019	687.16
2020	688.19
2021	692.11
AVERAGE	**667.87**

Surfside Beach to Myrtle Beach:

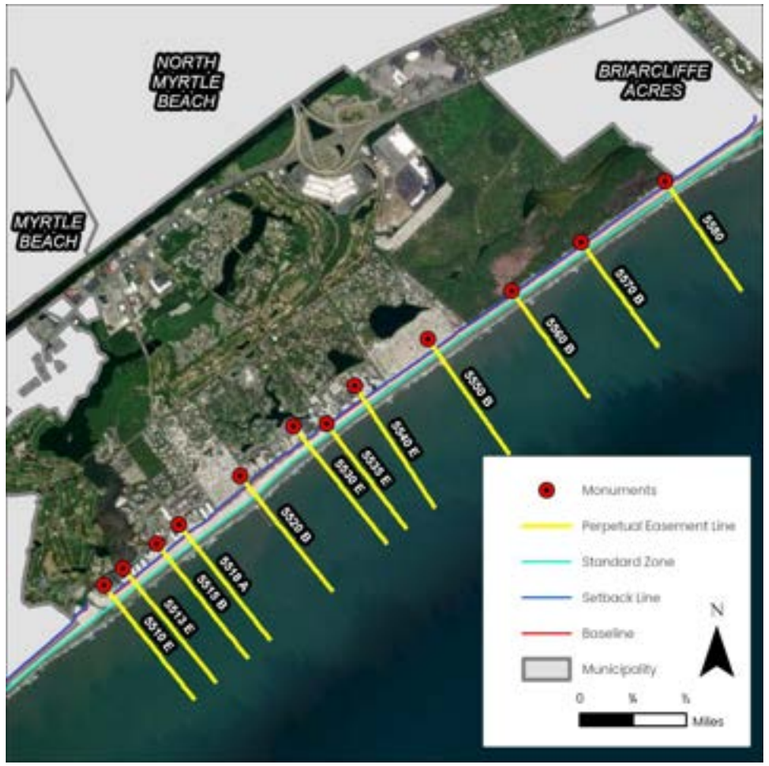


Surfside Beach to Myrtle Beach monument and transect locations

MONUMENT 5200 E	
YEAR	VOLUME (yd³)
2014	780.62
2015	771.91
2016	787.99
2017	810.38
2018	808.25
2019	818.15
2020	774.84
2021	763.55
AVERAGE	**789.46**

MONUMENT 5280 E	
YEAR	VOLUME (yd³)
2014	767.55
2015	773.31
2016	808.84
2017	791.02
2018	802.39
2019	793.79
2020	794.84
2021	789.67
AVERAGE	**790.18**

Arcadian Shores:

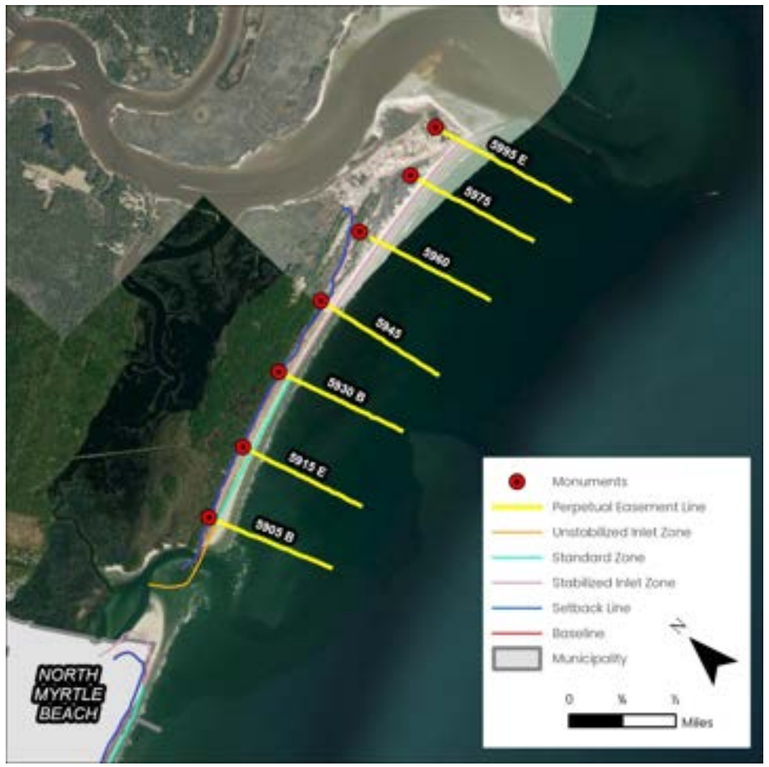


Arcadian Shores monument and transect locations

MONUMENT 5510 E	
YEAR	VOLUME (yd³)
2014	933.38
2015	932.99
2016	935.06
2017	949.11
2018	944.79
2019	1,012.05
2020	1,002.70
2021	1,009.65
AVERAGE	**964.97**

MONUMENT 5580	
YEAR	VOLUME (yd³)
2014	1,156.99
2015	1,144.97
2016	1,140.16
2017	1,159.81
2018	1,166.02
2019	1,173.55
2020	1,190.65
2021	1,162.26
AVERAGE	**1,161.80**

Waites Island:

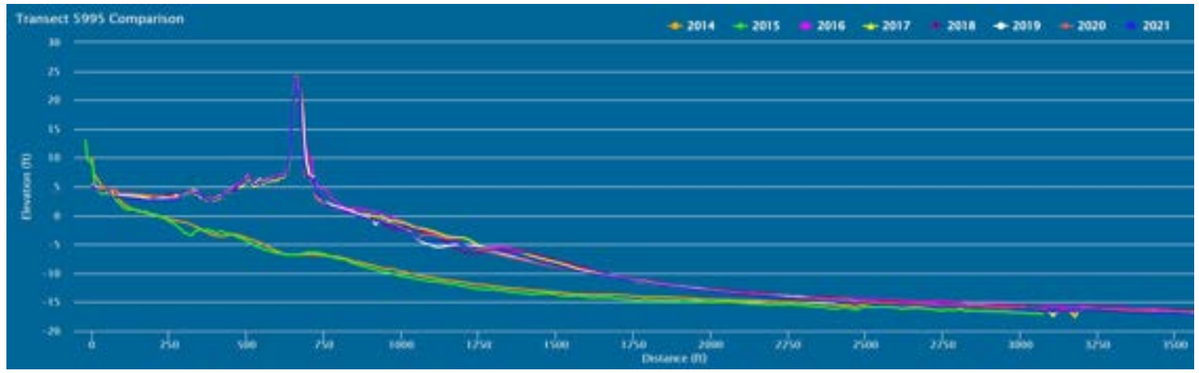


Waites Island monument and transect locations

MONUMENT 5905 B	
YEAR	**VOLUME (yd³)**
2014	916.73
2015	1,194.04
2016	1,235.93
2017	1,273.29
2018	1,298.48
2019	1,365.44
2020	1,388.02
2021	1,514.95
AVERAGE	**1,273.36**

MONUMENT 5930 B	
YEAR	**VOLUME (yd³)**
2014	892.50
2015	908.56
2016	914.88
2017	906.19
2018	900.15
2019	914.09
2020	920.28
2021	928.10
AVERAGE	**910.59**

MONUMENT 5995 E	
YEAR	**VOLUME (yd³)**
2014	612.87
2015	657.40
2016	571.44
2017	568.78
2018	570.44
2019	559.64
2020	550.89
2021	558.21
AVERAGE	**581.21**



Elevation values recorded for transect 5995 in the stabilized inlet zone of Waites Island. *Data Source: OCRM BERM Explorer*

5.1.2 Long-Term Erosion Rates And Shoreline Change

Erosion rates are updated and recalculated using the best available historical shoreline data. In most cases, the best available data included historical shoreline positions from as early as the 1850s. These older shoreline positions are used by the federal government to analyze shoreline change, and are considered to be accurate. The long-term erosion or accretion rate at each station was calculated by using a least-squares best fit regression through all data points. The resulting erosion rates are the official long-term rates used by DHEC-OCRM to update the beachfront setback line position. A variety of factors can cause short-term rates of change to be significantly different from the long-term erosion rates, but the setback line is based on a long-term trend.

The following maps show historic shorelines of the four stretches of beach under unincorporated Horry County jurisdiction. All data in the following maps and tables was determined using the USGS Coastal Change Hazards Portal. The historical shoreline dataset includes shorelines from 148 years ranging from 1852 to 2000. The data for the Horry County section spans from 1872 to 2000. Shorelines were compiled from topographic survey sheets, Coastal Engineering Research Center maps, and lidar.

Of particular note is the 1962 shoreline in Lake Wood Camping resort. Just north of Myrtle Beach resort, around 5th street, it appears there was once a swash that has since been cut off. Similarly, in Arcadian shores, the Singleton Swash appears to have been approximately 1,000 ft to the north of its current location in 1934.

The tables following each historic shoreline map are the long-term erosion rates for the corresponding stretch of beach. Values were taken from the erosion transect at each of the 37 monuments reviewed in the previous section. The long-term erosion dataset consists of long-term (~150 years) shoreline change rates for the South Carolina coastal region. Rate calculations were computed within a GIS using the Digital Shoreline Analysis System (DSAS) version 4.3, an ArcGIS extension developed by the U.S. Geological Survey. Long-term rates of shoreline change were calculated using a linear regression rate based on available shoreline data for a minimum 50-year period. A reference baseline was used as the originating point for the orthogonal transects cast by the DSAS software. The transects intersect each shoreline establishing measurement points, which are then used to calculate long-term rates.

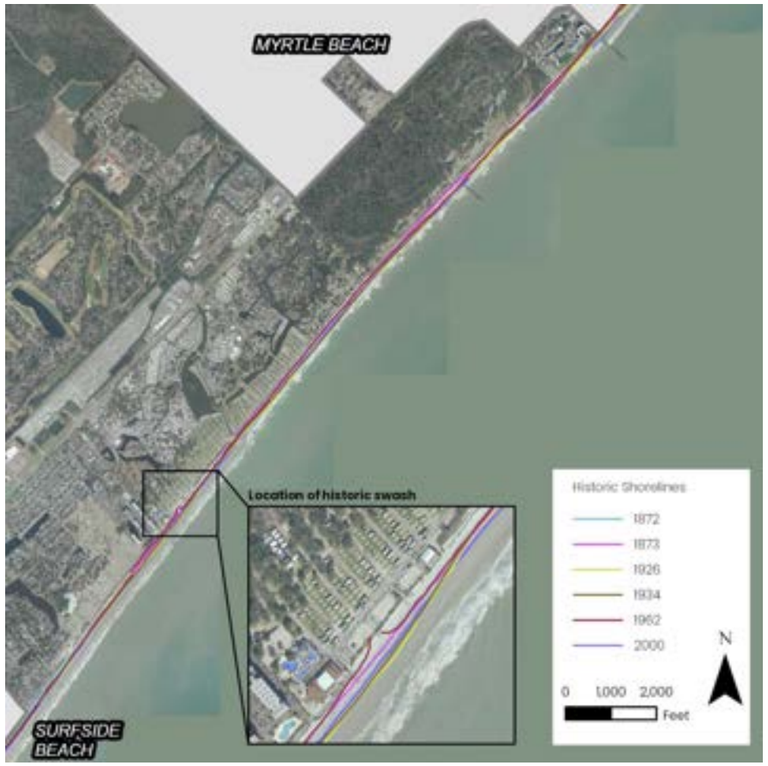
In Horry County, long-term erosion rates do not raise immediate concern. Garden City, the stretch from Surfside Beach to Myrtle Beach, and Arcadian Shores exhibit erosion rates of less than 1 foot per year. Waites Island, on the other hand has accretion rates

ranging from 0.26 at the southernmost monument to 2.37 ft/yr at the northernmost monument. Interestingly, despite the pattern of accretion on Waites Island, a stretch of approximately 1,400 ft (700 ft north and south of monument 5975) is eroding at an average rate of -2.52 ft/yr.

Garden City:

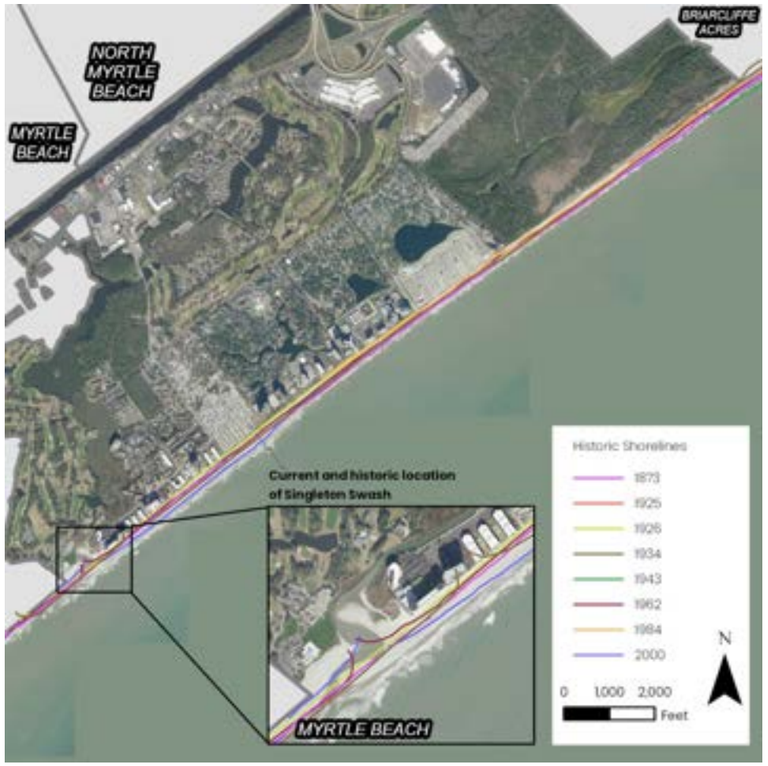
MONUMENT	BEACH ZONE	LONG TERM EROSION RATE (ft/yr)
4999 E	Standard	-0.18
5000 B	Standard	-0.08
5005 E	Standard	-0.12
5010 E	Standard	-0.07
5015 E	Standard	-0.11
5020 E	Standard	-0.13
5025 E	Standard	-0.08
5030	Standard	-0.11
5035	Standard	-0.08

Surfside Beach to Myrtle Beach Monuments:



MONUMENT	BEACH ZONE	LONG TERM EROSION RATE (ft/yr)
5200 E	Standard	-0.01
5210 B	Standard	-0.12
5220 B	Standard	-0.03
5230 E	Standard	0.07
5240 E	Standard	-0.01
5250 B	Standard	-0.03
5260 E	Standard	0.21
5270 E	Standard	-0.06
5280 E	Standard	0.03

Arcadian Shores:



MONUMENT	BEACH ZONE	LONG TERM EROSION RATE (ft/yr)
5510 E	Standard	0
5513 E	Standard	0.13
5515 B	Standard	0.23
5518 A	Standard	0.32
5520 B	Standard	0.17
5530 E	Standard	-0.31
5535 E	Standard	-0.32
5540 E	Standard	-0.24
5550 B	Standard	-0.18
5560 B	Standard	-0.22
5570 B	Standard	-0.22
5580	Standard	-0.15

Waites Island:

MONUMENT	BEACH ZONE	LONG TERM EROSION RATE (ft/yr)
5905 B	Unstabilized Inlet	0.26
5915 E	Standard	0.23
5930 B	Standard	0.53
5945	Standard	0.78
5960	Stabilized Inlet	1.54
5975	Stabilized Inlet	-2.94
5995 E	Stabilized Inlet	2.37

5.1.3 Climate Change and Sea Level Rise

The USGS has developed several methods that describe the vulnerability of coastal regions to sea-level rise. These include a vulnerability index and forecasts for shoreline change. The coastal vulnerability index (CVI) is based upon geomorphology, regional coastal slope, tide range, wave height, relative sea-level rise, and shoreline erosion and accretion rates. The CVI provides insight into the relative potential for Coastal change due to future sea-level rise. The CVI is expressed as four categories – low, moderate, high, and very high. The CVI for the Grand Strand ranges from **moderate** along Myrtle Beach to **high** in Garden City, Acadian Shores, and the northern half of Waites Island to **very high** in the southern section of Waites Island.

Shoreline change is presented as a Bayesian probability (%) of high shoreline retreat (>2 m/yr), medium shoreline retreat (1 to 2 m/yr), stable shoreline change (-1 to 1 m/yr), medium shoreline advance (1 to 2 m/yr), and high shoreline advance (>2 m/yr). Bayesian probably is an interpretation of probability, in which, instead of frequency or propensity of some phenomenon, probability is interpreted as a reasonable expectation. The following table presents the Bayesian probability (%) of the five scenarios described above.

BEACH	HIGH RETREAT	MEDIUM RETREAT	STABLE	MEDIUM ADVANCE	HIGH ADVANCE
Garden City	33 to 66	10 to 33	10 to 33	1 to 10	1 to 10
Surfside to MB	34 to 66	10 to 33	10 to 33	1 to 10	< 1
Arcadian Shores	66 to 90	< 1	1 to 10	10 to 33	< 1
Waites Island	10 to 33	1 to 10	10 to 33	1 to 10	33 to 66

5.2 BEACH ALTERATION INVENTORY

Natural processes such as wind, rain, and tides along with management of stormwater runoff, development and sea level rise all play a part in eroding beaches. In order to maintain an ideal beachfront condition, Horry County invests in beach renourishment and the installed shoreline control structures to include the following:

- Sea Walls (SW) – Stable structures construction of wood, concrete or rock that are used to break the effect of the ocean by diverting the water away from the site. Sea walls are no longer permitted on the Horry County coast as they have been found to exacerbate coastal erosion. However, some leftover structures are in place in Garden City and Arcadian Shores.
- Revetments (RR) – Similar to a sea wall, revetments are typically wooden slat frames that act to hold higher elevations of the beach and are then filled with rock. The purpose of the revetment is to dissipate energy of waves to stabilize high ground. Currently, rock revetments are installed in Garden City and Arcadian shores.

Type	Condition	Latitude	Longitude
RR	Fair	078° 59' 53.58901644" W	33° 34' 35.32664487" N
RR	Poor	078° 59' 52.99109833" W	33° 34' 35.92897614" N
SW	Good	078° 59' 52.59680291" W	33° 34' 36.49944370" N
SW	Good	078° 59' 41.11681989" W	33° 34' 49.86835020" N
SW	Fair	078° 59' 40.50915430" W	33° 34' 50.42419467" N
RR	Unknown	078° 59' 39.04587051" W	33° 34' 51.73551869" N
RR	Unknown	078° 59' 37.15672601" W	33° 34' 53.92243738" N
SW	Poor	078° 59' 35.29508478" W	33° 34' 55.78442797" N
SW	Fair	078° 59' 34.48038010" W	33° 34' 56.68950880" N
SW	Good	078° 59' 33.55464387" W	33° 34' 57.61722648" N
RR	Buried	078° 59' 32.63659308" W	33° 34' 58.62140464" N
RR	Good	078° 59' 31.89856356" W	33° 34' 59.48681203" N
SW	Good	078° 59' 30.88555956" W	33° 35' 00.33009834" N
SW	Good	078° 59' 28.90506924" W	33° 35' 02.53680424" N
RR	Unknown	078° 59' 27.36674883" W	33° 35' 04.37809850" N
SW	Unknown	078° 59' 26.13231428" W	33° 35' 05.36574084" N
SW	Good	078° 59' 24.41098806" W	33° 35' 07.14428856" N
SW	Fair	078° 59' 22.95797761" W	33° 35' 08.75385338" N
RR	Fair	078° 59' 22.06407207" W	33° 35' 09.85247288" N
SW	Buried	078° 59' 17.34620722" W	33° 35' 14.81651338" N
SW	Unknown	078° 59' 16.74183263" W	33° 35' 15.50427382" N
RR	Unknown	078° 59' 16.38189073" W	33° 35' 16.52430677" N
SW	Good	078° 59' 14.61055793" W	33° 35' 18.56223828" N
SW	Good	078° 59' 12.90330341" W	33° 35' 20.35661306" N
SW	Unknown	078° 59' 04.74455665" W	33° 35' 29.29708323" N
SW	Unknown	078° 59' 03.41207827" W	33° 35' 30.57748419" N
SW	Unknown	078° 47' 25.73420732" W	33° 45' 30.37354883" N
SW	Good	078° 47' 21.76704645" W	33° 45' 32.81553388" N
RR	Good	078° 47' 21.18072193" W	33° 45' 33.21495496" N
SW	Good	078° 47' 09.09429602" W	33° 45' 41.18953592" N
SW	Good	078° 46' 24.15868444" W	33° 46' 08.56774394" N

Erosion control structure locations in Garden City

Erosion control structure locations in Arcadian Shores

5.2.1 Beach Renourishment

Horry County heavily relies on beach nourishment to maintain a wide beach for tourists. Beach renourishment involves adding large volumes of sand from offshore deposits to the beach. The process involves identifying suitable sand in terms of grain and consistency and dredging the material from the ocean floor. Large vacuum-like devices pump the material onto the shoreline where heavy equipment grades and compacts the applied material. Horry County uses this method to stabilize beaches primarily because it expands the usable beach area with immediate results. Beach renourishment requires available offshore sand deposits which could prove expensive should resources become scarce and could potentially impact regional sediment transportation.

A major nourishment effort was undertaken during the mid-1980s covering an 8.6-mile stretch of beach. At the time, the project was the second largest nourishment ever performed in the U.S. using an inland source of sand. Over 853,000 cubic yards of sand were hauled 24 hours a day, seven days per week. It took 59,539 truckloads of sand and the cost totaled $4.7 million. In 1989, Hurricane Hugo severely damaged Horry County and resulted in an emergency renourishment project.

In 1996, a second major nourishment project for the North Myrtle Beach area began in September and was completed in the fall of 1998. Several offshore sandbars served as the sediment sources and sand was hydraulically pumped onshore where it was spread with bulldozers. Total project length was about 25 miles for a total coast of approximately $54 million.

In the late summer of 2008, the entire Horry County coastline from Garden City to Cherry Grove was part of a renourishment effort. The project lasted just over a year and resulted in more than 3 million cubic yards of sand being dredged from the ocean floor and

LOCATION	YEAR COMPLETED	PRIMARY FUNDING SOURCE	JUSTIFICATION	LENGTH (ft)	VOLUME (yd^3)	NOMINAL COST
Waites	1982	Federal	Navigation	6,500	513,000	$ 850,000.00
Arcadian Shores	1999	Local		4,780	446,000	$ 4,093,218.00
Arcadian Shores	2008	Local		6,400	331,574	$ 4,097,223.00
Garden City	2017	Federal	Emergency	11,088	857,633	$ 18,799,315.00
Garden City	2018	Federal	Emergency	21,120	400,000	$ 9,944,000.00
Arcadian Shores	2019	Local	Shore Protection	6,000	475,000	$ 8,940,000.00

Renourishment projects along unincorporated Horry County beach front. *Data Source: Western Carolina University Program for the Study of Developed Shorelines*

disbursed along the shore. This project was the largest in South Carolina and total cost exceeded $29 million.

Beach renourishment is usually required every seven to ten years. Updated beach renourishment was scheduled for the Garden City and Surfside Beach areas in 2017. However, Hurricane Irma halted the efforts halfway and led to emergency renourishment in 2018. Hurricane Florence then provided additional beach damages influencing a second renourishment later that same year. These projects were funded in part by the Army Corps of Engineers. Planned renourishment along Arcadian Shores occurred in late 2018 and finished in early 2019. This project was funded by Horry County and cost $8.94 million depositing 475,000 cubic yards of sand along the shore. Garden City/Surfside Beach received additional beach renourishment in summer 2019 costing $25 million.

Beach renourishment has greatly influenced the beaches of Horry County and the sandy coastline would be minimal without regular projects. Since the beaches provide a buffer between the ocean and inland development, an extended sandy beachfront is necessary to minimize flooding to beachfront property and structures. Future renourishment projects are planned and will continue to be planned in order to maintain the Grand Strand. Without this resource, the identity of the County is lost along with the major economic driver of the region -- beach tourism. Beach renourishment is Horry County's primary form of erosion control management and funds are set aside each year to for projects. However, due to the ever-increasing need for renurishment as a result of increasing and strengthening storms this practice should be considered a short-term solution that may become infeasible and cost prohibitive. In the future it may be necessary to invest in alternative techniques for beach stabilization due to rising costs of renourishment projects.

5.2.2 Emergency Orders and Sandbags

Emergency is defined by the SC Coastal Tidelands and Wetlands Act as "any unusual incident resulting from natural or unnatural causes which endanger the health, safety, or resources of the residents of the State, including damages or erosion to any beach or shore resulting from a hurricane, storm, or other such violent disturbance." DHEC-OCRM does not consider long-term, chronic erosion as an *emergency*. Emergency situations before or after a storm event often prompt local governments to issue Emergency Orders, which allow property owners to construct temporary barriers to protect private property through one or a combination of the following erosion mitigation techniques:

- Sandbagging;
- Sand scraping; or
- Minor renourishment.

Property owners being protected by sandbags are responsible for the maintenance of the bags to insure that they remain in place and in good repair, and they are also responsible for the complete removal of the bags.

Since the publication of the 2013 Horry County Beach Management Plan, there have been no County specific emergency orders; however, the state has issued blanket emergency orders following hurricane impacts in 2016, 2018, and 2022. The orders let local governments allow property owners along immediate beach front to conduct mitigation techniques as previously described.

Hurricane Matthew prompted four state issued emergency orders for coastal regions in October of 2016. The four emergency orders covered Sandbagging (16-EO-HM1), sandscraping (16-EO-HM2), minor renourishment (16-EO-HM3), debris removal (16-EO-HM 4), and returning sand to the beach (16-EO-HM5). The following mitigation techniques were implemented;

During hurricane Matthew the protective dune and berms of Garden City and Surfside Beach north to Midway Swash were erased. Under emergency orders 16-EO-HM2 and 16-EO-HM5, these dunes and berms were rebuilt to an elevation between 5' and 6' using sand 1) from the underlying intertidal beach and 2) that had washed into the streets during the hurricane. The latter was sifted/cleaned before returning the sand to the beach. Without the new emergency berm and temporary dunes, the properties along this reach would have been exposed to wave action and overwash from king tides (approx. 4.1' NAVD 88 + 1.0' tidal anomaly + wave action) or a relatively minor storm (5-year FEMA Stillwater elevation approx.: 5' NAVD 88 + wave action) until the next renourishment project is completed.

Sand deposits on the roadways used to rebuild the dunes after hurricane Matthew

Most recently, Hurricane Ian made landfall in South Carolina as a category 1 on September 30, 2023. Although the eye of the storm made landfall near Georgetown, impacts were felt across the

Grand Strand. Maximum sustained winds as high as 85 mph pushed in a storm surge that exceeded 10 feet leading to coastal flooding. Once again, the dunes of Garden City were erased. Sand scraping was completed in Garden City within days of landfall. Six county managed beach access walkovers required complete replacement. Five accesses in Garden city sustained moderate to significant asphalt damage. Numerous signs were missing or destroyed and had to be replaced.

Hurricane Ian prompted the issuance of five emergency orders for Georgetown and Horry County on October 1, 2022. Three emergency orders were limited to only those habitable structures and critical infrastructure that was deemed in imminent danger from erosion; sandbags (22-EO-HI1), sand scraping (22-EO-HI2), and minor renourishment (22-EO-HI3). Emergency order 22-EO-HI4, returning sand to the beach was issues specifically to Georgetown and Horry Counties. Lastly, an emergency order for marine debris removal from critical areas (22-EO-HI5) was issued for all coastal counties.

Pre-storm dunes to protect the beach and block public access for Hurricane Ian. Photo: Jenna Herazo

EMERGENCY ORDERS

DATE	TYPE	LOCATION
11/2016	Sand scraping	Garden City
11/2016	Sand scraping	Surfside Beach to Myrtle Beach
11/2016	Returning sand to the beach	Reach 3*
10/2022	Sand scraping	Garden City
2023	Minor renourishment	Reach 3

*Reach 3 refers to the Horry County portion of Garden City and unincorporated Surfside Beach to Midway Swash

5.2.3 Previous Hurricanes or Storm Events

The first known records of hurricanes and other major storm events along the coastline of Horry County date back to 1852. Thankfully, over the last 200 years, only a few hurricanes have made landfall within Horry County. However, the County has commonly experienced indirect impacts from heavy rains and flooding from nearby storms. In the recent decade Horry County is experiencing an increase in severity of storm events, which is predicted to continue in the future due to global climate change and sea-level rise.

YEAR	STORM NAME	MAX WIND	MIN PRESSURE	SC CATEGORY
1954	HAZEL	132	938	H4
1960	BRENDA	69	976	TS
1964	DORA	132	942	TS
1981	DENNIS	81	995	TD
1985	KATE	121	954	TS
1998	BONNIE	115	954	TS
1998	EARL	98	964	EX
1999	DENNIS	104	962	TS
1999	FLOYD	155	921	TS
2002	KYLE	35	1011	TS
2004	CHARLIE	65	988	H1
2005	OPHELIA	86	976	TD
2006	ERNESTO	75	985	TS
2008	HANNA	86	977	TS
2015	JOAQUIN	155	931	TS
2016	MATTHEW	167	934	H1
2016	BONNIE	46	1006	TD
2017	IRMA	178	914	LO
2018	FLORENCE	159	941	TS
2020	ISAIAS	72	986	H1
2022	IAN	85	980	H1

5.3 DISCUSSION OF EROSION CONTROL ALTERNATIVES

Sea walls, revetments, and groins have rarely been implemented along Horry County's coastline as beach renourishment has remained the most popular beach erosion management device since the 1980's.

Little River Inlet was stabilized with jetties between 1981 and 1983. Hog Inlet, between Waties Island and Cherry Grove, is not stabilized although the construction of rock revetments along the Cherry Grove side limits the ability of the inlet to migrate farther west.

Prior erosion control efforts along the Horry County coastline include: bulkheads, seawalls, and revetments; rip-rap structures along the banks of swashes to control the point of discharge; and, post-storm dune and beach restoration. Many erosion control structures were destroyed during hurricanes or other storm events and have not been replaced due to restrictions imposed by the Beachfront Management Act.

Recognized erosion control alternatives are commonly categorized as hard or soft infrastructures. Seawalls, bulkheads, revetments, groins, and breakwaters are considered hard, while vegetation, sills, edging, and sand replenishment are as soft or green options. Currently, only seawalls, bulkheads, revetments, vegetation and

sand replenishment are solutions utilized in Horry County. A description of the erosion control alternatives is provided below.

Seawalls:

Image: Seawall

Placed parallel and can be vertical or sloped to the shoreline. Sand is stabilized landward of the wall and is at the same elevation as the water seaward of the wall. Under ideal conditions, a seawall will absorb and limit impacts of larger waves and direct flow away from land, minimizing the erosional impacts. These structures are most suitable for areas highly vulnerable to storm surges and wave damage. Benefits can be prevention of storm surge flooding, resisting strong waves, shoreline stabilization, low maintenance costs, and less space intensive than other techniques. However, disadvantages include erosion seaward of the wall, disruption of sediment transport, higher upfront costs, visual obstruction, loss of intertidal zone, cuts off upland from the seaward zone, and it can be damaged from overtopping waves.

Bulkheads:

Image: Bulkhead

Placed parallel and vertical to the shoreline. Bulkheads are essentially retaining walls that stabilize the shoreline. Best used in high energy settings and within sites with existing hard infrastructure such as working water fronts. Benefits can include moderation of wave action, management of tidal fluctuations, long lifespans, and ease of repairs. However, in addition to the disadvantages of seawalls, bulkheads provide no flood protection, erode seaward seabeds and adjacent unreinforced sites.

Revetments:

Image: Revetment

Often in the form of rip-rap, revetments lay over the slope of the shoreline to protect it from waves and erosion. Revetments are best used with existing hard infrastructure as additional stabilization. Benefits can be mitigating wave action, little maintenance, indefinite lifespan, and little adjacent site impacts. Disadvantages of revetments include no flood protections, more land area required for installation, loss of habitat, erosion of adjacent unreinforced sites, no high water protections, and prevention of upland sediment transportation.

Groins:

Image: Groin *Source: WMBF News*

Perpendicular projections of rock, concrete, timber, or metal sheet piles, groins intercept water flow and sand movement parallel to the shoreline to prevent beach erosion and break wave energy while retaining sand placed on the beach. Groins are best used in addition to beach nourishment efforts. Disadvantages of groins include increase erosion of adjacent sites, negative effects on shoreline ecosystems, and no high water protections.

Breakwaters:

Image: breakwater *Source: the U.S. Army*

Located offshore and are intended to break waves reducing the force of wave energy while encouraging sediment accretion. Breakwaters can be floating or attached to the ocean floor. Breakwaters can be used as a hybrid of green and gray infrastructure by using "living" approaches such as oyster or mussel reefs. Additionally, gapped approaches can allow for habitat connectivity, more tidal exchange and better waterfront access. This approach can be used in any low wave energy environments and is often seen in conjunction with marinas. Benefits can include stabilization of wetlands, reef functionality, economical in shallow areas, storm surge reduction depending on material usage, and reduction of wave force and height. Disadvantages include expense in deeper waters, reduction of water circulation, navigational hazards, and the uncertainty of success of the establishment of vegetation for hybrid methods.

Beach Nourishment with Dune Vegetation:

Image: Beach renurishment at Ocean Lakes Family Campground

Commitment to the reestablishment of dune vegetation will help anchor sand and provide a buffer to protect inland areas from wave, flooding and erosion. Recreating proper dune systems can encourage the reestablishment of sensitive ecological habitats along with natural erosion control measures.

Sills:

Image: oyster reef sill *Source: NC Coastal Federation*

Running parallel to existing or vegetated shorelines, sills reduce wave energy and prevent erosion. Gapped approaches can provide better habitat connectivity, tidal exchange and waterfront access. The best sills for habitat construction are made of oyster or mussel reefs or sand. In addition, sills provide toe protection and prevent wetland edge loss and increase natural stormwater infiltration. Disadvantages can include uncertainty of success of vegetation, land area requirements and lack of high water protections

Edging:

Image: coir fiber edging logs *Source: JBC Naturals*

Similar to sills, edging involves using temporary organic structure to reinforce shoreline vegetation. Benefits include dissipation of wave energy, stormwater infiltration and toe protection to help prevent wetland edge loss. Disadvantages are the same as sills.

Vegetation:

Image: vegetation at Waties Island

Roots hold soil in place to reduce erosion along the shoreline. Vegetated buffers provide protection to upland areas and break small waves. Vegetation slows inland water transfer and provides natural stormwater infiltration along with floodwater storage. Additionally, vegetation is aesthetically pleasing and mixed with reestablishment of natural beach ecosystems can provide a connection between aquatic and terrestrial habitats. Vegetation however does not provide any storm surge protection nor high water protection and of course there is always the threat of invasive plant species.

5.3.1 Beach Renourishment

The physical acts of erosion and accretion along shorelines causes a cyclical process that presents a fundamental challenge in predicting beach behavior. Since beach stabilization is the primary goal under the Beach Management Act, being able to predict and control these processes is ideal. An understanding of the sediment budget of the Grand Strand is an essential and valuable approach to coastal management. A sediment budget is the amount of sediment that is deposited and removed from the beach system. When in surplus, the beach moves seaward, when in deficit, the beach retreats landward. Coastal erosion occurs when sediment is removed faster than can be replaced.

A sediment source provides new sediment while a sediment sink is where sediment is lost. Murrells Inlet, Hogs Inlet, Little River Inlet and offshore areas are sediment sinks. Murrells Inlet and Hogs Inlet lose sediment from every direction due to currents, waves and erosion, while Little River Inlet loses sediment from a whipping direction back to shore. Sediment is lost in general from shore to offshore, which is why renourishment is required to maintain beaches.

In general, the Grand Strand is a sediment limited system relatively free of complications from inlets and estuaries. Long-term, the Grand Strand coastline will likely maintain its shape with only slight variations in the short-term. In total, the Grand Strand releases an average of 104,000 cubic meters of sediment a year with an estimated accumulation offshore of 391,000 cubic meters of sediment a year. Geologic mapping has shown that the deficit in the sediment budget is most likely in response to a reservoir of sediment on the inner-shelf. This reservoir likely has over 353 million cubic yards of sediment, providing the County with a massive source of sediment for renourishments (USGS).

From a ten year perspective, it is unlikely that the reservoirs of sediment in the inner-shelf will be depleted as individual renourishment projects deposit between half a million and a million cubic yards of sediment. However, it should be noted that the process is very expensive and must occur in maintenance every seven to ten years, but may occur as often as every two years, and as emergency management following hurricanes or extreme storm events. Following recent storm events, the Garden City/Surfside Beach area was renourished every year since 2017. The frequency of extreme storm events and hurricane intensity is only projected to increase with climate change and sea level rise.

Horry County plans to continue a program of renourishment projects to maintain the beachfront and will develop a plan of action and an implementation schedule in accordance with the DHEC-OCRM Guidelines for Beach Nourishment.

5.3.2 Other Measures

In the future, a combination of green infrastructure may be used to stabilize the beachfront while allowing for the removal of existing hard infrastructures. The best methods for beach stabilization involve working with the natural processes to prevent erosion rather than reacting after erosion occurs. Prevention may include regulation of beachfront development to minimize impacts to existing dunes and the restoration of lost dunes and habitat along the coast.

Since beach renourishment is the primary means of beach stabilization, improved techniques are necessary. For example, beach renourishments during turtle nesting season can greatly impact sea turtle populations. Except during extreme emergencies, nourishments should be limited to winter months to prevent take. Additionally, dune reestablishment and revegetation could occur in areas where the dunes are heavily eroded. Dune design guidelines could be established to ensure the establishment of resilient dunes that function as flood and erosion control protections. Additional taxes or beachfront development fees could be collected to better manage these resources and pay for more resilient beach renourishment projects.

§6- NEEDS, GOALS AND IMPLEMENTATION STRATEGIES

6.1 PRESERVATION STRATEGY

The Beachfront Management Act states very clearly that the policy of South Carolina is to protect, preserve, restore and enhance the beach/dune system. This act also calls for promoting wise use and development of the state's beachfront by implementing regulatory standards on the ocean side of the DHEC-OCRM setback line. Management strategies within this area include:

(1) Limiting the size of habitable structures;
(2) Requiring oceanfront habitable structures and pools to be located as far landward on a lot as possible;
(3) Prohibiting new shore-parallel erosion control structures; and
(4) Promoting beach and dune restoration projects.

In order to ensure the preservation of Horry County beaches, a dry sand beach must be present at all stages of tide that is capable of providing recreation to visitors and residents, protects the upland from storm surge and high tide flooding, and sustains natural resources. The Preservation Strategy for unincorporated Horry County beaches will be persued through the following strategies:

Beach Preservation

- Preserve and reestablish dunes through all beach renourishment projects.
- Ensure that local beach renourishment funds increase over time to account for inflation, limited off-shore sand resources, and the anticipated increase in renourishment frequency due to increased storms and sea level rise.
- As climate change continues to affect our area, research additional beach preservation measures in anticipation of renourishment projects becoming too infeasible and/or cost prohibitive due to more frequent and stronger storms.
- Avoidance of any new, permanent structural shoreline stabilization measures.
- Establish local policies to limit the length of time for the use of any temporary shoreline stabilization measures for individual properties or in the case of a declared disaster.
- Wherever reasonably possible, install elevated dune walkovers to allow for dunes to reestablish and minimize wave run-up at public beach access sites.
- Coordinate with private beachfront property owners to encourage them to install elevated dune walkovers.
- Coordinate with conservation organizations, land trusts, and property owners to preserve the few remaining undeveloped natural areas along the Grand Strand.
- Continue to train all Code Enforcement staff that new buildings or expansion of existing buildings cannot encroach into the OCRM setback lines.

Post-Disaster Recovery

- Ensure that Code Enforcement staff are adequately trained to conduct post-disaster damage assessments for beachfront areas and that information is coordinated and corroborated with OCRM post-disaster.
- Prepare standard storm and erosion-related disaster declaration language that will allow for measures to protect and restore the beach.
- Ensure that County Public Works staff are trained on pre- and post-disaster recovery processes so they quickly remove debris and restore adequate, safe access to the beach.
- Formalize a local policy on how to address the removal of privately-owned structures on active, public beachfront.

Land Use and Zoning

- Evaluate Zoning along the beachfront to ensure that properties with structures in the baseline and setback are not zoned to allow for redevelopment that exceeds the existing square footage than allowed by the State.
- Clarify general Countywide Zoning legal, non-conformity language and exemptions that allow for the use and building square footage to be replaced within a year if damaged in a disaster or willfully removed, as this could allow for redevelopment that is inconsistent with the underlying zoning and the intent of the Beach Management Act.

Stormwater

- Coordinate with property owners and SCDHEC to remove and/or relocate any remaining public and private stormwater discharges onto beachfront.
- Educate property owners to not drain pools onto the beachfront.
- Consider the creation of impervious cover limits for beachfront properties in an effort to limit development within the baseline and setback and to protect beachfront water quality.

Habitat Restoration

- Work with property owners and other governmental agencies to protect, enhance and restore the dune system.
- Coordinate with property owners, volunteers, and state agencies to identify and eradicate non-native and invasive plant species within the dune system.
- Coordinate with Santee Cooper to incentivize the replacement, redirecting, or removal of private lighting causing light pollution on the beachfront.

6.2 STRATEGY FOR PRESERVING AND ENHANCING PUBLIC BEACH ACCESS

Horry County formally maintains 22 public beach access sites within the unincorporated area of the Grand Strand. Each of these access sites have been improved significantly over the last decade. Such improvements have included the addition of golf cart parking, better delineation of public parking, addition of shower towers, availability and maintenance of portable restrooms, improved access branding and signage, and installation of bike racks and pervious pavers at a number of locations. The demand for additional beach accesses and public parking continues to increase with the increase in permanent and seasonal population in the Grand Strand. The demand from neighboring counties and inland communities is also driving an increase in demand for access to the beach.

During the public input process for the development of this plan, beachgoers indicated the desire for increased availability of public parking, affordable parking, and address garbage, animal waste, and water quality issues. For a full summary of the survey results see Appendix 7.6.

Over the course of the next decade, Horry County will strive to improve public access through some of the following mechanisms:

ADA Accessibility

- Increase the visibility and availability of handicapped parking.
- Continue to maintain a free, beach wheelchair program.
- Install more beach access mats from parking areas to the hard, stable beach surface to improve the accessibility for those with limited mobility.

Public Parking

- Formalize more beach access locations and public parking availability in Arcadian Shores to ensure the County can adequately provide full and complete access in this area.
- Add additional parking through improvements in the public right of way and through acquisition of public property in close proximity to existing access locations.
- Consider purchasing underutilized properties or repetitive flood loss properties to provide public beach parking.
- Clearly mark and maintain the lines for public parking spots both within beach accesses and within the public right-of-way.
- Revisit existing and establish new public parking agreements with additional campgrounds and resorts along the immediate beachfront.
- Ensure the public is aware of daily rate parking availability at private campgrounds. Such information could be provided through signage and information on their websites.
- Increase the availability of bike racks at existing beach accesses.
- Increase the availability of golf cart parking availability at and near existing beach accesses.
- Explore public-private partnerships to increase availability of shared parking areas.
- Evaluate Zoning near the near the beachfront to allow for the free-market to meet beach parking demands.
- Coordinate with CoastRTA to determine the feasibility of regular bus routing to Arcadian Shores and Garden City.
- Evaluate and consider the establishment of consistent parking fees and designated times throughout unincorporated Horry County.

Amenities

- Continue to maintain trash and recycling receptacles and beach raking of trash and debris.
- Continue to maintain and replace shower towers at all locations.
- Add more permanent beach restrooms in high traffic areas along the shore.
- Establish seating areas overlooking the beachfront where suitable.
- Maintain and modify the existing public beach access branding and signage as needed.
- Install pervious paving surfaces at public beach accesses.

Public Health

- Increase availability of receptacles for litter and pet waste
- Implement ban on single-use plastics and promote stronger enforcement of pet waste policies.

§7- APPENDICES

7.1 BEACH MANAGEMENT OVERLAYS

Horry County currently does not have overlays specific to beach front management. Unincorporated Horry County beach front is regulated through state law, local ordinance (see Appendix 7.5), the Imagine 2040 Future Land Use Map, and zoning.

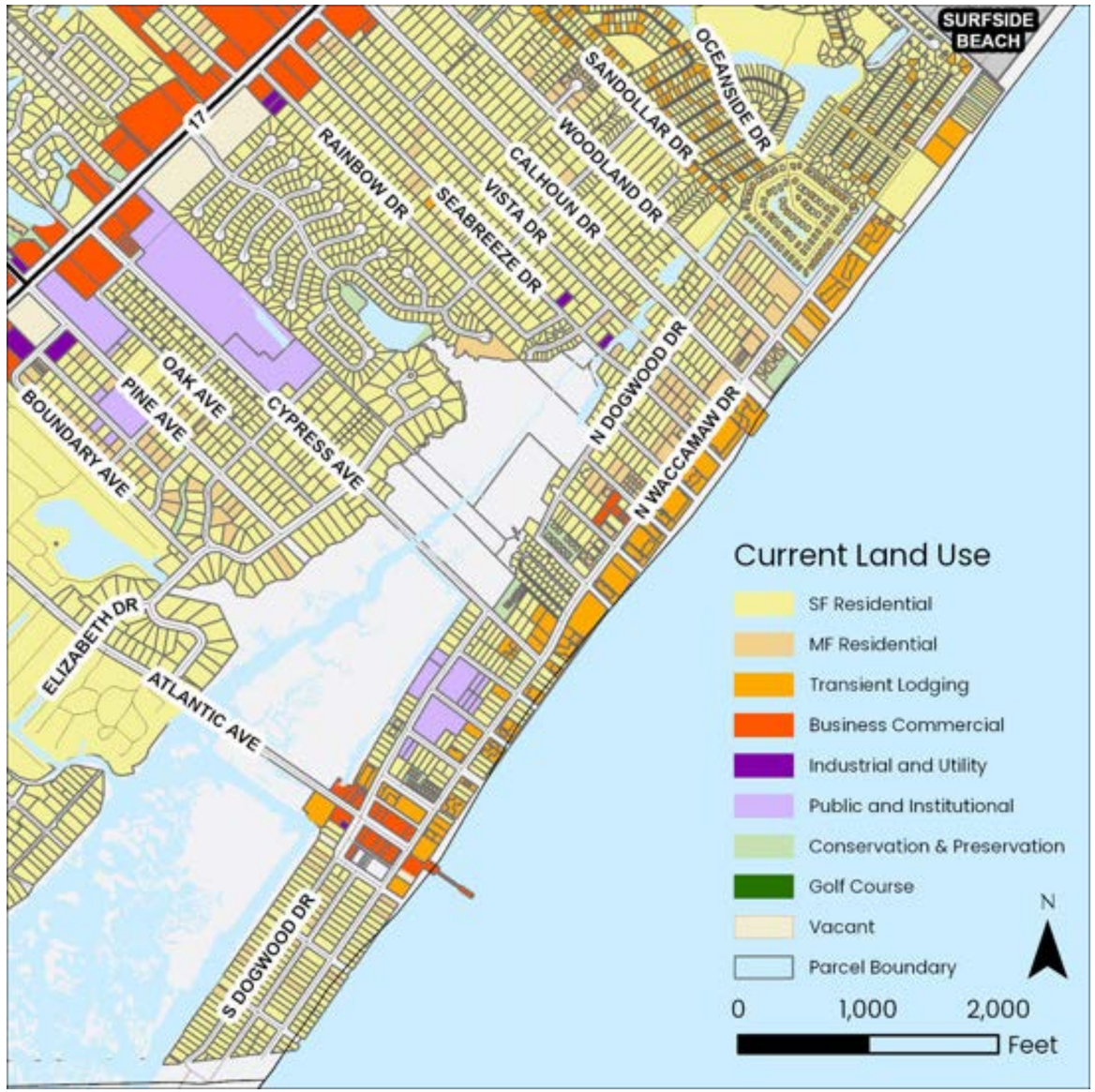
7.1.1 CURRENT LAND USE

Understanding current land uses can inform future development trends and zoning compatibility. The following land use inventory I the result of an analysis of zoning, tax assessor use codes, and verification through aerial imagery. The analysis was conducted as part of the development of the most recent Horry County comprehensive plan, Imagine 2040, which was adopted by Horry County Council on December 19, 2019.

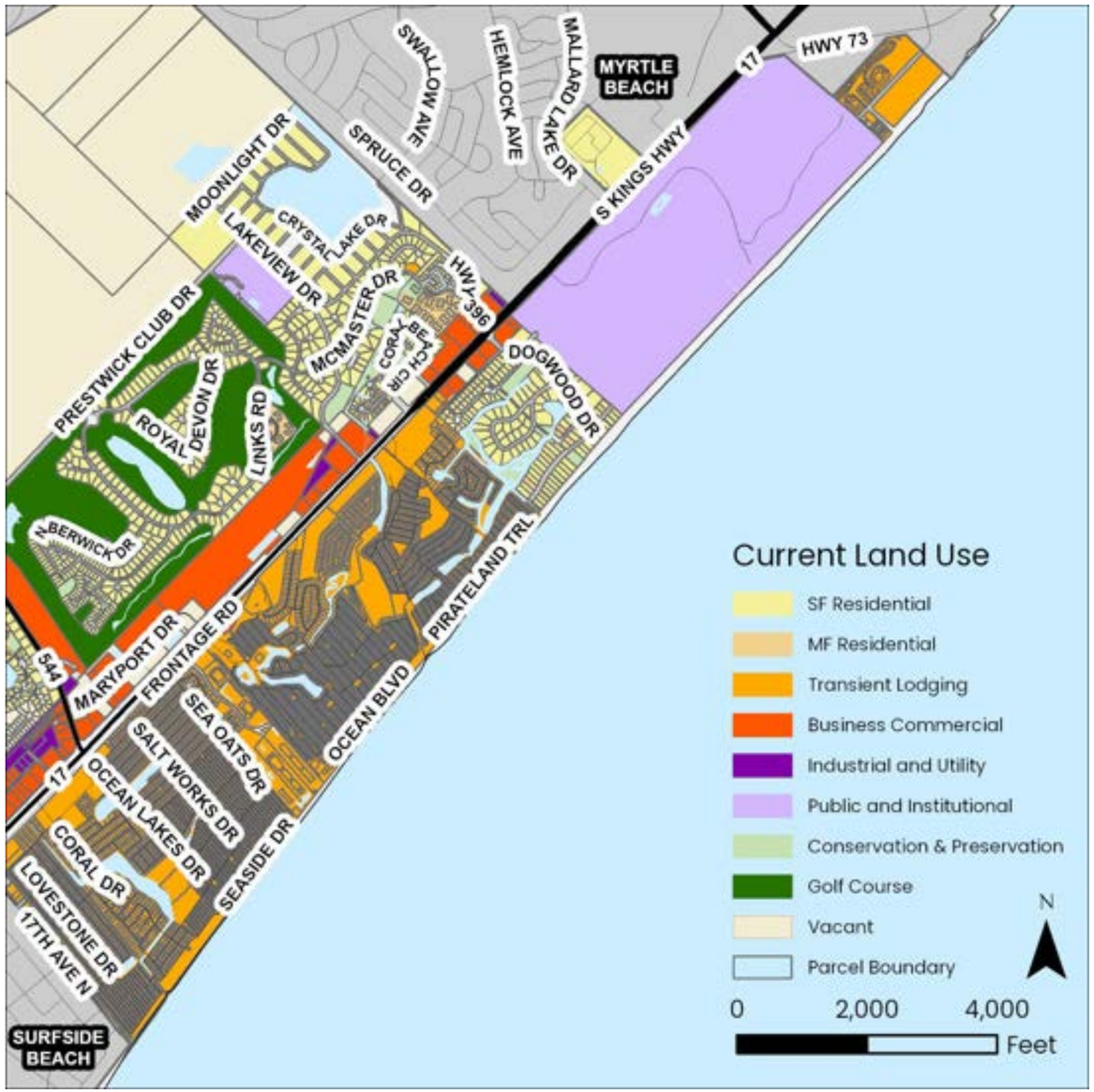
Ten predefined land use classifications were created to broadly define the broad spectrum of the natural and built environment of Horry County. Of these ten land use classifications, seven can be found along the unincorporated beach front areas:

1. **Single-Family Residential:** Land used for residential structures with a single dwelling unit that is not attached to any other dwelling unit.
2. **Multi-Family Residential:** Land are used for the residential structures which contain tow or more attached dwelling units.
3. **Transient Lodging:** Land area used for commercial buildings(s) with guestrooms for sleeping. Rooms are occupied by transients renting on a daily basis and usually staying less than seven days.
4. **Business/Commercial:** Land area used to conduct businesses, administrative, trade, and professional activities or services. Uses include establishments for retail sale of goods and services, restaurants, and entertainment facilities.
5. **Public or Institutional:** Land are used primarily for private, public, quasi-public, eleemosynary, philanthropic, or other activity undertaken for providing for the social, cultural, educational, health, or physical betterment of the community.
6. **Conservation and Preservation:** Land area that is permanently protected areas of natural and manmade landscapes. Ownership is typically in the form of a governmental entity or non-profit organization.
7. **Vacant Land:** Land area not developed for a specific use or assigned a land use classification.

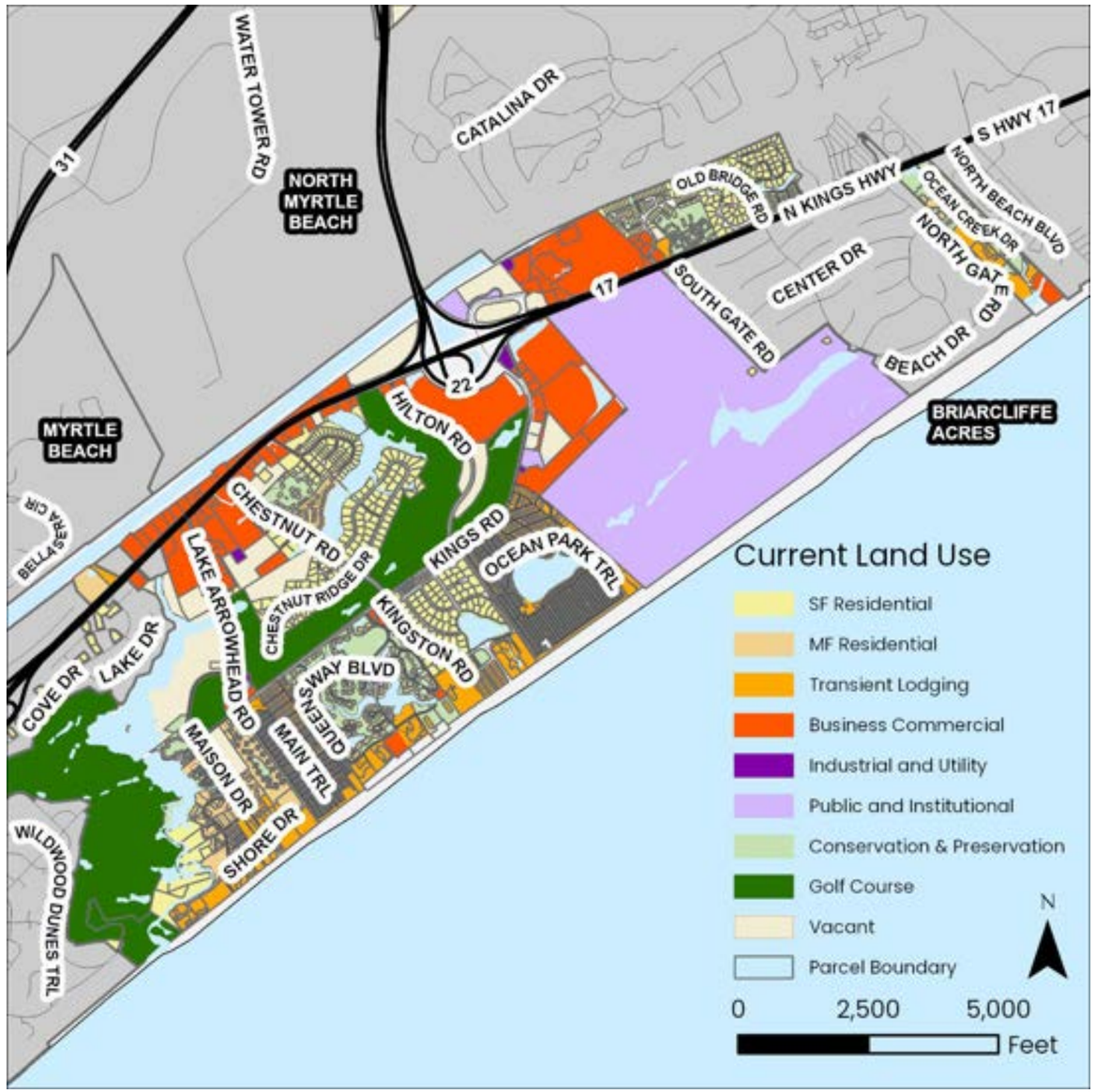
Garden City:



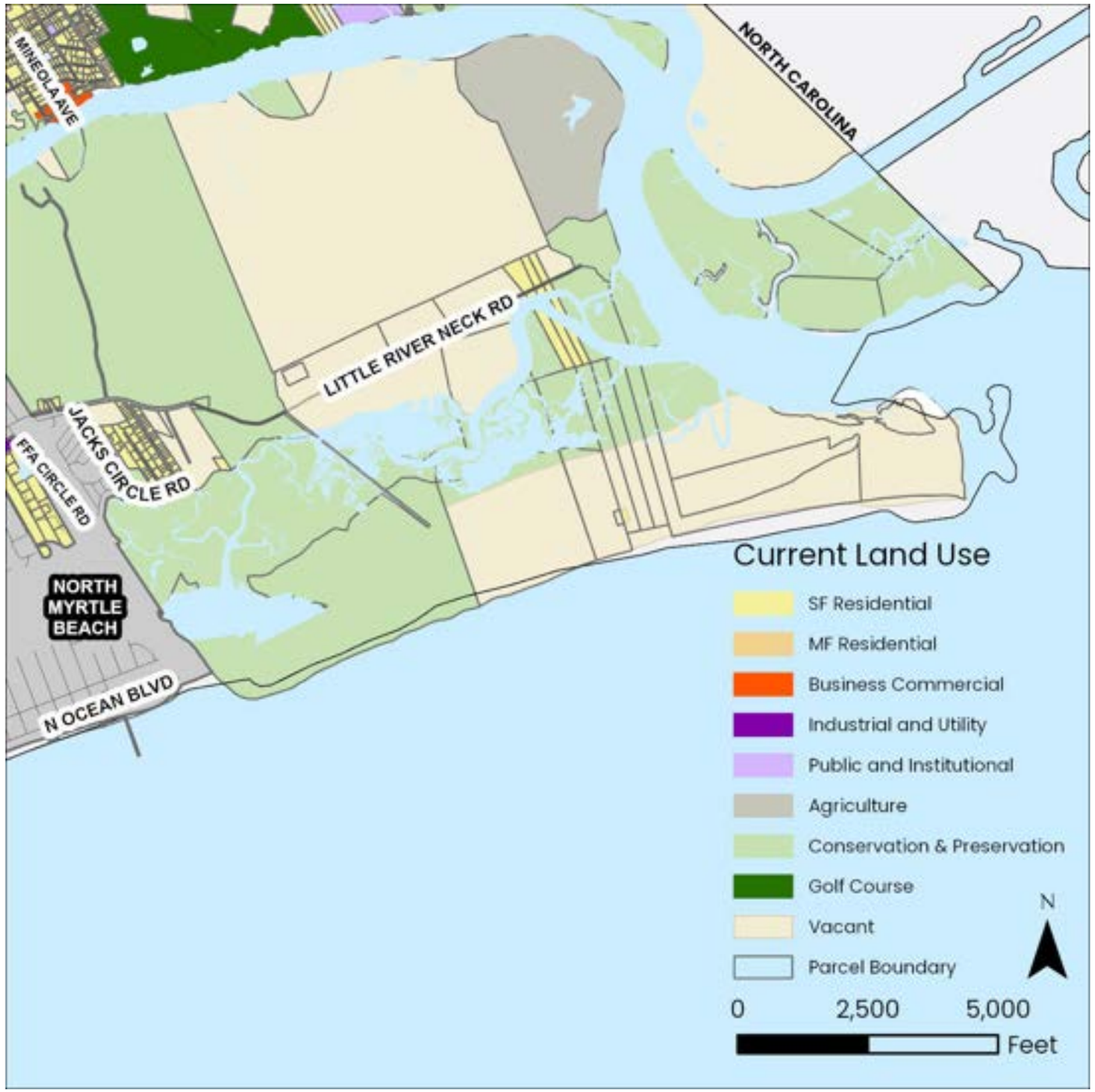
Surfside Beach to Myrtle Beach:



Arcadian Shores:



Waites Island:



7.1.2 FUTURE LAND USE

The Future Land Use Map is used to guide decisions on rezoning requests, changes to the zoning ordinance and development regulations, capital improvements, and other regulatory and planning initiatives. The Future Land Use Map translates the vision, goals, and policy recommendations in the Horry County Imagine 2040 Comprehensive Plan into a map form. It represents a vision for the desired uses in the future and illustrates where new housing, community and employment centers, and services should locate over the next twenty years in order to achieve that vision. It does not convey the ultimate build out of Horry County.

The Future Land Use Map defines where future development in neighborhoods, districts, along corridors, infill development, or in any defined planning area is most appropriate. The land use pattern and recommended uses are outlined in the definitions, and the mechanisms to achieve the desired form is found within the goals, objectives, and strategies of the Comprehensive Plan. Because Horry County's landscape and community form is so diverse, the Future Land Use Map and definitions allow for variation in community form. This is done by addressing density, recommended land uses, transportation recommendations, and policy guidance for each Future Land Use Definition.

Ten predefined land use classifications were created. Of these ten land use classifications, three can be found along the unincorporated beach front areas:

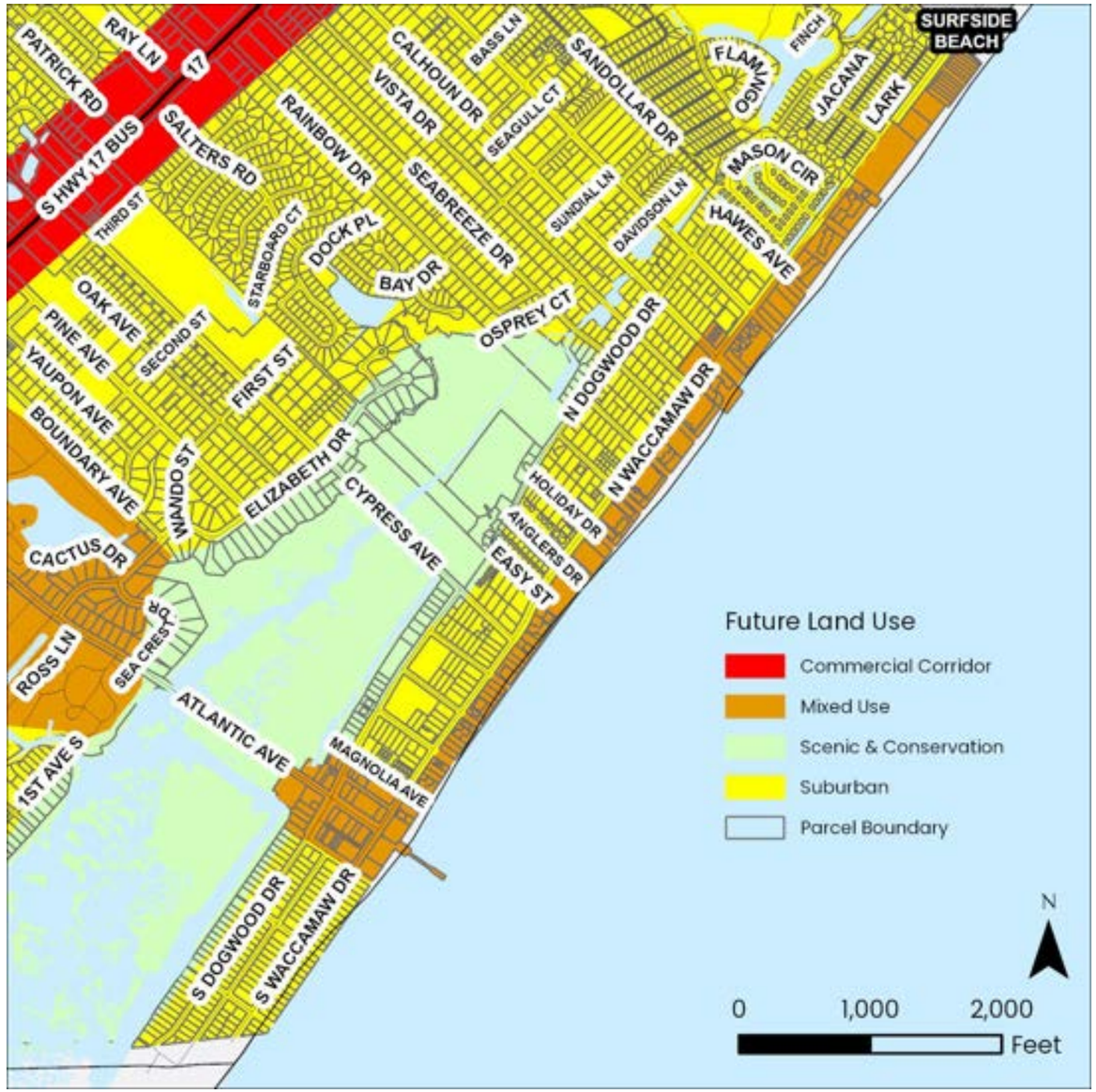
1. **Mixed Use:** Areas include established commercial, office, and medium to high-density residential developments. It also includes large undeveloped sites in close proximity to existing urban areas or as unincorporated 'donut-holes' within municipalities. These areas are typically located along or off of arterial roadways and exclude low-density single-family residential subdivisions. These areas also include prime opportunities for redevelopment projects. Mixed-use areas should provide a vertical and horizontal mix of retail, commercial, office, moderate to high-density residential, and institutional land uses. Open spaces and parks are also important uses within Mixed-Use Areas and often serve as focal points of major developments. These areas are punctuated by higher intensity development located at "nodes" called Community Activity Centers where the highest density and integration of mixed uses occurs. Outside of these nodes, development intensity decreases and the fringes of these Mixed-Use areas should integrate into the surrounding, established Suburban areas. Some light industrial uses may be appropriate, but industrial uses and services that may have adverse impacts on the community are discouraged.
2. **Suburban:** Suburban areas include a mixture of housing types at suburban densities, providing transition from low-density rural communities to more intense high-density urban environments. Major subdivisions should support healthy lifestyles through active recreation, open space,

bicycle and pedestrian access, and walkable block lengths. Multi-family developments are encouraged near Neighborhood Activity Centers, within Community Activity Centers, and within unincorporated areas within municipalities where there is adequate road capacity and potential for public transit options. Neighborhood and regional commercial uses and services are encouraged at Activity Centers and within Mixed-Use areas. Smaller commercial uses and services are allowed along major arterial roadways if compatible with the community and the property is adequately sized to support the proposed use and development requirements.

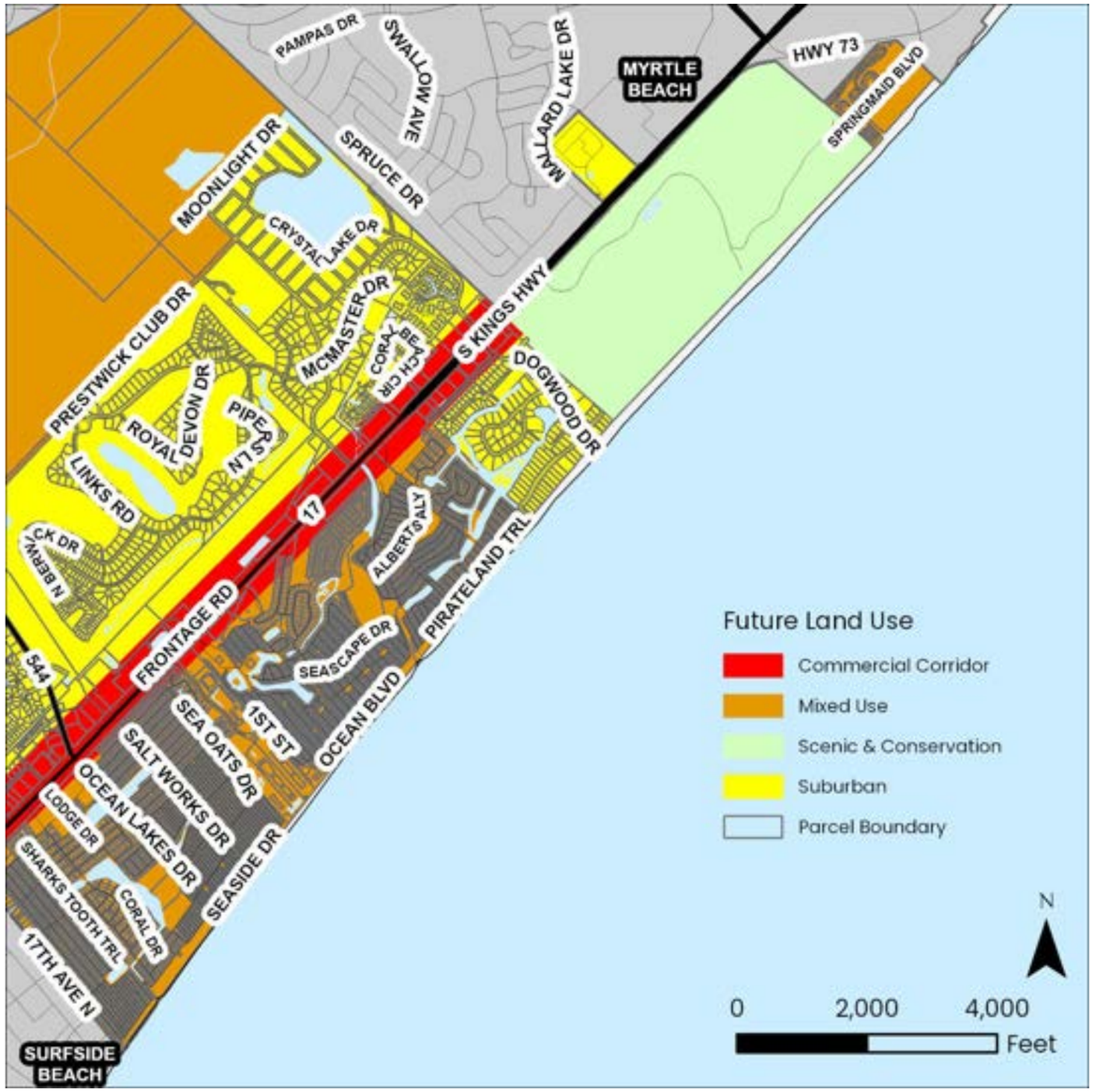
3. **Scenic and Conservation:** Environmentally sensitive and scenic areas, such as Carolina Bays, estuarine and forested wetlands, undeveloped beachfront, forestlands, floodplains, agricultural lands, and natural recreational and open spaces. Example properties include the Waccamaw National Wildlife Refuge, South Carolina Department of Natural Resources Heritage Preserves, and numerous privately preserved lands. These areas are important for the ecosystem services (flood control, stormwater filtration, clean air), educational and research opportunities, and for nature-based recreation. Many of these areas are either flood or wildfire prone, so development within and adjacent to these areas should take these hazards into consideration.

For more details regarding desired development patterns, recommended land uses, transportation, and policy guidance regarding these future land use designations, please see Chapter 11 of the Horry County Imagine 2040 Comprehensive Plan.

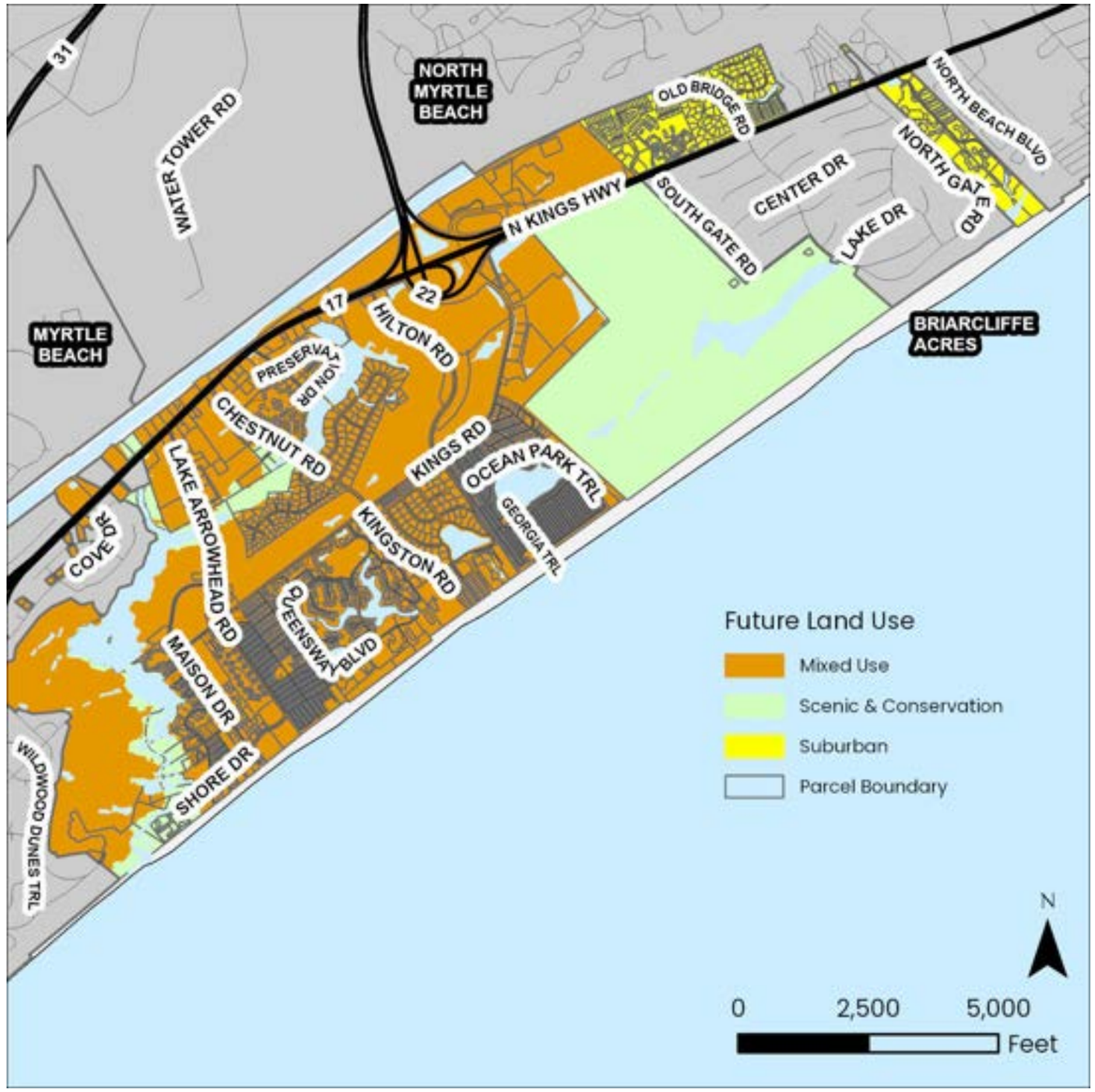
Garden City:



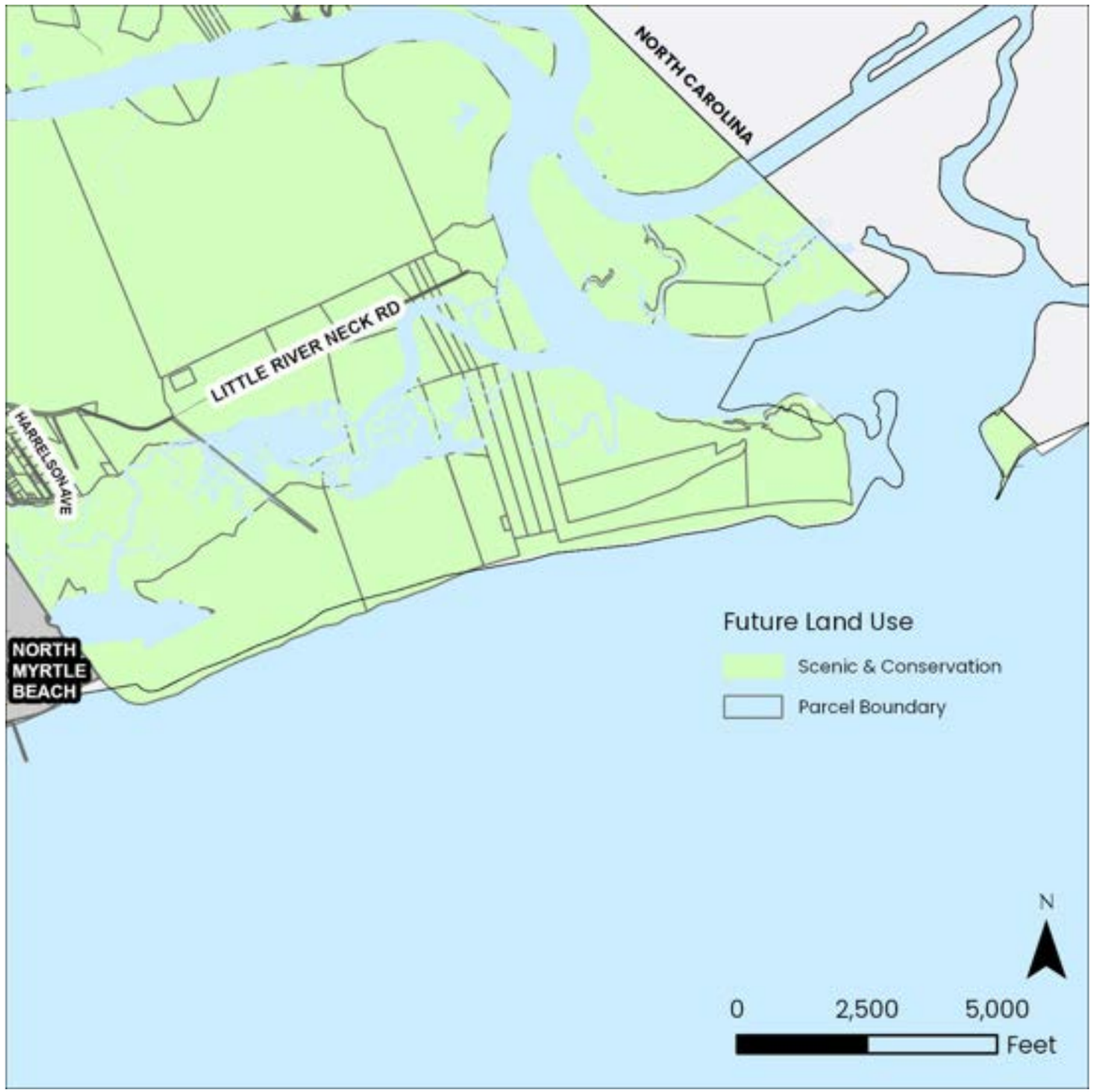
Surfside Beach to Myrtle Beach:



Arcadian Shores:



Waites Island:



7.1.3 ZONING

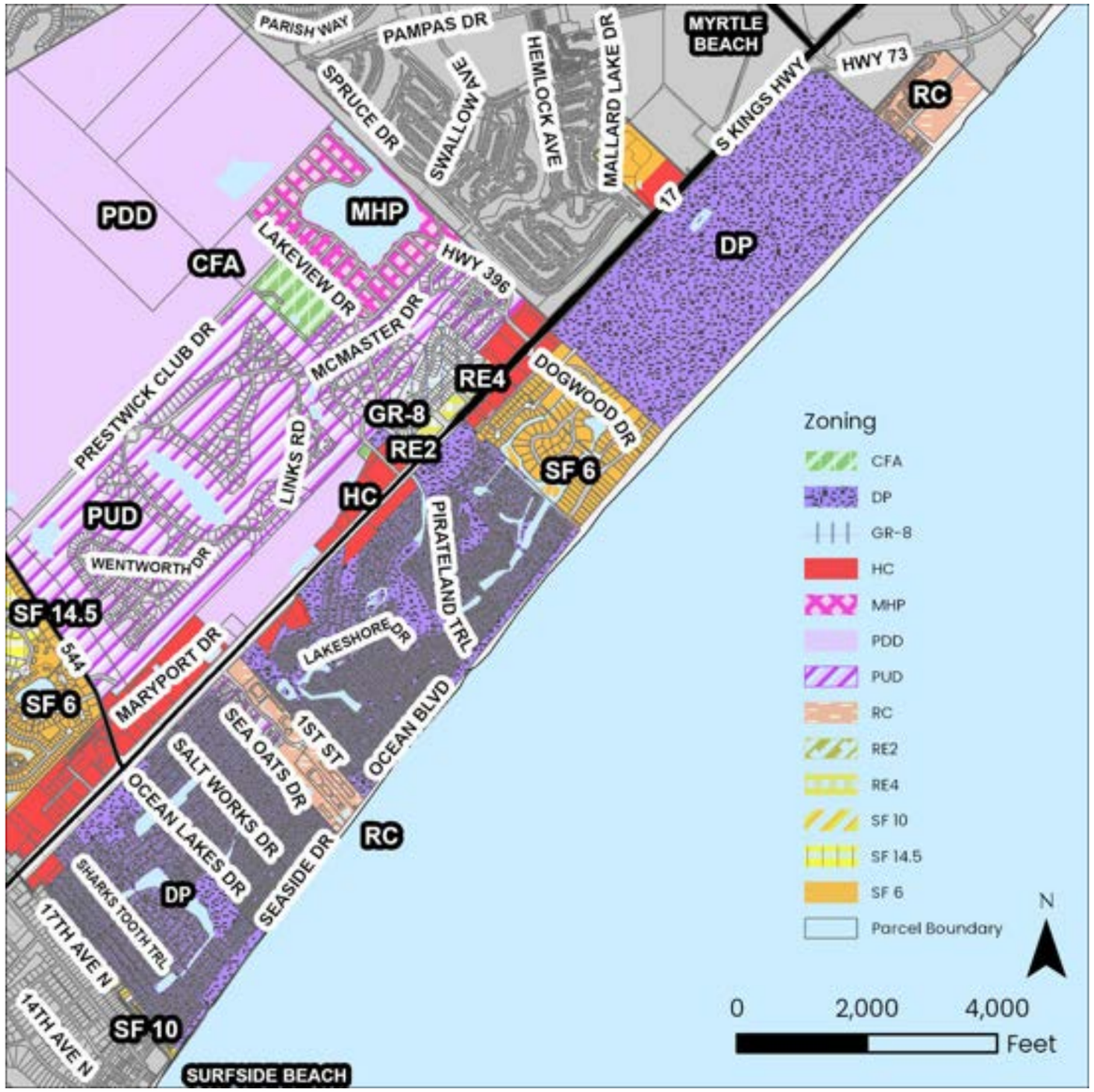
The following eight zoning districts can be found for the parcels along the unincorporated Horry County beach front:

1. **Conservation Preservation District (CP):** As a coastal county, Horry County possesses a vast amount of low lying areas containing salt, brackish or freshwater. These areas possess great natural beauty and serve as breeding grounds and refuges for marine life, birds, and land animals whose survival is economically important to sport and commercial fishing, hunting, and natural study by citizens and visitors to the area. This district is used to designate these types of land for conservation or preservation of these features.
2. **Commercial Forest Agriculture (CFA):** Reserved and utilized for agriculture, forestry, residential, commercial, social, cultural, recreational, and religious uses.
3. **Single Family Residential District (SF-10)**: Intended to provide areas for single-family residential development of low to moderate density, to discourage the encroachment of commercial, industrial, or other uses capable of adversely affecting the residential character and to preserve the architectural character of established neighborhoods. Single-family development is allowed with a minimum lot area of 10,000 square feet.
4. **Single Family Residential District (SF-6)**: Intended to provide areas for medium density with one and two family residential purposes. Encroachment by high-density multi-family residential, commercial, industrial, or other uses incompatible with or capable of adversely affecting the residential character of this district shall be discouraged. Single-family development must be a minimum of 6,000 square feet. Duplex developments are allowed with a minimum of 8,000 square feet
5. **Resort Residential District (RR):** Reserved for medium to high-density resort residential purposes. Regulations within this district encourage the formation and continuance of a stable, healthy environment for single and multi-family dwellings in areas having unique aesthetic, environmental and recreation characteristics conducive to resort living; and to discourage any encroachment by residential, commercial, industrial or other use incompatible with or capable of adversely affecting the resort residential character of the district.
6. **Resort Commercial District (RC):** Established to create and protect areas wherein incompatible residential, recreation, and commercial uses, may be established and maintained on a sound basis. Standards are designed to encourage both seasonal and permanent occupancy of dwellings within this district; to permit commercial activities, such as marinas, boat service stations, restaurants, and other selected retail establishments which are compatible with resort-oriented residential and recreation development.

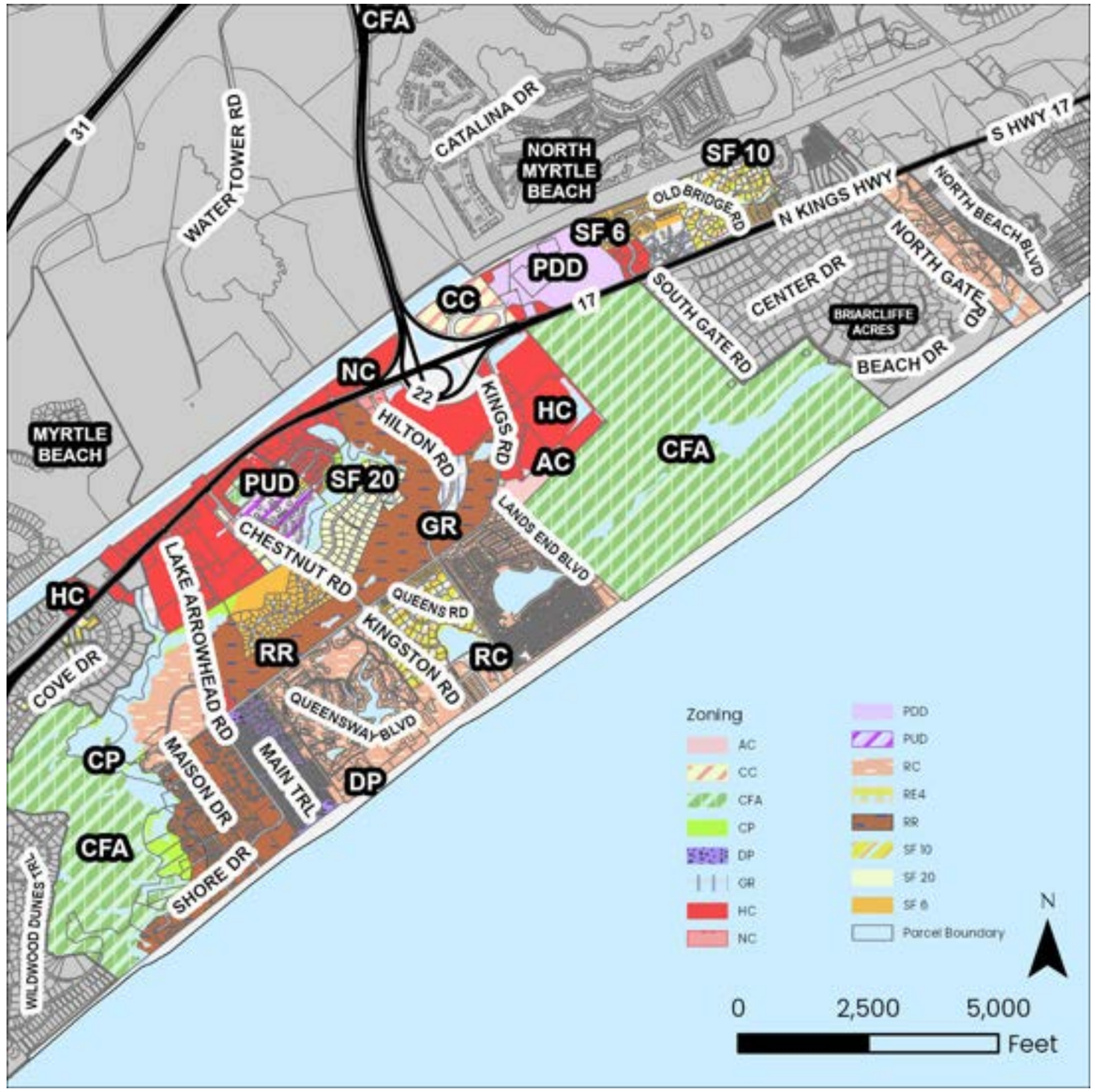
7. **Destination Park District (DP):** Reserved for recreational sites in Horry County in which campers can be located, is intended for short term occupancy, and is to be used primarily for leisure time activities at or near natural attractions.
8. **Planned Development District (PDD)**: Allows flexibility in development and encourages the use of innovative site planning techniques resulting in developments with improved design, character, and quality which preserve natural and scenic open spaces. A PDD is characterized by a plan that incorporates housing of different types and densities and compatible commercial, institutional, and industrial developments. A PDD allows for the establishment of dimensional and land use requirements unique to the property to accommodate flexibility in the arrangement of uses within the project for the general purpose of promoting and protecting the public health, safety, and general welfare.

Garden City:

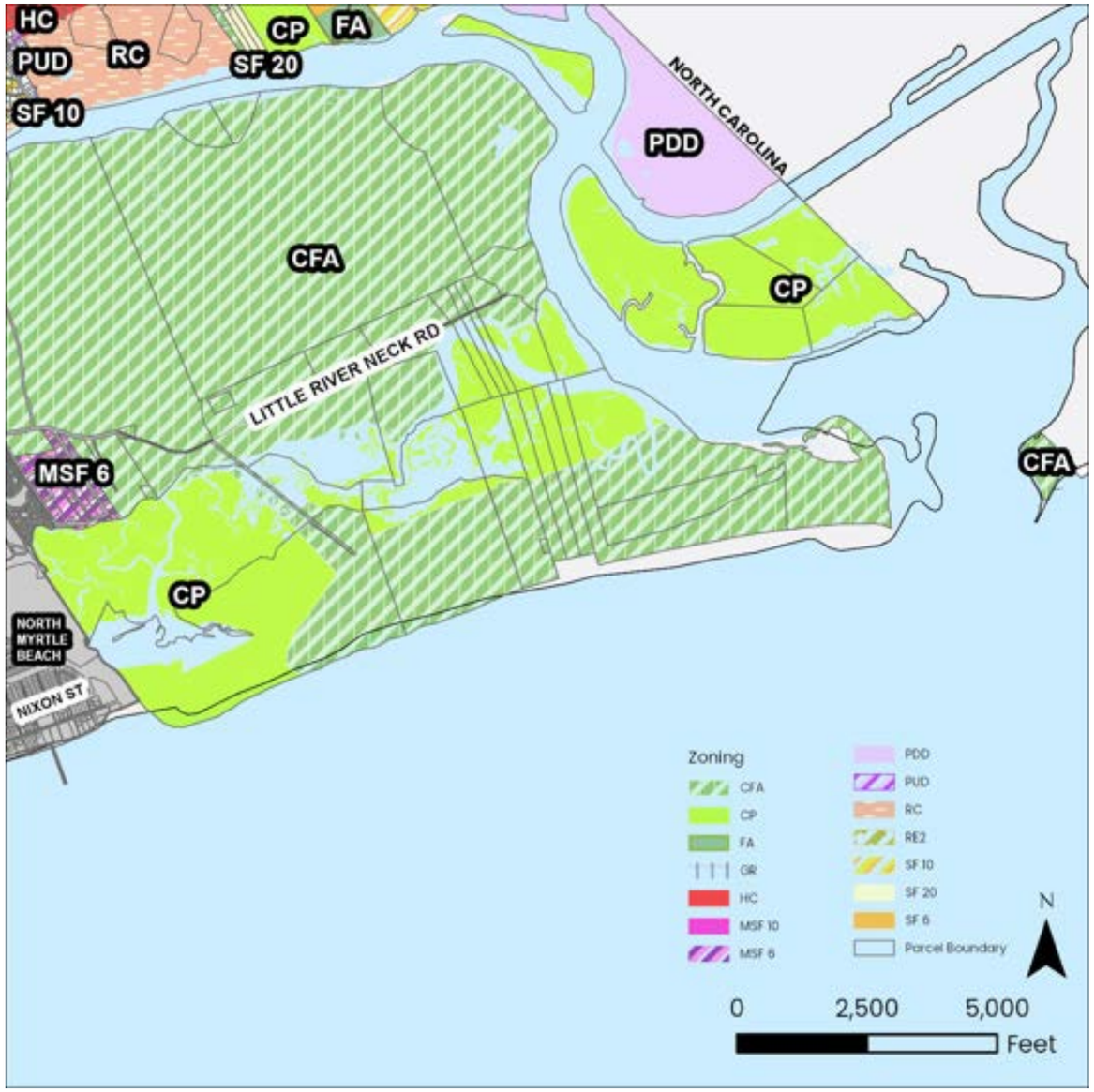
Surfside Beach to Myrtle Beach:



Arcadian Shores:



Waites Island:



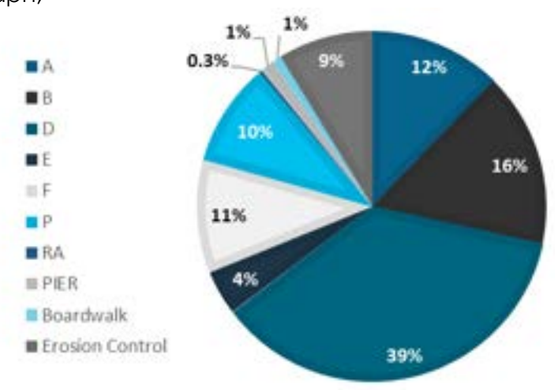
§7- APPENDICES

7.2 STRUCTURE INVENTORY

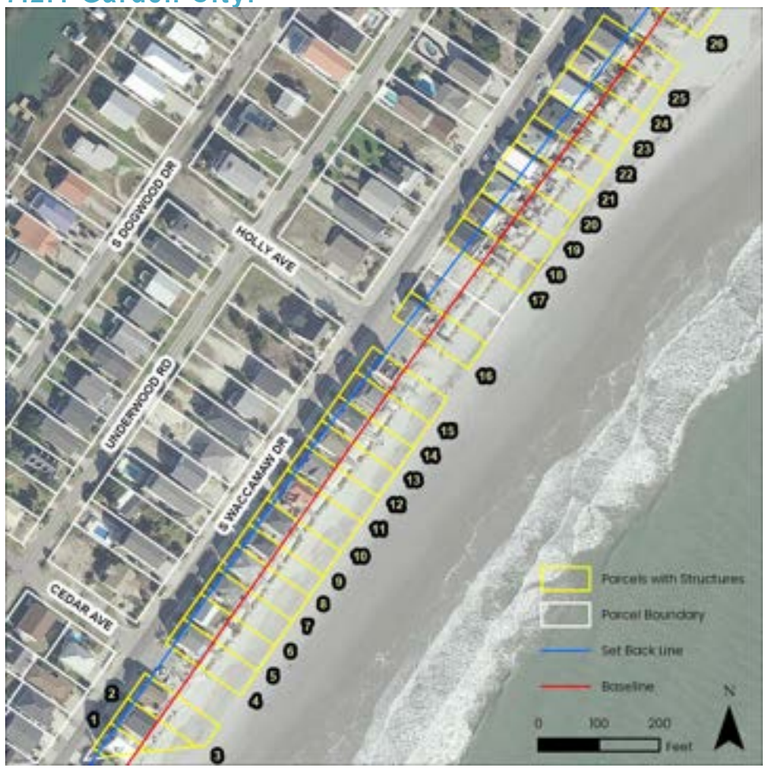
A inventory of all structures seaward of the 2018 setback line was competed in August 2022. Locations were determined using ESRI ArcGIS and measurements were made based on the 2020 Horry County aerial imagery and structures layers. Over 300 structures were found to have some portion seaward of the setback line and were classified using the following key;

KEY
A= Habitable Structure <5,000sqft
B= Habitable Structure >5,000sqft
D= Deck
E= Ancillary Building
F= Fence
P= Pool
BH= Bulk Head
PP= Private Pier
RA= Recreational Amenity
RR= Rock Revetment

Additionally, piers that are open to the public are listed in the tables as "PIER" and boardwalks were also included. No school buildings (SB) lay seaward of the set back line. Deck measurements include attached dune walk over structures. Bulkheads and rock revetments were combined as "erosion control" for the following graph;



7.2.1 Garden City:



Cedar Ave to Azalea Ave

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
1	S Waccamaw Drive	198-01-04-003	470-11-01-0051	A	34	
2	S Waccamaw Drive	198-01-04-002	470-11-01-0052	A	36	
3	S Waccamaw Drive	198-01-04-001	470-11-01-0053	A; D	27; 33	
4	S Waccamaw Drive	198-02-03-001	470-11-01-0054	A; P	43; 49	
5	S Waccamaw Drive	198-02-03-002	470-11-01-0055	A; D	14; 64	
6	S Waccamaw Drive	198-02-03-003	470-11-01-0056	A; D	32; 64	
7	S Waccamaw Drive	198-02-03-004	470-11-01-0057	A; D	33; 70	
8	S Waccamaw Drive	198-02-03-005	470-11-01-0058	A; D	33; 43	
9	S Waccamaw Drive	198-02-03-006	470-11-01-0059	A	33	
10	S Waccamaw Drive	198-02-03-007	470-11-01-0060	A; D	35; 70	
11	S Waccamaw Drive	198-02-03-008	470-11-01-0061	A; D	29; 34	
12	S Waccamaw Drive	198-02-03-009	470-11-01-0062	A; D	29; 58	
13	S Waccamaw Drive	198-02-03-010	470-11-01-0063	A; D	25; 70	
14	S Waccamaw Drive	198-02-03-011	470-11-01-0064	A; D	30; 60	
15	S Waccamaw Drive	198-02-03-012	470-11-01-0065	A; D	19; 56	
16	S Waccamaw Drive	195-14-12-001	470-11-01-0066	A; D	22; 78	
17	S Waccamaw Drive	195-14-12-004	470-06-04-0072	A; D	23; 75	
18	S Waccamaw Drive	195-14-12-015	470-06-04-0071	A; D MULTIFAMILY	9; 61	
19	S Waccamaw Drive	195-14-12-006	470-06-04-0070	A; D MULTIFAMILY	20; 76	
20	S Waccamaw Drive	195-14-12-007	470-06-04-0069	A; D	21; 56	
21	S Waccamaw Drive	195-14-12-008	470-06-04-0068	A; D	19; 68	
22	S Waccamaw Drive	195-14-12-009	470-06-04-0067	A; D	23; 54	
23	S Waccamaw Drive	195-14-12-010	470-06-03-0107	A; D	17; 52	
24	S Waccamaw Drive	195-14-12-011	470-06-03-0106	D	59	
25	S Waccamaw Drive	195-14-12-012	470-06-03-0105	A; D	15; 55	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
26	S Waccamaw Drive	195-14-13-023	470-06-03-0095	B; D; F; P	20; 47; 52; 43	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
27	S Waccamaw Drive	195-14-13-005	470-06-03-0081	B; PP; RA; F	65; 696; 120; 120	RR
28	N Waccamaw Drive	195-14-13-074	470-06-03-0044	B; D; F; P	45; 72; 72; 61	RR; BH
29	N Waccamaw Drive	HPR	470-06-03-0023	B; D	10; 33	
30	N Waccamaw Drive	HPR	470-06-03-0022	A; D	10; 80	
31	N Waccamaw Drive	195-14-13-088	470-06-03-0162	D	77	
32	N Waccamaw Drive	195-14-13-084	470-06-03-0021	D	76	
33	N Waccamaw Drive	HPR	470-06-03-0002	B; P; D	25; 23; 58	
34	N Waccamaw Drive	195-14-14-004	470-06-03-0001	D	20	
35	N Waccamaw Drive	195-14-14-005	470-06-02-0001	D	20	
36	N Waccamaw Drive	195-14-14-03-032	470-06-02-0005	B; D	25; 31	
37	N Waccamaw Drive	19514-14-03-031	470-06-02-0006			
38	N Waccamaw Drive	195-14-15-001	470-06-02-0007	F	42	
39	N Waccamaw Drive	195-14-15-002	470-06-02-0008	D	45	
40	N Waccamaw Drive	195-14-15-003	470-06-02-0009	D	44	
41	N Waccamaw Drive	HPR	470-06-02-0010	B; F; P; D	29; 29; 20; 48	
42	N Waccamaw Drive	HPR	470-06-02-0011	B; D	12; 20	
43	N Waccamaw Drive	HPR	470-06-02-0012	B; D	12; 23	
44	N Waccamaw Drive	HPR	470-06-02-0013	B; D; P	5; 49; 33	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
45	N Waccamaw Drive	195-14-16-006	470-06-02-0016	D	42	
46	N Waccamaw Drive	HPR	470-06-02-0017	B	31	
47	N Waccamaw Drive	195-14-17-002	470-06-02-0018	A; D	2; 47	
48	N Waccamaw Drive	195-14-17-003	470-05-01-0007	D	27	
49	N Waccamaw Drive	195-14-17-004	470-05-01-0006	A; D	30; 50	
50	N Waccamaw Drive	HPR	470-05-01-0005	B	53	
51	N Waccamaw Drive	HPR	470-05-01-0003	B; D; P	71; 74; 53	RR
52	N Waccamaw Drive	HPR	470-05-01-0002	B; P	40; 63	RR
53	N Waccamaw Drive	HPR	470-04-04-0002	B; B; D	52; 58; 68	RR
54	N Waccamaw Drive	HPR	470-04-04-0037	B; D; P; E; F	46; 90; 65; 78; 75	BH
55	N Waccamaw Drive	HPR	470-04-04-0038	B; D; P; F	43; 85; 64; 80	BH
56	N Waccamaw Drive	HPR	470-04-04-0039	B; D; P; F	43; 80; 65; 80	BH
57	N Waccamaw Drive	HPR	470-04-04-0058	B	45	RR
58	N Waccamaw Drive	HPR	470-04-04-0059	B; D; F	62; 79; 69	BH; RR
59	N Waccamaw Drive	HPR	470-04-04-0060	B; D; F; P	53; 80; 80; 75	BH
60	N Waccamaw Drive	HPR	470-04-04-0082	B	34	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
61	N Waccamaw Drive	HPR	470-04-04-0083	B; D; P; E	37; 82; 68; 75	BH
62	N Waccamaw Drive	HPR	470-04-04-0091	B; D; F; P	29; 63; 51; 38	BH; RR
63	N Waccamaw Drive	195-10-30-003	470-04-01-0098	B; D; F; P	13; 73; 73; 51	BH
64	N Waccamaw Drive	HPR	470-04-02-0001	B; D; F; P	53; 94; 94; 73	BH
65	N Waccamaw Drive	HPR	470-04-02-0002	B; D; P	84; 102; 66	BH; RR
66	N Waccamaw Drive	195-10-32-054	470-04-02-0004	D; D; F; P; E (HOA Shared)	80; 92; 54; 47; 46	
67	N Waccamaw Drive	195-10-32-048	470-04-02-0009	A	4	
68	N Waccamaw Drive	195-10-32-050	470-04-02-0012	A	2	
69	N Waccamaw Drive	195-10-32-052	470-04-02-0013	A	5	

7.2.2 Surfside Beach to Myrtle Beach

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
70	N Waccamaw Drive	195-11-02-010	470-04-02-0015	D; E	103; 70	
71	N Waccamaw Drive	HPR	470-04-02-0016	B; D; E; F ;P	61; 128; 117; 128; 104	BH
72	N Waccamaw Drive	HPR	470-04-02-0017	B; D; E; F; P	56; 124; 85; 124; 93	BH
73	N Waccamaw Drive	HPR	470-04-02-0018	B; D; F; P	60; 130; 73; 68	
74	N Waccamaw Drive	HPR	470-04-02-0019	B; B	12; 70	
75	N Waccamaw Drive	HPR	462-13-03-0075	B; D; P	65; 74; 65	BH
76	N Waccamaw Drive	HPR	462-13-03-0002	B; D; P	62; 67; 51	BH
77	N Waccamaw Drive	195-00-01-013	462-13-03-0001	A; D; F	7; 71; 48	
78	N Waccamaw Drive	HPR	461-16-04-0001	B; D; F ; P	52; 77; 49; 39	
79	N Waccamaw Drive	195-11-02-102	461-16-04-0038	A; D; F	11; 53; 27	
80	N Waccamaw Drive	195-00-01-023	462-00-00-0931	A; D; E; F	37; 25; 71; 21	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
81	N Waccamaw Drive	HPR	461-16-04-0040	B; D; P	16; 76: 24	BH
82	N Waccamaw Drive	HPR	461-16-01-0038	B; D; P	16; 76: 23	BH
83	N Waccamaw Drive	195-07-33-069	461-16-01-0037	D	40	
84	N Waccamaw Drive	195-07-33-068	461-16-01-0036	D	41	
85	N Waccamaw Drive	195-07-33-067	461-16-01-0035	D	36	
86	N Waccamaw Drive	195-07-33-066	461-16-01-0034	D	39	
87	N Waccamaw Drive	195-07-33-065	461-16-01-0033	D	40	
88	N Waccamaw Drive	195-07-33-064	461-16-01-0032	D	40	
89	N Waccamaw Drive	195-07-33-070	461-16-01-0031	D	44	
90	N Waccamaw Drive	195-07-33-063	461-16-01-0030	D	38	
91	N Waccamaw Drive	195-07-33-062	461-16-01-0029	D	42	
92	N Waccamaw Drive	195-07-33-061	461-16-01-0028	D	45	
93	N Waccamaw Drive	195-07-33-060	461-16-01-0027	D	47	
94	N Waccamaw Drive	195-07-33-059	461-16-01-0026	D	43	
95	N Waccamaw Drive	195-07-33-058	461-16-01-0025	D	42	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
1	Sand Dollar Drive	019-10-00-4001	45900000326	F	16	
2	Sand Dollar Drive	019-28-11-5234	45913040097	A	12	
3	Sand Dollar Drive	019-28-11-5235	45913010226	A	19	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
4	S Kings Highway	192-00-01-031	460-09-01-0030	D; E	40; 11	
5	S Kings Highway		460-09-01-0031	D	39	
6	S Kings Highway		460-09-01-0303	D; F	50; 12	
7	S Kings Highway	192-00-01-010	460-00-00-0003	A; B; D	18; 7; 51	RR

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
8	S Ocean Boulevard	192-02-01-011	460-02-02-0012	D	56	
9	S Ocean Boulevard	192-02-01-009	460-02-02-0014	D	26	
10	S Ocean Boulevard	192-02-01-008	460-02-02-0016	D	30	
11	S Ocean Boulevard	192-02-01-007	460-02-02-0017	D	39	
12	S Ocean Boulevard	192-02-01-005	460-02-02-0019	D	28	
13	S Ocean Boulevard	192-02-01-004	460-02-02-0021	D	34	
14	S Ocean Boulevard	192-02-01-003	460-02-02-0022	D	41	
15	S Ocean Boulevard	192-02-01-002	460-02-02-0023	D	25	
16	S Ocean Boulevard	192-02-01-001	460-02-02-0024	D	31	
17	S Ocean Boulevard	186-14-08-005	460-02-02-0025	D	35	
18	S Ocean Boulevard	186-14-08-004	460-02-02-0026	D; F	43; 4	
19	S Ocean Boulevard	186-14-08-003	460-02-02-0027	D	32	
20	S Ocean Boulevard	186-14-08-002	460-02-02-0028	D	56	
21	S Ocean Boulevard	186-15-01-013	460-02-02-0031	D	59	
22	S Ocean Boulevard	186-15-01-012	446-14-04-0001	D	34	
23	S Ocean Boulevard	186-15-01-011	446-14-04-0002	D	34	
24	S Ocean Boulevard	186-15-01-010	446-14-04-0004	D	37	
25	S Ocean Boulevard	186-15-01-009	446-14-04-0005	D	32	
26	S Ocean Boulevard	186-15-01-008	446-14-04-0006	D	34	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
27	S Kings Highway	186-00-01-013	446-00-00-0012	E; PIER; BOARDWALK	15; 664; 3	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
28	Nash Street	186-81-01-005	446-12-02-0078	A	16	
29	Nash Street	186-81-01-004	446-12-02-0077	A	26	
30	Nash Street	186-81-01-003	446-12-02-0076	A	22	
31	Nash Street	186-81-01-002	446-12-02-0075	A	16	
32	Nash Street	186-81-01-001	446-12-02-0074	A	25	
33	Springmaid Boulevard	186-12-01-008	446-00-00-0011	D; D; D; D; D; E; PIER	59; 54; 57; 57; 50; 61; 966	

7.2.3 Arcadian Shores

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
1	Shore Drive	HPR	394-12-04-0066	B; D; F	30; 46; 39	
2	Shore Drive	HPR	394-12-04-0233	B; D; F; P	18; 58; 51; 44	BH
3	Shore Drive	HPR	394-12-04-0332	B; B; B; F	34; 27; 36; 36	BH
4	Shore Drive	HPR	394-12-04-0471	B; D; E; E; F; P	30; 43; 7; 22; 36; 22	BH; RR
5	Shore Drive	HPR	394-12-03-0001	B; D; F	6; 37; 17	
6	Shore Drive	HPR	394-12-02-0029	B; D; F	15; 37; 15	
7	Shore Drive	HPR	394-12-02-0096	D; F	25; 13	
8	Shore Drive	HPR	394-12-02-0280	D	34	
9	Shore Drive	HPR	394-12-02-0317	B; D	5; 12	
10	Shore Drive	HPR	394-12-02-0348	B; D; F; P	13; 33; 33; 15	BH
11	Shore Drive	HPR	394-12-02-0602	B; B; F	25; 49; 40	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
12	Kings Road	166-00-08-007	393-00-00-0001	E; F; PIER	656; 27; 1165	
13	Queensway Boulevard		393-08-04-0015	D	112	
14	Queensway Boulevard	166-06-41-238	393-08-03-0002	D	83	
15	Queensway Boulevard		393-00-00-0670	Boardwalk	43	
16	Queensway Boulevard	166-00-08-030	393-00-00-0354	D; Boardwalk	10; 56	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
17	Queensway Boulevard	166-03-49-127	393-07-01-0380	D	70	
18	Lakeshore Drive	166-03-35-001	393-00-00-0668	D; E; E; F; P	73; 33; 19; 62; 36	
19	Beach Club Drive		393-07-01-0097	B; D; P	5; 78; 46	BH
20	Beach Club Drive		393-07-01-0001	B; D; P	3; 69; 39	BH
21	Lakeshore Drive		393-02-03-0520	D	49	
22	Lakeshore Drive		393-02-03-0270	D	47	

No.	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM 40-Year Setback Line (ft)	Erosion Control Structure
23	Lands End Boulevard		393-03-01-0039	B; D	2; 43	

§7- APPENDICES

7.3 BEACH ACCESS

Beach Accesses	Tax Map Number*	Parcel Identification Number*	Facility Type	DUNE WALKOVER	BOARDWALK	PAVED PATH	SAND PATH	ACCESS MAT	SHOWERS	BENCH	RESTROOM	WATER FOUNTAIN	OFF STREET PARKING	ON STREET PARKING	HANDICAPPED PARKING	SEASONAL PAY LOT	DAILY RATE	GOLF CART PARKING	BIKE RACK	ROAD SIGN	ACCESS SIGN ON ROADSIDE	SIGN TOWER WITH REG & SAETY	# TRASH CANS	# RECYCLING CAN	LITTER ADOPTION	Acres (A)	# On Street Parking Spots (within 500 feet of access)	# Off Street Parking Spots	# Handicap Parking	# Total Parking (not inlcuding Golf Cart)	# Golf Cart Parking	COUNCIL DISTRICT
1. Cedar Ave	1980203001	47011010054	NPAP	X					X	X	PORTABLE		X	X	X				X		X		1			.21 acres	23	5	1	29	0	5
2. Holly Ave	1951412001	47011010066	NPAP	X			X		X	X	PORTABLE		X	X	X			X	X		X		1		X	.21 acres	25	9	2	36	5	5
3. Azalea				X			X		X		PORTABLE		X	X	X				X		X		1		X	.19 acres	23	13	1	37	0	5
Azalea Parking Lot (pay lot)	1951405001	47006040034	NPAP													$1.25/hr											47	0	2	49	0	5
4. Magnolia Ave				X	X				X		PORTABLE		X	X	X				X		X				X	.06 acres	0	0	0	0	0	5
Magnolia Parking Lot		47006030002	NPAP																								18	58	4	80	0	5
5. Yaupon Ave	1951415001	47006020007	CPAP	X			X		X		PORTABLE		X	X	X			X			X				X	.24 acres	59	6	1	66	7	5
6. Pine Ave		47006020012	CPAP	X			X	X	X		PORTABLE		X	X	X			X	X		X		1		X	.17 acres	79	14	1	94	5	5
7. Oak Ave		47006020017	NPAP	X			X		X		PORTABLE		X	X	X						X		1		X	.17 acres	32	4	1	37	0	5
8. Cypress Ave		47005010005	PAP	X	X				X		PORTABLE			X							X		1			.03 acres	6	0	0	6	0	5
9. Anglers Dr		47004040037	LPAP	X			X		X		PORTABLE		X	X	X						X		1		X	.25 acres	8	9	1	18	0	5
10. Holiday Dr		47004040058	LPAP	X			X		X		PORTABLE		X	X	X						X		1			.26 acres	8	8	1	17	0	5
11. Sunset Dr		47004040082	LPAP	X			X		X		PORTABLE		X	X	X						X		1		X	.26 acres	10	7	1	18	0	5
12. Rainbow Dr		47004040091	LPAP	X			X		X		PORTABLE		X	X							X		1			.26 acres	8	5	0	13	0	5
13. Seabreeze Dr		47004020001	NPAP	X			X		X		PORTABLE		X		X						X		1			.25 acres	0	6	1	7	0	5
14. Calhoun Dr				X			X		X		PORTABLE		X	X	X			X			X		1		X	.56 acres	11	15	2	28	9	5
Calhoun Parking Lot	1951032001	47004020003	NPAP																							.21 acres	22					
15. Woodland Dr	1951102010	47004020015	PAP	X			X		X		PORTABLE			X				X			X				X	.26 acres	0	0	0	0	18	5
16. Hawes Ave		46213030075	LPAP	X			X		X		PORTABLE		X		X			X			X		1		X	.24 acres	0	11	1	12	3	5
Ocean Lakes Campground**	1920001015	45900000325															$12													112		4
Lakewood Campground (2)**	1920001020	46000000004															$15													67		4
Pirateland Campground**	1920001008	46000000007															$12													10		4
Long Bay Estates (2)***	1861501014	46002020030																														4
17. Nash St	1861201008	44600000011	CPAP	X			X		X		PORTABLE		X	X	X						X		2			.75 acres	0	35	0	35	12	3
18. Sands Ocean Club South (Ocean Annies)		39412030001	NPAP				X		X		PORTABLE		X		X	$1.25/hr		X			X		1		X	.29 acres	0	20	1	21	21	2
19. Sands Ocean Club North		39412030001	NPAP				X		X		PORTABLE		X			$1.25/hr		X			X		1		X	.44 acres	0	20	1	21	2	2
20. Cottage Beach		39412020096	LPAP				X		X		PORTABLE		X			$1.25/hr					X				X	.3 acres	0	16	0	16	2	2
21. Maison Dr		39412020317	LPAP				X				PORTABLE		X		X	$1.25/hr		X			X		1		X	.43 acres	0	7	0	7	15	2
22. Hibben Memorial Park	1660625133	39309010071	PAP		X	X				X	PERMANENT	X											2		X	.31 acres	2	0	0	2	0	2

X = Yes/Present

PAP = Public Access Point
LPAP = Local Public Access Point
NPAP = Neighborhood Access Point
CPAP = Community Public Access Point

*The majority of County beach access areas are ROWs and do not have a TMS or PIN. For these the TMS/PIN immediately north of the access is provided for location purposes
**See attached agreements access analysis for amenity details
***While the walk over at Long Bay Estates is technically private, the County maintains their beach front, so the public may use the walkover. No off street parking is provided, but the public may park along the public road ways to utilize the walkover.

Ocean Lakes Campground:

65&135

STATE OF SOUTH CAROLINA)
COUNTY OF HORRY)

Public Beach Access And Parking Agreement

HORRY COUNTY

This AGREEMENT is entered into between **Horry County**, South Carolina (hereinafter called COUNTY) and **Ocean Lakes Family Campground**, a South Carolina Limited Partnership (hereinafter called OWNER). The purpose, effective date, duration, obligations, enforcement and termination of the AGREEMENT are described below.

1. Purpose
The intent of the AGREEMENT is to provide the public beach access and parking consistent with the requirements of the Horry County Local Comprehensive Beach Management Plan. This agreement is for the purpose of qualifying for federal and state funding for beach renourishment in the proposed Myrtle Beach Shore Protection Project. This consent agreement will be null and void if the proposed project is not completed as proposed. This AGREEMENT shall provide a means by which access to public beaches can be gained through certain private properties lying along the Atlantic Ocean shoreline and within unincorporated sections of Horry County over the life of the project.

Securing access through private properties and securing limited public parking privileges on those properties will not only protect and expand recreational opportunities for the citizens of Horry County, but will also make Horry County eligible to apply for increased State and Federal funding for beach restoration, dune restoration and storm protection projects.

2. Effective Date
This AGREEMENT shall become effective upon transfer of the project, by the Corps of Engineers, to the COUNTY, as sponsor of the project.

3. Obligations of OWNER
OWNER agrees to comply with all provisions of this AGREEMENT. OWNER agrees to provide public access and limited parking as follows:

a. OWNER shall provide at least two (2) public access points along the ocean shoreline.

b. OWNER shall allow access to and from the beach between the ocean shoreline and the landward entrance to said property. OWNER shall not restrict access, except as stipulated in item 5 below.

c. OWNER shall designate twenty (20) automobile parking spaces for public use. These parking spaces shall be no further than 500 feet from a beach access point at a primary dune. OWNER may charge a reasonable fee (in line with fees charged by the Myrtle Beach State Park) for access.

d. OWNER shall be allowed to impose reasonable limitations on motorhomes, buses, campers, trucks, mopeds, skateboards, golf carts, motorcycles, horses, pedestrians, bicycles, automobiles and other private vehicles to protect property and customers, and to prevent disturbance of customers. Persons disturbing customers or

1425

otherwise Interfering with the operation of the property may be removed and barred from the property.

e. OWNER may limit public access and passage across his property to the hours between sunrise and sunset.

f. Access to the beach does not grant access to any other part of the OWNER'S property.

g. Public Beach Access means access to the beach at the designated point of entry to the OWNER'S property and along designated roadways which lead to a walkover or ramp at the oceanfront dune. Interior access routes may be changed at the discretion of the OWNER.

h. The county may place public access markers or signs at the landward and oceanward entrance to the property subject to prior approval of Owner; provided however, that such approval will not be unreasonably withheld. The cost of sign/marker construction, installation and maintenance shall be the responsibility of COUNTY, not OWNER.

i. Nothing in this agreement shall be construed as granting the COUNTY or any member of the public any permanent easement rights over the OWNER'S property. The access rights to be granted by OWNER pursuant to this agreement are solely by the OWNER'S permission and subject to the terms and conditions set forth herein.

4. Obligations of the County
In accordance with the Project Cooperation Agreement between the Department of the Army and Horry County dated August 13, 1996, the county shall provide beach renourishment services related to the Myrtle Beach Shore Protection Project subject to the funding of the project by the COUNTY, the State of South Carolina, and the United States government.

5. Access Management Procedures
Owner shall create and identify the areas established for public access parking. Special identification tags for vehicles will be kept at the gate or office and issued to other members of the public as requested. The tags will be collected when the vehicles leave the Campground and then be made available for re-issuance to the public.

If all parking tags have been issued at any given time, then the owner may prohibit further vehicle access until additional parking spaces are available. Pedestrians and bicyclists will be given access at any time between sunrise and sunset.

The COUNTY shall have the right to check the tag system and parking areas at any time in order to monitor OWNER'S compliance with the intent of this public access agreement.

6. Heirs, Successors and Assigns
This agreement and all rights and responsibilities hereunder shall apply to the heirs, successors and assigns of each respective party hereto, as the case may be.

7. Property Affected

Tract 1 .....Horry County TMS# 192-00-01-015
All of that certain parcel of land as conveyed by deed from C.I.T. Corporation to Ocean Lakes Family Campground, a South Carolina limited partnership as recorded in Deed Book 559 Page 593 in the Horry County Register of Mesne Conveyances and as shown on a certain plat prepared by S.D. Cox, Jr. Surveyors, Inc. and resurveyed on April 3, 1972, and also shown on a map prepared by Palmetto Engineering Co. dated November 9, 1972, and recorded in the Horry County Register of Mesne Conveyances in Plat Book 56 Page 85.

Tract 2 .....Horry County TMS# 192-00-01-014
All of that certain parcel of land as conveyed by deed from Mary Emily Platt Jackson to Ocean Lakes Family Campground a South Carolina limited partnership as recorded in Deed Book 841 Page 733 of the Horry County Register of Mesne Conveyances. Said parcel is that same parcel that is designated as tract 3 on a compiled map of Lakewood Plantation dated November 24, 1969, prepared by J.C. Causey and Authur Thompkins, Jr. Registered Land Surveyors and recorded in the Horry County Register of Mesne Conveyances in Plat Book 51 Page 38.

8. Location of the Public Parking Areas

The center line of public parking area number one shall be located one thousand three hundred twenty feet (1320) more or less from the intersection of the southern property boundary of the Jordan leased tract and the SCCC setback line.

The center line of public parking area number two shall be located three thousand nine hundred sixty feet (3960) more or less from the intersection of the southern property boundary of the Jordan leased tract and the SCCC setback line.

Above said locations are shown on the map attached hereto as Exhibit "A" and incorporated herein.

9. Termination
This agreement will expire at the end of the beach nourishment's project life, abandonment of the project by Horry County , upon the failure of the county to provide the beach renourishment services set forth in Paragraph 4 herein above, or fifty (50) years from the date of this agreement, whichever first occurs.

10. This AGREEMENT represents the entire AGREEMENT between the Parties, and may not be amended except by a signed writing executed by both Parties.

FOR:
Horry County
South Carolina

WITNESSES:
Sheila A. Pugh
1st Witness
2nd Witness

By: Linda G. Angus
Print Name: Linda G. Angus
Title: County Administrator

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

PROBATE

APPROVED BY
HORRY COUNTY STAFF ATTORNEY
BY: John C. Thingly
DATE: 2/19/98

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named Linda G. Angus sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

Sheila A Pugh
1st Witness or 2nd Witness

Sworn to before me this 26 day of February 1998.

Notary Public for State of South Carolina Notary

My Commission Expires: 11-04-2006

Public Beach Access and Parking Agreement
Horry County and Ocean Lakes Family Campground

FOR:

Ocean Lakes Family Campground,
a South Carolina Limited Partnership

By: _____

Print Name: WILLIAM W HOY, JR

Title: PRESIDENT

WITNESSES:

_____ 1st Witness

_____ 2nd Witness

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

PROBATE

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named WILLIAM W HOY JR sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

_____
1st Witness or 2nd Witness

Sworn to before me this 11 day of February, 1998.

_____ Notary
Notary Public for State of South Carolina

My Commission Expires: 3-25-2004

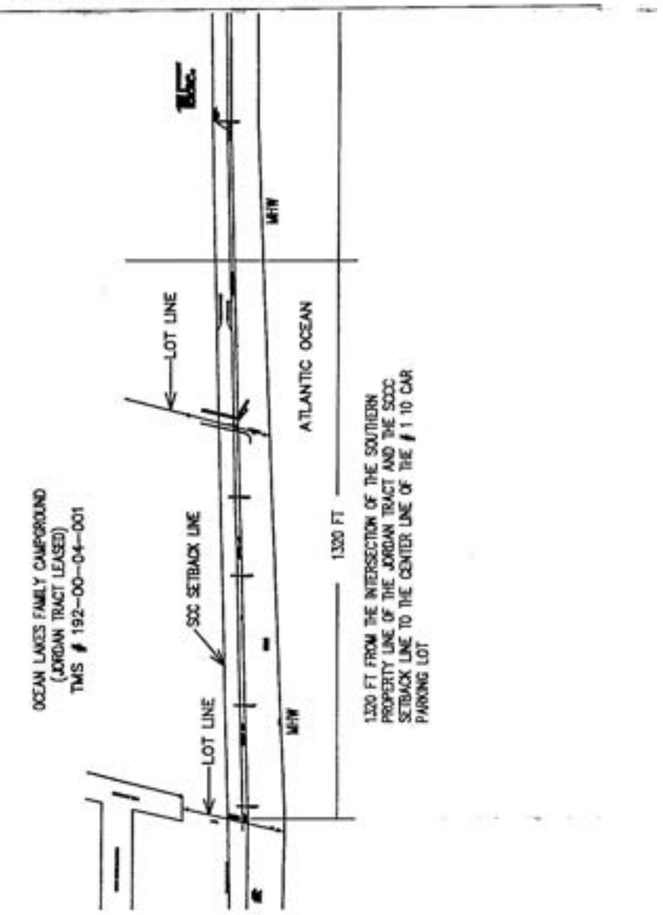
LORETTA M. DEHART NOTARY PUBLIC SOUTH CAROLINA

(5)

BOOK 2016 PAGE 1429

MATCHLINE EXHIBIT "A" PAGE 2

EXHIBIT "A"
PAGE 1



BOOK 2016 PAGE 1430

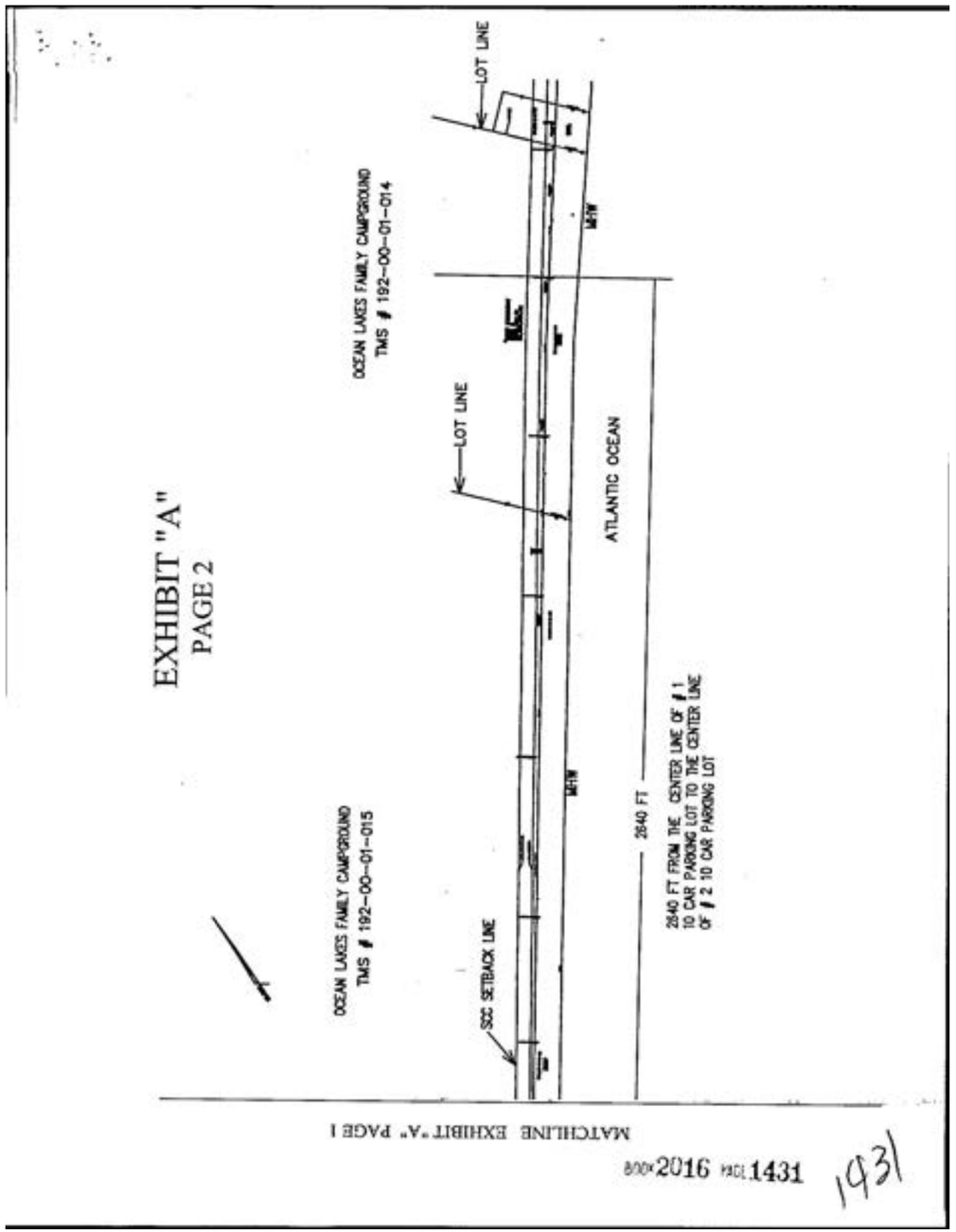
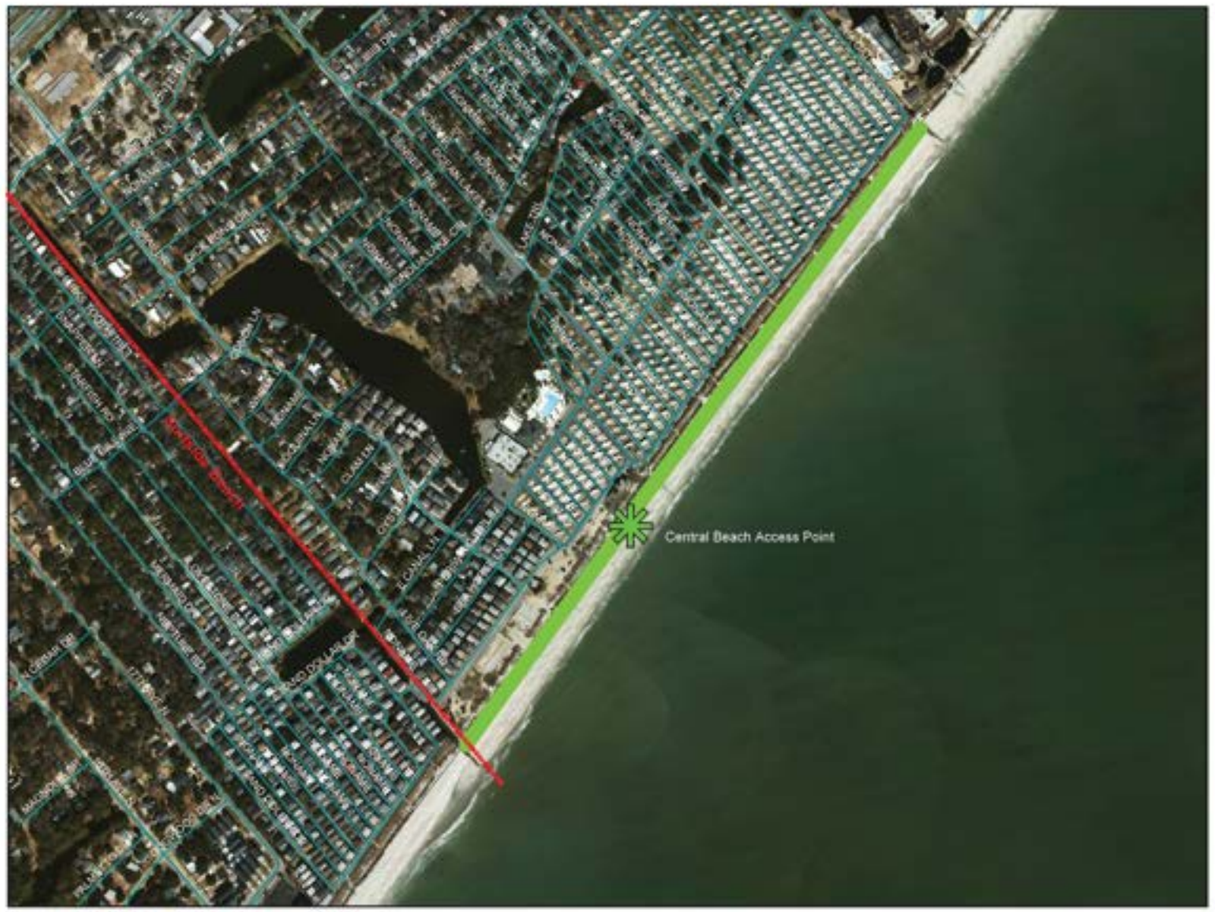


EXHIBIT "A"
PAGE 2
OCEAN LAKES FAMILY CAMPGROUND
TMS # 192-00-01-014
LOT LINE
MHW
LOT LINE
ATLANTIC OCEAN
OCEAN LAKES FAMILY CAMPGROUND
TMS # 192-00-01-015
SCC SETBACK LINE
MHW
2640 FT
2640 FT FROM THE CENTER LINE OF # 1
10 CAR PARKING LOT TO THE CENTER LINE
OF # 2 10 CAR PARKING LOT
MATCHLINE EXHIBIT "A" PAGE 1
BOOK 2016 PAGE 1431
1431

Analysis of Full and Complete Public Beach Accesses

Ocean Lakes Campground Section



112 Parking Spaces, showers, pool, miniature golf, concessions, trash receptacles, improved surface access, handicapped access, lifeguards

Full and Complete Access Coverage extends .22 miles southward to Surfside Beach City limits & .75 miles northward

Lakewood Campground:

658135

STATE OF SOUTH CAROLINA)
COUNTY OF HORRY)

Public Beach Access And Parking Agreement

HORRY COUNTY

This AGREEMENT is entered into between **Horry County**, South Carolina (hereinafter called COUNTY) and the **City of Myrtle Beach**, a municipal corporation (hereinafter called **OWNER**) and **Lakewood Camping Resort, Inc.** (hereinafter called **LEASEHOLDER**) The purpose, effective date, duration, obligations, enforcement and termination of the AGREEMENT are described below.

1. Purpose
The intent of the AGREEMENT is to provide the public beach access and parking consistent with the requirements of the Horry County Local Comprehensive Beach Management Plan. This agreement is for the purpose of qualifying for federal and state funding for beach renourishment in the proposed Myrtle Beach Shore Protection Project. This consent agreement will be null and void if the proposed project is not completed as proposed. This AGREEMENT shall provide a means by which access to public beaches can be gained through certain private properties lying along the Atlantic Ocean shoreline and within unincorporated sections of Horry County over the life of the project.

Securing access through private properties and securing limited public parking privileges on those properties will not only protect and expand recreational opportunities for the citizens of Horry County, but will also make Horry County eligible to apply for increased State and Federal funding for beach restoration, dune restoration and storm protection projects.

2. Effective Date
This AGREEMENT shall become effective upon transfer of the project, by the Corps of Engineers, to the COUNTY, as sponsor of the project.

3. Obligations of OWNER / LEASEHOLDER
OWNER agrees to comply with all provisions of this AGREEMENT. All references to the LEASEHOLDER shall be applied to the OWNER, (as if all references to "LEASEHOLDER" had been replaced with "OWNER"), in the event that the lease is terminated or not renewed.

LEASEHOLDER agrees to provide limited parking privileges for public access as follows:

a. LEASEHOLDER shall provide at least one (1) public access point along the ocean shoreline.

b. LEASEHOLDER shall allow access to and from the beach between the ocean shoreline and the landward entrance to said property. LEASEHOLDER shall not restrict access, except as stipulated in item 5 below.

c. LEASEHOLDER shall designate ten (10) automobile parking spaces for public use. These parking spaces shall be no further than 500 feet from a beach access point at

1432

a primary dune. LEASEHOLDER may charge a reasonable fee (in line with fees charged by the Myrtle Beach State Park) for access.

d. LEASEHOLDER shall be allowed to impose reasonable limitations on public guest and private vehicles to protect property and customers, and to prevent disturbance of customers. Persons disturbing customers or otherwise Interfering with the operation of the property may be removed and barred from the property.

e. LEASEHOLDER may limit public access and passage across his property to the hours between sunrise and sunset or normal business hours whichever may be shorter.

f. Access to the beach does not grant access to any other part of the LEASEHOLDER'S property.

g. Public Beach Access means access to the beach at the designated point of entry to the LEASEHOLDER'S property and along designated roadways, which lead to a walkover or ramp at the oceanfront dune. Interior access routes may be changed at the discretion of the LEASEHOLDER.

LEASEHOLDER shall by separate right of entry agreement provide access to the affected parcel, described in item 7 below, through the adjacent parcel leased from the Carl E. Perry Trust. Said right of entry shall terminate if the OWNER terminates or does not renew the LEASEHOLDERS lease on the affected parcel described in item 7 below. Upon termination or non-renewal of the lease, OWNERS shall provide access through the affected parcel.

h. The county may place public access markers or signs at the landward and oceanward entrance to the property subject to prior approval of LEASEHOLDER; provided however, that such approval will not be unreasonably withheld. The cost of sign/marker construction, installation and maintenance shall be the responsibility of COUNTY, not OWNER / LEASEHOLDER.

i. Nothing in this agreement shall be construed as granting the COUNTY or any member of the public any permanent easement rights over the OWNER'S / LEASEHOLDER'S property. The access rights to be granted by OWNER / LEASEHOLDER pursuant to this agreement are solely by the OWNER'S / LEASEHOLDER'S permission and subject to the terms and conditions set forth herein.

4. Obligations of the County
In accordance with the Project Cooperation Agreement between the Department of the Army and Horry County dated August 13, 1996, the county shall provide beach renourishment services related to the Myrtle Beach Shore Protection Project subject to the funding of the project by the COUNTY, the State of South Carolina, and the United States government.

5. Access Management Procedures
LEASEHOLDER shall create and identify the areas established for public access parking. Special identification tags for vehicles will be kept at the office and issued to members of the public as requested. The tags will be collected when the vehicles leave the Campground and then be made available for re-issuance to the public.

If all parking tags have been issued at any given time, then the LEASEHOLDER may prohibit further vehicle access until additional parking spaces are available.

The COUNTY shall have the right to check the tag system and parking areas at any time in order to monitor LEASEHOLDER'S compliance with the intent of this public access agreement.

6. Heirs, Successors and Assigns
This agreement and all rights and responsibilities hereunder shall apply to the heirs, successors and assigns of each respective party hereto, as the case may be.

7. Property Affected
The parcel of land affected by this AGREEMENT is described as:
All that tract or parcel of land lying and being in Socastee Township, Horry County, South Carolina, and shown as Parcel C, containing 61.9 acres, more or less, on that certain plat of property by Robert L. Bellamy & Associates, Inc., dated January 31, 1982 and recorded in Plat Book 73, Page 9 in the Horry County RMC.

8. Location of Public Parking Area
The public parking area shall be located at or near the southern boundary of the affected tract.

9. Termination
This agreement will expire at the end of the beach nourishment's project life, abandonment of the project by Horry County, upon the failure of the county to provide the beach renourishment services set forth in Item 4 herein above, or fifty (50) years from the date of this agreement, whichever first occurs.

10. This AGREEMENT represents the entire AGREEMENT between the Parties, and may not be amended except by a signed writing executed by both Parties.

FOR:
Horry County
South Carolina

WITNESSES:

By: Linda G. Angus
Print Name: Linda G. Angus
Title: County Administrator

Sheila A Pugh
John C. Zibura

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

PROBATE

APPROVED BY
HORRY COUNTY STAFF ATTORNEY
BY: John C. Zibura
DATE: 2/26/98

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named Linda G. Angus sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

Sheila A Pugh
Witness 1 or Witness 2

Sworn to before me this 26 day of February 1998.

Alice E. Wilson Notary
Notary Public for State of South Carolina

My Commission Expires: 11-04-2006

Public Beach Access and Parking Agreement
Horry County, City of Myrtle Beach, and Lakewood Camping Resort, Inc.

FOR:

City of Myrtle Beach

South Carolina

By: Thomas E Leath WITNESSES: Patricia B Giammetta

Print Name: THOMAS E. LEATH Joan M Grove

Title: CITY MANAGER

STATE OF SOUTH CAROLINA)
COUNTY OF HORRY) PROBATE

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named Thomas E. Leath sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

Patricia B Giammetta
Witness 1 or Witness 2

Sworn to before me this 16th day of February, 1998.

Joan M. Grove Notary
Notary Public for State of South Carolina
My Commission Expires: 2-23-2003

Revised 2/7/98 (5) BOOK 2016 PAGE 1436

Public Beach Access and Parking Agreement
Horry County, City of Myrtle Beach, and Lakewood Camping Resort, Inc.

FOR:

Lakewood Camping Resort, Inc.

By: WITNESSES: Barbara P. Benton

Print Name: DONALD E. PERRY John R. Stewart, Jr.

Title: President

STATE OF SOUTH CAROLINA)
COUNTY OF HORRY) PROBATE

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named Donald E. Perry sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

Barbara P. Benton
Witness 1 or Witness 2

Sworn to before me this 10th day of February 1998.

Melissa D. Dawn Notary
Notary Public for State of South Carolina
My Commission Expires: 2-11-03

Revised 2/7/98 (6) BOOK 2016 PAGE 1437

1437

Analysis of Full and Complete Public Beach Accesses

Myrtle Beach Resort and Lakewood Campground

32 Parking Spaces - Southern Access
35 Parking Spaces - Central Access
showers, pool, concessions, trash receptacles, improved surface access, handicapped access, lifeguards

Full and Complete Access Coverage extends .5 miles southward to Ocean Lakes coverage & .5 miles northward to Pirateland coverage

PirateLand Campground:

658135

STATE OF SOUTH CAROLINA)
COUNTY OF HORRY)

Public Beach Access And Parking Agreement

FILED
HORRY COUNTY

This AGREEMENT is entered into between Horry County, South Carolina (Hereinafter called COUNTY) and Ilex Associates, Ltd. Partnership (hereinafter called OWNER). The purpose, effective date, duration, obligations, enforcement and termination of the AGREEMENT are described below.

1. Purpose
The intent of the AGREEMENT is to provide the public beach access and parking consistent with the requirements of the Horry County Local Comprehensive Beach Management Plan. This agreement is for the purpose of qualifying for federal and state funding for beach renourishment in the proposed Myrtle Beach Shore Protection Project. This consent agreement will be null and void if the proposed project is not completed as proposed. This AGREEMENT shall provide a means by which access to public beaches can be gained through certain private properties lying along the Atlantic Ocean shoreline and within unincorporated sections of Horry County over the life of the project.

   Securing access through private properties and securing limited public parking privileges on those properties will not only protect and expand recreational opportunities for the citizens of Horry County, but will also make Horry County eligible to apply for increased State and Federal funding for beach restoration, dune restoration and storm protection projects.

2. Effective Date
This AGREEMENT shall become effective upon transfer of the project, by the Corps of Engineers, to the COUNTY, as sponsor of the project.

3. Obligations of OWNER
OWNER agrees to comply with all provisions of this AGREEMENT. OWNER agrees to provide public access and limited parking as follows:

   a. OWNER shall provide at least one (1) public access point along the ocean shoreline.

   b. OWNER shall allow access to and from the beach between the ocean shoreline and the landward entrance to said property. OWNER shall not restrict access, except as stipulated in item 5 below.

   c. OWNER shall designate ten (10) automobile parking spaces for public use. These parking spaces shall be no further than 500 feet from a beach access point at a primary dune. OWNER may charge a reasonable fee (in line with fees charged by the Myrtle Beach State Park) for access.

   d. OWNER shall be allowed to impose reasonable limitations on motorhomes, buses, campers, trucks, mopeds, skateboards, golf carts, motorcycles, horses, pedestrians, bicycles, automobiles and other private vehicles to protect property and customers, and to prevent disturbance of customers. Persons disturbing customers or

(1)

BOOK 2016 PAGE 1433 1438

otherwise interfering with the operation of the property may be removed and barred from the property.

   e. OWNER may limit public access and passage across his property to the hours between sunrise and sunset.

   f. Access to the beach does not grant access to any other part of the OWNER'S property.

   g. Public Beach Access means access to the beach at the designated point of entry to the OWNER'S property and along designated roadways which lead to a walkover or ramp at the oceanfront dune. Interior access routes may be changed at the discretion of the OWNER.

   h. The county may place public access markers or signs at the landward and oceanward entrance to the property subject to prior approval of Owner; provided however, that such approval will not be unreasonably withheld. The cost of sign/marker construction, installation and maintenance shall be the responsibility of COUNTY, not OWNER.

   i. Nothing in this agreement shall be construed as granting the COUNTY or any member of the public any permanent easement rights over the OWNER'S property. The access rights to be granted by OWNER pursuant to this agreement are solely by the OWNER'S permission and subject to the terms and conditions set forth herein.

4. Obligations of the County
In accordance with the Project Cooperation Agreement between the Department of the Army and Horry County dated August 13, 1996, the county shall provide beach renourishment services related to the Myrtle Beach Shore Protection Project subject to the funding of the project by the COUNTY, the State of South Carolina, and the United States government.

5. Access Management Procedures
Owner shall create and identify the areas established for public access parking. Special identification tags for vehicles will be kept at the gate and issued to other members of the public as requested. The tags will be collected when the vehicles leave the Campground and then be made available for re-issuance to the public.

   If all parking tags have been issued at any given time, then the owner may prohibit further vehicle access until additional parking spaces are available. Pedestrians and bicyclists will be given access at any time between sunrise and sunset.

   The COUNTY shall have the right to check the tag system and parking areas at any time in order to monitor OWNER'S compliance with the intent of this public access agreement.

(2)

BOOK 2016 PAGE 1439

6. Heirs, Successors and Assigns
This agreement and all rights and responsibilities hereunder shall apply to the heirs, successors and assigns of each respective party hereto, as the case may be.

7. Property Affected
The parcel of land affected by this AGREEMENT is described as follows:

Being all that certain parcel of land in Horry County containing 80 acres more or less as shown on a "Map of Acres of Land in Socaste Township, Horry County, South Carolina which Hewlett Lewis, Roscoe V. Lewis, and Pauline L. Sherman, Lessors Propose to Lease to Ponderosa Inc., Lessee" prepared by Robert L. Bellamy and Associates, Inc., dated February 12, 1972, said plat being recorded in Plat Book 53 at Page 113 in the Horry County RMC.

8. Location of Parking Area
The public parking area shall be centrally located between the northern boundary of the above said tract and the southern boundary of the adjacent tract leased by Ponderosa, Inc. from the City of Myrtle Beach. Said adjacent tract is described as that certain area designated as the Pirateland Campground, as shown on that certain plat by Robert L. Bellamy and Associates, Inc., dated January 31, 1982, containing 42.68 acres, more or less, with said plat being recorded in Plat Book 73 at Page 9 in the Horry County RMC.

9. Termination
This agreement will expire at the end of the beach nourishment's project life, abandonment of the project by Horry County, upon the failure of the county to provide the beach renourishment services set forth in Paragraph 4 herein above, or fifty (50) years from the date of this agreement, whichever first occurs.

10. This AGREEMENT represents the entire AGREEMENT between the Parties, and may not be amended except by a signed writing executed by both Parties.

FOR:
Horry County
South Carolina

WITNESSES:

By: Linda G. Angus
Print Name: Linda G. Angus
Title: County Administrator

Sheila A Pugh
1st Witness
John C. Zilmer
2nd Witness

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

PROBATE

APPROVED BY
HORRY COUNTY STAFF ATTORNEY
BY: John C. Zilmer
DATE: 2/19/98

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named Linda G. Angus sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

Sheila A Pugh
1st Witness or 2nd Witness

Sworn to before me this 26 day of February, 1998.

Alice E. Wilson Notary
Notary Public for State of South Carolina

My Commission Expires: 11-04-2006

Public Beach Access and Parking Agreement
Horry County and Ilex Associates, Ltd.Partnership

FOR:

Ilex Associates, Ltd.Partnership

ILEX Corporation, its General Partner,

By: #1 Susanna H. S. Membrino
Susanna H. S. Membrino, President

Print Name: Susanna H. S. Membrino

Title: President

WITNESSES:

#3 1st Witness

#4 Candace Y. Blackwell
2nd Witness

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

PROBATE

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named Susanna H. S. Membrino sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

#5 1st Witness

Sworn to before me this 4 day of February, 1998.

#6 Candace Y. Blackwell Notary
Notary Public for State of MARYLAND

My Commission Expires:_____

CANDACE Y. BLACKWELL
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires February 28, 2001

(5)

Revised 2/3/98

BOOK 2016 PAGE 1442

1442

658135

STATE OF SOUTH CAROLINA)
COUNTY OF HORRY)

Public Beach Access And Parking Agreement

98 MAR -4 PM 2:48

This AGREEMENT is entered into between Horry County, South Carolina (Hereinafter called COUNTY) and Ponderosa, Inc. (hereinafter called LEASEHOLDER). The purpose, effective date, duration, obligations, enforcement and termination of the AGREEMENT are described below.

1. Purpose
The intent of the AGREEMENT is to provide the public beach access and parking consistent with the requirements of the Horry County Local Comprehensive Beach Management Plan. This agreement is for the purpose of qualifying for federal and state funding for beach renourishment in the proposed Myrtle Beach Shore Protection Project. This consent agreement will be null and void if the proposed project is not completed as proposed. This AGREEMENT shall provide a means by which access to public beaches can be gained through certain private properties lying along the Atlantic Ocean shoreline and within unincorporated sections of Horry County over the life of the project.

Securing access through private properties and securing limited public parking privileges on those properties will not only protect and expand recreational opportunities for the citizens of Horry County, but will also make Horry County eligible to apply for increased State and Federal funding for beach restoration, dune restoration and storm protection projects.

2. Effective Date
This AGREEMENT shall become effective upon transfer of the project, by the Corps of Engineers, to the COUNTY, as sponsor of the project.

3. Obligations of LEASEHOLDER
LEASEHOLDER agrees to comply with all provisions of this AGREEMENT.
LEASEHOLDER agrees to provide public access and limited parking as follows:

a. LEASEHOLDER shall provide at least one (1) public access point along the ocean shoreline.

b. LEASEHOLDER shall allow access to and from the beach between the ocean shoreline and the landward entrance to said property. LEASEHOLDER shall not restrict access, except as stipulated in item 5 below.

c. LEASEHOLDER shall designate ten (10) automobile parking spaces for public use. These parking spaces shall be no further than 500 feet from a beach access point at a primary dune. LEASEHOLDER may charge a reasonable fee (in line with fees charged by the Myrtle Beach State Park) for access.

d. LEASEHOLDER shall be allowed to impose reasonable limitations on motorhomes, buses, campers, trucks, mopeds, skateboards, golf carts, motorcycles, horses, pedestrians, bicycles, automobiles and other private vehicles to protect property and customers, and to prevent disturbance of customers. Persons disturbing customers

(1)

Revised 2/3/98

BOOK 2016 PAGE 1420

1420

or otherwise interfering with the operation of the property may be removed and barred from the property.

e. LEASEHOLDER may limit public access and passage across his property to the hours between sunrise and sunset.

f. Access to the beach does not grant access to any other part of the LEASEHOLDER'S property.

g. Public Beach Access means access to the beach at the designated point of entry to the LEASEHOLDER'S property and along designated roadways which lead to a walkover or ramp at the oceanfront dune. Interior access routes may be changed at the discretion of the LEASEHOLDER.

h. The county may place public access markers or signs at the landward and oceanward entrance to the property subject to prior approval of LEASEHOLDER; provided however, that such approval will not be unreasonably withheld. The cost of sign/marker construction, installation and maintenance shall be the responsibility of COUNTY, not LEASEHOLDER.

i. Nothing in this agreement shall be construed as granting the COUNTY or any member of the public any permanent easement rights over the LEASEHOLDER'S property. The access rights to be granted by LEASEHOLDER pursuant to this agreement are solely by the LEASEHOLDER'S permission and subject to the terms and conditions set forth herein.

4. Obligations of the County
In accordance with the Project Cooperation Agreement between the Department of the Army and Horry County dated August 13, 1996, the county shall provide beach renourishment services related to the Myrtle Beach Shore Protection Project subject to the funding of the project by the COUNTY, the State of South Carolina, and the United States government.

5. Access Management Procedures
LEASEHOLDER shall create and identify the areas established for public access parking. Special identification tags for vehicles will be kept at the gate and issued to other members of the public as requested. The tags will be collected when the vehicles leave the Campground and then be made available for re-issuance to the public.

If all parking tags have been issued at any given time, then the LEASEHOLDER may prohibit further vehicle access until additional parking spaces are available. Pedestrians and bicyclists will be given access at any time between sunrise and sunset.

The COUNTY shall have the right to check the tag system and parking areas at any time in order to monitor LEASEHOLDER'S compliance with the intent of this public access agreement.

6. Heirs, Successors and Assigns
This agreement and all rights and responsibilities hereunder shall apply to the heirs, successors and assigns of each respective party hereto, as the case may be.

7. Property Affected
The parcels of land affected by this AGREEMENT are described as follows:

Tract One, leased from Ilex Associates Limited Partnership, being all that certain parcel of land in Horry County containing 80 acres more or less as shown on a "Map of Acres of Land in Socaste Township, Horry County, South Carolina which Hewlett Lewis, Roscoe V. Lewis, and Pauline L. Sherman, Lessors Propose to Lease to Ponderosa Inc., Lessee" prepared by Robert L. Bellamy and Associates, Inc., dated February 12, 1972, said plat being recorded in Plat Book 53 at Page 113 in the Horry County RMC.

Tract Two, leased from the City of Myrtle Beach, being that certain area designated as the Pirateland Campground, as shown on that certain plat by Robert L. Bellamy and Associates, Inc., dated January 31, 1982, containing 42.68 acres, more or less, with said plat being recorded in Plat Book 73 at Page 9 in the Horry County RMC.

8. Location of Parking Area
The public parking area shall be centrally located between the northern boundary of the Ilex leased tract and the southern boundary of the Myrtle Beach leased tract.

9. Termination
This agreement will expire at the end of the beach nourishment's project life, abandonment of the project by Horry County, upon the failure of the county to provide the beach renourishment services set forth in Paragraph 4 herein above, or fifty (50) years from the date of this agreement, whichever first occurs.

10. This AGREEMENT represents the entire AGREEMENT between the Parties, and may not be amended except by a signed writing executed by both Parties.

Public Beach Access and Parking Agreement
Horry County and Ponderosa, Inc.

FOR:
Horry County
South Carolina

By: Linda G. Angus
Print Name: Linda G. Angus
Title: County Administrator

WITNESSES:
Sheila A. Rush
1st Witness
2nd Witness

APPROVED BY
HORRY COUNTY STAFF ATTORNEY
BY: John C. Thomas
DATE: 2/19/98

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

PROBATE

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named Linda G. Angus sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

Sheila A Rush
1st Witness or 2nd Witness

Sworn to before me this 26 day of February, 1998.

Alice E. Wilson
Notary Public for State of South Carolina

My Commission Expires: 11-04-2006

Revised 2/3/98

BOOK 2016 PAGE 1423

Public Beach Access and Parking Agreement
Horry County and Ponderosa, Inc.

FOR:
Ponderosa, Inc.

By: Wilson B. Springs
Print Name: WILSON B. SPRINGS
Title: PRESIDENT

WITNESSES:
1st Witness
2nd Witness

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

PROBATE

Personally appeared before me the undersigned witness who, being duly sworn, says that (s)he saw the within named Wilson B. Springs sign, seal, and as his act and deed deliver the within Public Beach access and Parking Agreement for the purposes therein stated, and that (s)he with the other witness whose name is subscribed above witnessed the execution thereof.

1st Witness or 2nd Witness

Sworn to before me this 9 day of Feb., 1998.

Notary Public for State of South Carolina

My Commission Expires: 11/23/2004

Revised 2/3/98

BOOK 2016 PAGE 1424

1424

Analysis of Full and Complete Public Beach Accesses

Pirateland Campground and Long Bay Estates

10 Parking Places, improved surface access, and signage

Full and Complete Access Coverage extends .25 miles north/south from Access Point & .2 miles from southward Lakewood Access &1.0 mile from northward Myrtle Beach State Park Access

§7- APPENDICES

7.4 PRIOR STUDIES

South Carolina Coastal Study (SACS)

Final Report. August 2022.

Report on the Status of the Garden City & Surfside Beach 2020-2021 Monitoring Cycle

Submitted to US Army Corps of Engineers. Prepared by Burroughs & Chapin Center for Marine & Wetland Studies.

Microbial community structure shows differing levels of temporal stability in intertidal beach sands of the grand strand region of South Carolina

Harrison, Taylor B. and Kurtz, Harry D. Jr. PLoS ONE 15(2): e0229387. 2020.

2018 Beach Renourishment Arcadian Shores Horry County, SC: Final Report

Prepared for Horry County Government. Prepared by Coastal Science and Engineering. April 2019.

Beach Renourishment Arcadian Shores Horry County, SC: Geotechnical Analyses

Prepared for Horry County Government. Prepared by Coastal Science and Engineering. January 2018.

Millennial Scale Development of a Southeastern United States Spit

E. Wright, S. Kruse, S.L. Forman and M.S. Harris. Journal of Coastal Research. Vol. 34, No. 2 (March 2018), pp. 255-271 (17 pages). Published By: Coastal Education & Research Foundation, Inc.

A Phase I Remote-Sensing Archaeological Survey of A Proposed Borrow Site in the Atlantic Ocean offshore of Singleton Swash, Horry County, South Carolina

Watts, Gordon P., Jr. Submitted to Coastal Science and Engineering Inc. June 2018.

Investigating Coastal Erosion Variability and Framework Geology Influence Along the Grand Strand, South Carolina

Dolan, Aundrea Maria. Coastal Carolina University. January 2016.

Final Environmental Assessment: Storm Damage Reduction Project Myrtle Beach Reach 3

Reviewed and adopted by Bureau of Ocean Energy Management. August 2016.

Rehabilitation Effort for the Garden City/Surfside Reach III Coastal Storm Risk Management Project

Prepared by US Army Corps of Engineers. December 2016.

Report on the Status of the Myrtle Beach Renourishment 2014-2015 Monitoring Cycle

Slattery, Michael. Submitted to US Army Corps of Engineers. Prepared by Burroughs & Chapin Center for Marine & Wetland Studies.

2007-2010 Grand Strand Beach Nourishment Study: Final Report

McCoy et. al. Submitted to United States Army Corps of Engineers. September 2010.

Hypoxia in the Nearshore Coastal Waters of South Carolina Along the Grand Strand

Libes, Susan and Kindelberger, Scott. Proceedings of the 2010 South Carolina Water Resources Conference. October 2010.

Coastal Change Along the Shore of Northeastern South Carolina – The South Carolina Coastal Erosion Study

Barnhardt, W.A. (ed). Prepared in cooperation with the South Carolina Sea Grant Consortium. US Geological Survey Circular 1339. 2009.

Monitoring Beach Renourishment along the Sediment-Starved Shoreline of Grand Strand, South Carolina

Jun-Yong Park; Paul T. Gayes; John T. Wells. *Journal of Coastal Research* (2009) 25 (2 (252)): 336–349.

Application and Integration of Science in South Carolina's Grand Strand Renourishment Project

McCoy, Clayton. (2008). Solutions to Coastal Disasters Congress 2008 - Proceedings of the Solutions to Coastal Disasters Congress 2008. 312. 608-617. 10.1061/40968(312)55.

Application and Integration of Science in South Carolina's Grand Strand Renourishment Project

McCoy, Clayton A. Solutions to the Coastal Disasters Congress. 2008.

Investigation of the Geologic Framework of the Grand Strand Coast in South Carolina

Putney et. al. American Geophysical Union, Fall Meeting 2002

§7- APPENDICES

7.5 ORDINANCES AND LAWS

The following is extracted from Chapter 5 of the Horry County Code of Ordinances:

Sec. 5-1. Definitions.

As used in this chapter, the following terms shall have the meanings ascribed to them in this section:

Animal: Any living non-human creature, not to include guide dogs or service animals.

Aquatic activity: Any activity occurring in or on the ocean including, but not limited to, swimming, surfing, kite-boarding, wind-surfing, operation of wind-propelled vessels, operation of motor-propelled vessels, and surf-fishing. This shall not include any activities taking place on the platform of the pier.

Essential vehicles and vessels: Those vehicles and vessels whose use on public beaches and on the Atlantic Ocean are deemed essential by the local, state, and federal agencies. Essential vehicles and vessels shall include the following: law enforcement and emergency vehicles and vessels; municipal, county, state and other government vehicles and vessels; beach service vehicles and vessels, and any other vehicles or vessel deemed essential by the local, state, or federal agency.

Public access: The area of land extending from the public street to the public beach which has been dedicated for the purpose of providing public and emergency access to the beach.

Public beach: That area lying between the mean low water mark of the Atlantic Ocean and the easternmost private or public property line, bulkhead or seawall. Also those lands subject to periodic inundation by tidal and wave actions so that no non-littoral vegetation is established.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-2. Possession or consumption of alcoholic liquors, beer or wine prohibited on the beach or beach accesses.

Possession or consumption of an alcoholic liquor, beer or wine is prohibited on the public beaches or public beach accesses. It shall be unlawful for any person to possess or consume any alcoholic liquors, beer, ale, porter, wine or any other similar malt or fermented beverage on the public beaches or public beach accesses.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-3. Animal restrictions on beaches.

Any animal that is permitted to be on the beach must be on a hand-held leash not to exceed seven (7) feet in length and under the direct control of the person having custody of the animal. Persons in control of the animal are responsible for the clean-up of any animal refuse. Animals are not allowed on the beach between the hours of 10:00 a.m. to 5:00 p.m., from May 1 through Labor Day. No reptiles, exotic animals, or similar type animal are allowed on the beach or beach access at any time.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-4. Fires prohibited.

It shall be unlawful for any person to build, start, ignite, or maintain any fire or open flame or use any propane fired grill, cooker, or heating device heated by fire on any public beach, public beach access, street end adjacent to the beach, or any government land immediately adjacent to the beach at any time.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-5. Carrying glass containers on beaches prohibited.

It shall be unlawful for any person to carry or possess any glass, bottle or glassware on the public beaches or public beach accesses.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-6. Discharge, use, ignition, etc., of fireworks prohibited.

It shall be unlawful for any person to use, fire, shoot, discharge, or ignite any fireworks within any city limits within Horry County and in unincorporated sections of Horry County that have been designated a fireworks free zone by Horry County Council.

Exceptions. Appropriate governing councils may issue special permits allowing the temporary suspension of the ordinance from which this section was derived with the consent of council for each occurrence, or by methodology established by such council for such occurrences.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-7. Sleeping on public beach or public access after 9:00 p.m. prohibited.

It shall be unlawful for any person to sleep on the public beach or public access between the hours of 9:00 p.m. and 8:00 a.m.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-8. Diving or jumping from piers prohibited.

It shall be unlawful for any person or persons to dive or jump from any portion of a pier; or to push, shove, or cause any person to fall, dive or jump from any portion of a pier; or, climb or be on the outside of the railing or any area not designed for public entry of any pier. No aquatic activity of any kind may occur within seventy-five (75) yards of any pier. Emergency personnel, maintenance operations and other authorized persons are exempt from this section.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-9. Destruction of sea oats, beach grass, beach vegetation, sand dunes and sand fencing.

It shall be unlawful for any person to destroy, mutilate, break, move, tear up, carry away, traverse upon, or alter in any manner the sea oats, beach grass, other beach vegetation, sand dunes, sand fencing, public access structures, public beach structures, or fixtures occurring naturally or planted or erected by the government or its agents as part of any beach renourishment or preservation. Said conduct shall constitute destruction of public property.

(Ord. No. 27-11, § 1, 5-7-11; Ord. No. 50-17, § 1, 6-6-17)

Sec. 5-10. Depositing litter on beach or in water prohibited.

It shall be unlawful for any person to throw or deposit, or cause or permit to be thrown or deposited, any glass, bottle, glassware, can or pieces thereof, cigarette or cigar butts, or any garbage, waste, litter, trash, debris, or refuse of any kind, on the public beach, public access, sand dunes or in the waters adjacent to the public beach.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-11. Fishing from shore or pier.

(a) It shall be unlawful for any person involved in attempting to catch or take any shark or other marine animals that may endanger the public from any fishing pier, or any beach, shore or any coastal waters where one may fish. Any person(s) who baits, fish for, or otherwise attract sharks or other marine animals that may in danger the public within one (1) mile of the beach or any coastal waters are in violation of this chapter. All fishermen shall release at time of recognition any and all fish or other similar type animals that may pose any danger to any beach goers, sunbathers, swimmers or any other person where the fish or animal is caught.

(1) Any person(s) who surf fishes or fishing of any type from a pier or beach, at any time of the year, shall not fish in a manner that presents an unsafe condition to any beach goers, sun bathers, swimmers, or any other person and shall keep a safe distance from them. Any person who surf fishes must obtain a valid South Carolina issued surf fishing license in accordance with South Carolina state law.

(2) Local government jurisdiction extends to one (1) mile in the Atlantic Ocean and includes all beaches, swashes and piers.

(b) It shall be unlawful for any person to engage in commercial fishing on any public beaches.

Exceptions. Appropriate governing councils may issue special permits allowing the temporary suspension of the ordinance from which this section was derived with the consent of council for each occurrence, or by methodology established by such council for such occurrences.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-12. Use of bicycles restricted.

Use of bicycles, tricycles or similar human powered wheeled vehicles will be prohibited on the beach from the hours of 10:00 a.m. to 5:00 p.m. from May 1 through Labor Day.

Exceptions. Appropriate governing councils may issue special permits allowing the temporary suspension of the ordinance from which this section was derived with the consent of council for each occurrence, or by methodology established by such council for such occurrences. Appropriate governing councils may develop "zones" allowing this activity with stated restrictions with the consent of council.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-13. Watercraft restrictions.

(a) General. It shall be unlawful to leave any sailboat, boat, jet-ski, or other watercraft on the public beach after sunset and before sunrise each day. Additionally, it shall be unlawful to leave any sailboat, boat, jet-ski, or other watercraft unattended.

Exceptions. Appropriate governing councils may develop a permitting process and associated regulations enabling watercraft to be stored overnight on a temporary or permanent basis.

(b) Motorboats. It shall be unlawful for any person to operate or pilot a motor-driven boat, except for vessels commonly known as jet-skis or similar type vessels, in the waters of the Atlantic Ocean within four hundred (400) yards of the point where the Atlantic Ocean adjoins the public beach or elsewhere along the public beach in any manner as to create a hazard to the public within the waters of the Atlantic Ocean. Emergency vessels operating under official guidelines are exempt from the ordinance from which this section was derived.

(c) Jet-skis. It shall be unlawful to operate any jet-ski in the waters of the Atlantic Ocean within one hundred (100) yards of the point where the Atlantic Ocean adjoins the public beach during the period from May 1 up to and including Labor Day of any year, except that jet skis may be launched from and returned to the beach on a course approximately perpendicular to the beach. When launching or returning as described above, the jet-ski shall be operated as slowly as surf conditions shall permit and in such a manner as to avoid all swimmers or other persons in the water. For the purposes of this chapter, the term jet-ski shall include wave riders and any other similar vehicles by whatever name. Emergency vessels operating under official guidelines are exempt from the ordinance from which this section was derived.

(d) Sailboats, sail boards, kite surfing boards, and like devices. It shall be unlawful to operate any sailboat, sail board, kite surfing boards and like devices in the waters of the Atlantic Ocean within one hundred (100) yards of the point where the Atlantic Ocean adjoins the public beach during the period from May 1 up to and including Labor Day of any year, except that such devices listed above may be launched from and returned to the beach on a course approximately perpendicular to the beach. When launching or returning as described above, such devices listed above shall be operated as slowly as surf conditions shall permit and in such a manner as to avoid all swimmers or other persons in the water.

Exceptions. Appropriate governing councils may issue special permits allowing the temporary suspension of the ordinance from which this section was derived with the consent of council for each occurrence, or by methodology established by such council for such occurrences. Appropriate governing councils may develop "zones" allowing or restricting any of these activities with stated regulations with the consent of council.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-14. Reckless or intoxicated operations prohibited.

(a) No person shall operate any motorboat, jet-ski or other vessel or manipulate any skis, surfboard or similar device in a reckless or negligent manner so as to endanger the life, limb or property of any person.

(b) No person shall operate any motorboat, jet-ski or other vessel or manipulate any skis, surfboard or similar device when intoxicated

or under the influence of any narcotic drug, barbiturate or marijuana.

(c) No person shall engage in any aquatic activity or activities on the beach or public access while intoxicated or under the influence of any narcotic drug, barbiturate or marijuana, nor shall any person engage in reckless behavior or negligent manner so as to endanger the life, limb or property of any person while in the water, on the beach or on a public access.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-15. Horses prohibited.

It shall be unlawful for any person to ride, bring or have a horse, or any other animal that can be ridden, on the public beaches or public accesses.

Exceptions. Appropriate governing councils may issue special permits allowing the temporary suspension of the ordinance from which this section was derived with the consent of council for each occurrence, or by methodology established by such council for such occurrences. Appropriate governing councils may develop "zones" allowing this activity with stated restrictions with the consent of council.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-16. Solicitation and commercial activities prohibited.

It shall be unlawful for any person, organization, society, association or corporation, or any agent, member or representative thereof, directly or indirectly, to solicit property, business or financial assistance of any kind, to distribute free product samples, admission passes, or entry tickets, to conduct any sales or rental business, to sell or offer to sell any article, good, publication, subscription or other thing of value, in the area previously defined in this chapter as the public beach.

Exceptions. This section shall not apply to the commercial operations of approved beach franchises granted by the governing council for the purpose of ensuring lifeguard services on the beach nor shall it prohibit governing councils from authorizing activities of a promotional nature on public property with the consent of council for each occurrence, or by methodology established by such council for such occurrences.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-17. Authority of beach patrol officers and their agents as to swimmers.

(a) Those persons who shall be duly appointed as deputies or constables, who are police officers of a municipality, county, or state, their authorized agents, or have been granted lifeguard status under beach franchise agreements shall have the power and authority to supervise and regulate physical activities and swimming on the beaches, strand and the Atlantic Ocean within the jurisdiction of the municipality, county, or state and in those areas shall have the responsibility to maintain peace and order. The deputies, constables, police officers, state park rangers, their authorized agents, and beach franchise lifeguards shall have the power and authority to recall from the ocean waters and the surf adjoining the waters any person who shall be in the ocean waters a distance of more than fifty (50) yards from the point where the ocean adjoins the public beach, or who shall be more than chest deep when standing flat-footed at any time, or who shall be engaging in any aquatic activity whatsoever within one hundred fifty (150) yards of any pier; or when the person shall be in danger of drowning or becoming imperiled, or may imperil the safety of others, all of which shall be determined in the discretion of the deputies, constables, police officers, state park rangers, authorized agents, or beach franchise lifeguards authorized by them. Further, those personnel shall have authority to recall from the ocean waters and the surf adjoining the water any person who shall be in the ocean waters at any distance at any time when the condition of the wind, water, weather or a hazard, including the physical or mental condition of the person in the ocean waters, shall be such, in the discretion of the those personnel as hereinabove described, as to constitute a danger to the health, life or safety of that person or to other persons within the ocean waters.

(b) Governing councils, public safety officials or their agents may create zones that restrict aquatic activities or beachfront activities in areas that may pose a danger to the health, life or safety of any person due to a hazardous condition, hazardous operation, hazardous weather or hazardous structure whether temporary or permanent. These zones must be marked in such a fashion to be readily identifiable with flags, buoys, signs, or the like. Beach franchise lifeguards shall have authority to close the beach or adjoining ocean for such hazards, but must immediately notify the appropriate public safety officials of any such closures.

(c) Any person who shall fail to obey the directions and instructions of the personnel with regard to any of the matters and things above set forth over which they have power and authority, shall be guilty of a misdemeanor, and shall be subject to arrest by law enforcement personnel having jurisdiction and shall be subject to punishment as provided.

Exceptions. Appropriate governing councils may issue special permits allowing the temporary suspension of the ordinance from which this section was derived with the consent of council for each occurrence, or by methodology established by such council for such occurrences.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-18. Flotation devices restricted.

(a) All flotation devices must be fabric-covered and have a 360-degree rope (three-eighths-inch minimum diameter) with a ten (10) percent slack or must be U.S. Coast Guard approved as a flotation device. Those devices not meeting these requirements will not be permitted on the surf or in the water. This section does not apply to surfboards, paddleboards, and skimboards.

(b) All retail outlet stores licensed by the municipality or county and which sell beach equipment such as chairs, umbrellas, floats and other personal flotation devices must display prominently a copy of subsection (a) of this section relating to flotation devices in that place of business.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-19. Vehicles prohibited.

(a) It shall be unlawful for any person to drive or operate any motorized vehicle of any kind or nature upon the public beach or within public marsh areas within the county limits. All municipal, county, and state police vehicles; municipal, county, or state vehicles operated while cleaning or working on the beach; emergency vehicles; and approved beach franchise vehicles are exempted from the application of this section.

(b) It shall be unlawful for any person to park a vehicle in the beach access or on the beach, to include, but not be limited to, any motor vehicles, motorcycles, golf carts, or similar type vehicles. All municipal, county, and state police vehicles; municipal, county, and state vehicles operated while cleaning or working on the beach; emergency vehicles, and approved beach franchise vehicles are exempted from the application of this section. Pavement marking and/or signs shall designate the no parking areas in beach accesses. Exceptions. Appropriate governing councils may issue special permits allowing the temporary suspension of the ordinance from which this section was derived with the consent of council for each occurrence, or by methodology established by such council for such occurrences. Appropriate governing councils may develop "zones" allowing this activity with stated restrictions with the consent of council.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-20. Surfing restricted.

(a) It shall be unlawful for any person to ride a surfboard, paddleboard, kayak, skimboards, hard-sided boogie boards, boogie boards with fins, or any other similar device of a hard or solid nature between the hours of 10:00 a.m. and 5:00 p.m. from May 1 through Labor Day except in designated "surfing zones." Surfing zones shall be approved by the governing councils of the appropriate jurisdictions and marked in such a fashion as to be easily observed.

(b) Surfing will be allowed anywhere along the beach before the hours of 10:00 a.m. and after 5:00 p.m. except within seventy-five (75) yards of any pier.

(c) After Labor Day to May 1, surfing will be allowed anywhere along the beach from sunup to sundown except within seventy-five (75) yards of any pier.

(d) All surfers shall be required to wear a surfing leash with a maximum length of seven (7) feet at all times.

(e) Surfers must navigate the surfboard, paddleboard, kayak, or like device in such a way that it does not become a hazard to others in the ocean or on the beach. The individual will be responsible for his or her actions while navigating such devices.

(f) Soft-sided boogie boards or other like padded small devices shall not be considered a surfboard, but the padded device must be secured to the person in control of the device and operated in such a way that it does not become a hazard to others in the ocean or on the beach. The individual will be responsible for his or her actions while navigating such devices.

Exceptions. Appropriate governing councils may issue special permits allowing the temporary suspension of the ordinance from which this section was derived with the consent of council for each occurrence, or by methodology established by such council for such occurrences. Appropriate governing councils may develop "zones" allowing or restricting any of these activities with stated regulations with the consent of council.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-21. Public nudity prohibited.

(a) It shall be unlawful for any person to appear in the nude on any public beach, beach access, in the public waters, any other public property, or in view of the public.

(b) It shall be unlawful for any person to intentionally appear on any public beach, beach access, in the public waters, any other public property, or in view of the public in such a state of dress or undress so as to expose to the view of others the human male or female genitals, pubic area, pubic hair, buttocks, anus, vulva, or any portion of the female breast at or below the areola thereof.

(Ord. No. 27-11, § 1, 5-7-11)

Sec. 5-22. Placing obstructions on the beach restricted.

(a) General. Through the use of "beach franchise agreements," each governing council shall establish the time and placement of lifeguard stands and umbrella lines creating an established umbrella line.

(b) Established umbrella lines. Any umbrellas, shading devices, or other obstructions that impede upon the franchise's established umbrella line may be moved landward of the established umbrella line. Any umbrellas, shading devices, or other obstructions cannot obstruct the view of the lifeguard's area of responsibility and may be removed. No umbrellas, shading devices, or other obstructions may be placed within ten (10) feet of any established umbrella line. Umbrellas and shading devices must be placed outside of the established umbrella line and shall remain in-line or landward of the established umbrella line. In the absence of an established umbrella line, umbrellas and shading devices must be placed above the high-tide line.

(c) Shading devices. Shading devices, other than circular umbrellas with a circular shade no greater than seven (7) feet six (6) inches in diameter, shall not be allowed on the beach. This includes, but is not limited to, tents, tarps, cabanas, pavilions, sports-brellas, or similar devices, or any material mounted on supports, but does not include small pop up or blow up cabanas for infants and very small children. Small pop up or blow up cabanas may not be larger than four (4) feet wide three (3) feet deep and three (3) feet high. An umbrella is defined as a collapsible circular shade consisting of a natural or synthetic fabric shade stretched over hinged ribs radiating from a central pole without grounding lines or ropes. All shading devices are prohibited from being tied, bound, joined, or connected in any manner, but otherwise shall be secured in such fashion to restrict uncontrolled movement of the device.

Tents or tent like structures may be permitted on the beach as part of weddings or other organized events; provided, however, that such activities are subject to the special event permitting provisions of section 13-34, article III, chapter 13 of the Horry County Code of Ordinances. Consideration of fee waiver or reduction may be given for wedding events, under section 13-34(l).

(d) Emergency and authorized vehicle access lanes. Governing councils or law enforcement personnel may establish zones, where needed, for the creation of a predetermined emergency and authorized vehicle access lane to extend from the primary dune line seaward. Emergency vehicle access lanes may also be created as needed by governing councils or law enforcement personnel from the lifeguard stand for a width of ten (10) feet to extend landward to the primary dune line. These areas may be increased or decreased by public safety officials based upon circumstances such as geography, weather, emergency operations and the like. All emergency access lanes will be marked by the placement of pylons, signs, flags, cones, trash cans, or similar devices. No umbrellas, shading devices, or other obstructions shall be placed in the area designated as an emergency or authorized vehicle access lane.

(e) Sand fencing, dune walkovers, public beach access structures, etc. It is prohibited to place, put, lean, chain to, lock to, or connect to, in any fashion, any item to a sand fence. It is prohibited to place, put, chain to, lock to, connect to, or store under any dune walkover or public beach access structure located on the beach.

(f) Other obstructions. It shall be unlawful to build, erect, place, bury, or create any fence or other obstruction on the public beach, public beach access, or dune walkover so as to obstruct or impede the free use of the public beach or to interfere with or obstruct any maintenance operation of the beach.

(g) Removal or disposal. It shall be unlawful between the hours of 7:00 p.m. and 8:00 a.m. for any person to leave upon, put, place, or set any equipment on the beach including, but not limited to, shading devices, umbrellas, surfboards, floats, life rafts, volleyball nets, etc. Any umbrellas, shading devices, obstructions, equipment, or other structures remaining on the beach between the hours of 7:00 p.m. and 8:00 a.m. may be removed from the beach by the governing agency. Each public safety department shall determine a process with which to deal with the release and the disposal of abandoned property.

(Ord. No. 27-11, § 1, 5-7-11; Ord. No. 19-14, § 1, 4-15-14; Ord. No. 10-15, § 1, 3-17-15; Ord. No. 74-2020, § 1, 9-1-20)

Sec. 5-23. Control of hazardous activity.

Any activity on the public beach which may be deemed a hazard to patrons who are walking, sunbathing or swimming can be controlled by the police and/or beach franchise and/or the lifeguard. No activity shall block the public beach or beach access where a person(s), beach franchise service, lifeguard, police or any authorized vehicle may not pass. Any person who shall fail to obey the directions and instructions of any law enforcement officer or lifeguard authorized by a beach service franchise operator with regard to activities or ordinances on the beach and in the ocean shall be guilty of a misdemeanor.

(Ord. No. 27-11, § 1, 5-7-11)

§7- PUBLIC SURVEY RESULTS

7.6 ABOUT THE SURVEY

Public input is an integral part in developing any management plan regarding a public resource. A survey was developed to gauge the needs and concerns regarding the use and enjoyment of Horry County beaches. The survey included 15 sections and 20 questions. Questions were presented as multiple choice, choose all that apply, drop-down menus, and open answer boxes. At the end of the survey, participants were given the opportunity to include additional comments and provide their email address for progress updates in regards to the development of the Beach Management Plan.

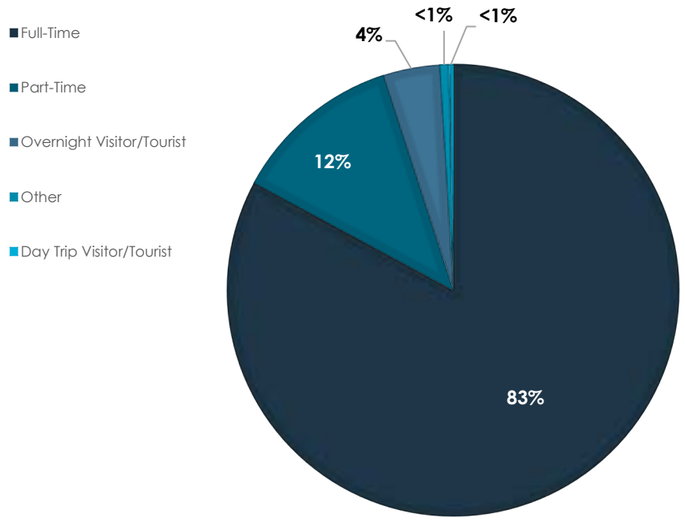
The survey was developed using Survey Monkey and accessed through a direct weblink. The survey was advertised through social media (i.e. HCG Facebook page), a press release which was submitted to local news outlets on November 25, 2020, and Paper copies were also available the Horry County Planning & Zoning Department in the Horry County Government and Justice Center at 1301 2nd Avenue in Conway. The survey was open for 68 days from November 25, 2020 through January 31, 2021.

7.6.1 SURVEY RESULTS

At the close of the survey, the county had received a total of 1,281 completed surveys. However, none of the 20 questions required answers to submit the survey. Further, some questions allowed respondents to select multiple answers. Due to these parameters the total number of responses per question may be higher or lower than the total number of surveys received. Open answer responses were tallied as "Other." This section is meant to serve as a summary of the survey results.

Residency and Ownership

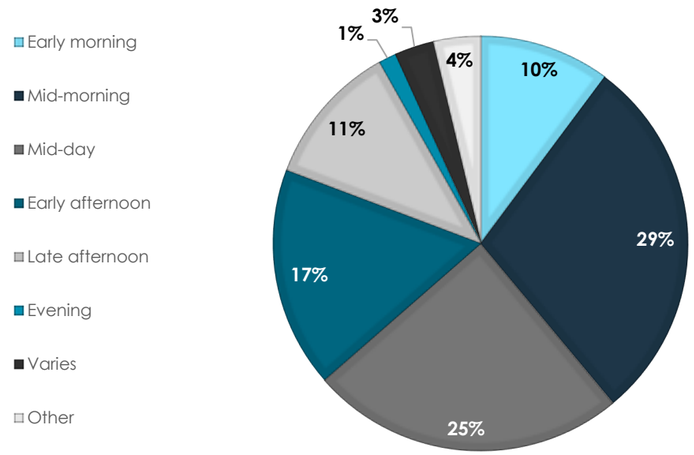
Three survey questions addressed residency and ownership status of respondents. The majority of respondents identified as full-time residents of Horry County, while a much smaller portion identified as part-time, visitor/tourists, or lived/stayed outside Horry County. Just over half of respondents lived or stay in communities along the coast (i.e. Myrtle Beach, Garden City, etc.), approximately 44% live or stay in inland Horry County, and less than 3% do not live or stay within Horry County. Additionally, the vast majority of respondents did not own property or a business dependent on the beachfront.



Residency status of survey respondents

Beach Access and Use and Experience

The Grand Strand is generally broken up into 15 main beaches. Respondents were asked to indicate which of these beaches they had visited (incorporated or unincorporated) and could select more than one beach. Myrtle Beach, Myrtle Beach State Park, Garden City/Murells Inlet, and Surfside Beach were the most popular choices, albeit slightly. Respondents were then asked (open answer) to indicate which beach access/walkover site used during their last visit. Of the 1,110 responses to this particular question, very few (less than 3%) indicated they used one of the 22 beach access sites maintained by Horry County. Of the unincorporated areas, Myrtle Beach State Park was the most popular among respondents (~14%) and in incorporated areas North Myrtle Beach and Myrtle Beach were the most popular (25% and 15%, respectfully). Respondents gave a wide variety of reasons for their beach choice, but proximity (home, rental, or campsite) was the primary influence. Among other reasons given for choice of beach were habit/tradition, parking availability, cost of parking, and least crowded. Similarly, when asked what factors prevent them from visiting the beach, respondents indicated limited free parking, overcrowding, lack of parking, and nuisance behavior as the biggest factors. Among the features or amenities available, respondents indicated that public restrooms and changing areas, beach width, and the availability of trash receptacles as highly desirable while large events, swash zones/tidal pools, and fish cleaning stations were avoided. Survey participants were asked approximately what time they arrived



Time respondents arrived at the beach

during their most recent visit to the beach. Open answers were then categorized into early morning (6-9 am), mid-morning (9-11 am), mid-day (11am-1pm), early afternoon (1-3 pm), later afternoon (3-6 pm), and evening (6-9 pm). The "varies" category was used for

answers listing multiple times throughout the day and "other" was used when respondents didn't specify a time, but a stage of the beach or day (i.e. between tides, sunset, etc.).

Beach Information and Knowledge

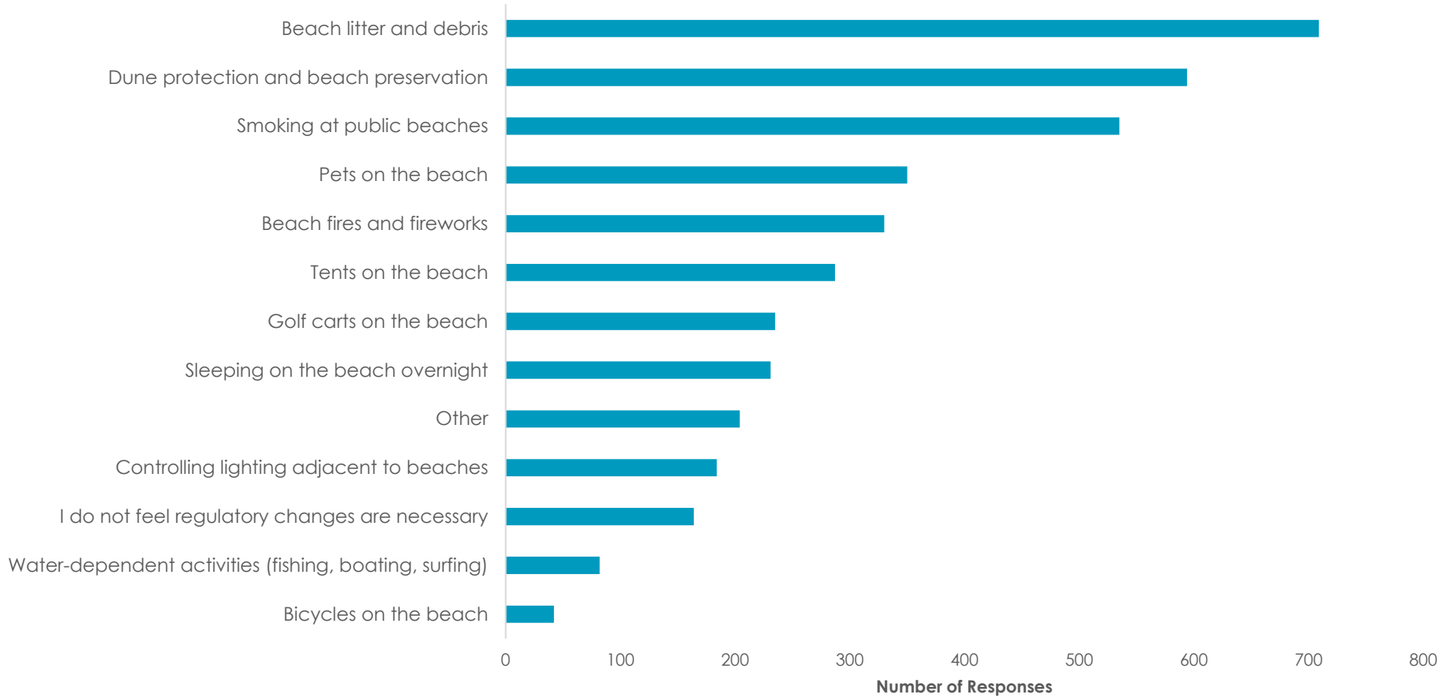
Survey participants were asked three questions regarding their knowledge of Horry County beaches. The first question sought to determine where participants received their information and the other two questions gauged their perceived knowledge level of water quality and safety.

A variety of resources are available for Horry County residents and visitors to find out about various aspects of beach conditions such as social media (i.e. Facebook), websites (horrycounty.org, SC State Parks, SCDHEC-OCRM, etc.), homeowners associations - the list goes on. However, nearly half of survey respondents reported that they obtained information about Horry County beaches by exploring on their own (24%) or by word of mouth (20%).

Water quality (i.e. pollution levels) and water safety (i.e. wave height, rip currents, etc.) are also a concern of many beach goers. Overall, survey respondents felt well informed regarding these issues. Over half indicated they ranked as well-informed regarding water quality and 70% ranked as well-informed regarding water safety.

Addressing Beach Rules

The final question in the survey asked participants what rules, if any, they felt Horry County needed to address. Participants were offered twelve potential rule categories and could select multiple answers and/or offer their comments in an "other" open answer field.



Rules respondents felt Horry County needed to address

Beach litter and debris was of biggest concern to respondents followed by dune protection and beach preservation as well as smoking at public beaches (18%, 15%, and 14%, respectively). Only 4% of respondents felt no regulatory changes were necessary.
Over 200 comments were provided in the "other" open answer field, many of which were unique. However, there were some repetitious remarks including issues with parking, animal waste management, crime and safety, and equestrian use conflicts.

7.6.2 SURVEY COMMENTS

As previously indicated, there were 15 opportunities throughout the survey for respondents to provide open answer responses and comments including a final "additional comments" box at the end of the survey. While difficult to summarize quantitatively, several themes became evident in the comments provided.

Respondents expressed frustration with parking availability and cost. Many comments focused on the cost of parking being unaffordable. Another issue that came up frequently was the management of animal waste particularly from equestrian use on the beaches, but also from personal pets. Inorganic waste (i.e. trash, firework debris, etc.) was also a predominant concern.

While it is quite common for people to use surveys as an opportunity to air grievances, there were a number of comments reflecting positively on Horry County beaches and their management.

"Beaches are great here, overall very clean, nice people"

"The beaches are great; keep working on them. We have some of the best on the East Coast here in Horry County"

"Thank you for offering this survey!