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**MARINE AFFAIRS & POLICY  
INTERNSHIP REPORT**

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Village of Key Biscayne, Florida

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**An Internship with the Village of Key Biscayne: Working with Environmental Issues of  
Beach Nourishment and Invasive Exotic Plant Removal**

by

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**An Internship Report**

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What follows is a report explaining the achievements made during an internship with the Office of the Village Manager, Village of Key Biscayne, Florida. Duties of this internship included: beach surveys, involvement with the Village's Beach Resources and Management Task Force, and development of a plan for the removal of invasive exotic species including grant proposals for this project.

The function of the Village's Beach Resources and Management Task Force was "To provide short-term and long-term monitoring and management strategies to sustain Key Biscayne's beaches as the preeminent natural asset for our community." To this end, the Task Force met on a regular basis to decide what was the best option for beach nourishment on Key Biscayne's beaches.

Next, a plan to remove exotic plant species from public and private land was researched and developed. This plan included a discussion of the damages of exotic plants as well as the advantages of native plants to residents. Additionally, a plan in which private land owners may exchange exotic plant species for an appropriate native species was addressed. A grant proposal was prepared for the Urban and Community Forestry Grant Program, and submitted for consideration. Also, a pre-proposal was submitted to the South Florida Community - Urban Resource Partnership to further aid in the development of a plan for invasive exotic plant removal.

## ACKNOWLEDGMENTS

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## INTRODUCTION

### Key Biscayne

The island of Key Biscayne is a classic situation of mixed use. The highly residential Village of Key Biscayne is sandwiched between Miami-Dade County Crandon Park to the North and Bill Baggs Cape Florida State Recreation area to the South. Additionally, Biscayne Bay boards the island to the West, adding to the environmentally sensitive lands that surround the Village. What has resulted is a very unique situation that brings to light a myriad of environmental issues. With the ever increasing population of South Florida and Key Biscayne in particular, this delicate and dynamic area is under increasing stress. For this reason, it is essential that processes affecting the island and the surrounding ecosystems be constantly monitored.

Fortunately the residents of Key Biscayne highly regarded the island's environment and take great interest in environmental matters. In order to ensure these environmental assets are not lost, an Internship was established with the University of Miami Rosenstiel School of Marine and Atmospheric Science Division of Marine Affairs and Policy to annually enlist a graduate student to work on environmental issues pertinent at that time.

Because the beaches of Key Biscayne are one of the main draws to residents and visitors alike, the first issue that the Internship dealt with was maintaining the beach. To this end, the Village Beach Resources and Management (BRM) Task Force was created and charged

with the mission “To provide short-term and long-term monitoring and management strategies to sustain Key Biscayne’s beaches as the preeminent natural asset for our community.” This panel consisted of local experts as well as scientists from the University of Miami, Miami-Dade County Department of Environmental Resource Protection (DERM), and the United States National Oceanic and Atmospheric Administration (NOAA). The BRM Task Force met periodically to discuss beach related issues including beach nourishment, sand selection, and dune construction. The main accomplishments of this task force included the development of sand specifications tailored for the next beach nourishment project for the Village, the organization of this project, and the acquisition of funding.

Beach related conservation efforts included the development of a 50 year plan developed by Coastal Systems International, Inc., which addressed the issues of Government Cut, Wave Focusing Effects, Longshore Sediment Movements, Beach Nourishment Design, Storm Protection, Sand Sources, Permitting Requirements, and Cost/Funding. This report also addressed the design of beach nourishment and the plan of implementation for the Village.

Through the course of my internship I was responsible for various environmental issues that developed at the Village. Beach related activities included strait-line beach measurements and involvement in the BRM Task Force. The measurements are a continuation of work that has been cataloged since 1996. Included are numbers as well as pictures of the beach at various stationary points within the Village. My involvement in the BRM task force

meetings included producing the agenda packets for all meetings, writing the minutes, and distributing them to members of the Task Force.

Although the beach has been the focus of past interns, and continued to be a large part of my internship, my main purpose was to develop a plan for invasive exotic plant removal within the Village. The problem of invasive exotic plant species was addressed by the Village Council in 1996 with the passing of Resolution No. 96-30 stating:

“NOW THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF KEY BISCAVNE, FLORIDA THAT OCTOBER 1996 IS THE FIRST ANNUAL INVASIVE NONNATIVE PLANT ERADICATION AWARENESS MONTH IN THE VILLAGE OF KEY BISCAVNE, AND ENCOURAGE ALL RESIDENTS TO TAKE PART IN EFFORTS TO REMOVE INVASIVE NONNATIVE PLANTS TO PROTECT THE LONG-TERM ENVIRONMENTAL HEALTH, NATURAL DIVERSITY AND BEAUTY OF ALL OF KEY BISCAVNE, AND THE STATE OF FLORIDA”.

To this end, the development of an invasive exotic removal plan was listed as one of the Village Council's objectives for 1998.

What follows is a report outlining the various duties that I performed during my Internship at the Village of Key Biscayne. The appendices include much information on these issues, and serve as an excellent reference source for the issues discussed herein. Also included are two grant proposals to aid in the funding for the development of a Comprehensive Invasive Exotic Plant Removal Program.

### **Strait Line Beach Measurements**

In order to obtain an idea of the dynamics of the Village of Key Biscayne's beach, strait line measurements have been used along with photograph of certain areas. These numbers and photos allow the Village to examine long-term changes in annual, seasonal, and storm cycles. This information is incorporated into the Storm Preparation and Recovery Plan for the Village of Key Biscayne's Beaches and is also important for matters of beach nourishment (See Appendix A).

### **Village Beach Resources and Management (BRM) Task Force**

The BRM Task Force was created to discuss the plans for a short-term and long-term beach nourishment. It was assembled and chaired by Sandra Goldstien, Village Resources Volunteer, and the first meeting was held June 25, 1996. Since then the task force has met monthly (and sometimes semi-monthly) to address all issues necessary to complete nourishment projects as well as other beach and coastal zone issues (See Appendix B). After years of hard work and success, regular meetings of the BRM Task Force were ceased at the recommendation of Sandra Goldstien due to the completion of objectives; however, future task force meetings may be held on an "on call" basis. What resulted was a resolution on sand quality to be used maintaining the ocean beach of Key Biscayne (See Appendix C).

## **Invasive Exotic Plant Removal Plan**

### **What is an exotic species?**

An exotic is defined by the Florida Exotic Pest Plant Council (EPPC) as “a non-indigenous species, or one introduced to this state, either purposefully or accidentally; it then escaped into the wild in Florida where it reproduces on its own either sexually or asexually.” EPPC defines native as “a species already occurring in Florida at the time of European contact” (1500), and invasive as “a variable condition defined by the category to which the species is assigned” (Florida EPPC, 1997). The EPPC has compiled a list containing Florida’s most invasive species which separates these plants based on their degree of invasiveness (Appendix D).

### **Problems Associated with Exotic Species**

Problems with exotic plants result mainly due to the fact that they have no natural pests to keep their population in check. Other characteristics that exacerbate this problem include:

- wide environmental tolerance in germination and growing conditions
- self or wind pollination or nonspecialized pollinators
- rapid growth to reproductive age or size
- high and continuous seed production during the growing season
- seed dormancy

- short-and long-distance seed or vegetative dispersal
  - vegetative as well as asexual reproduction
  - resistance to disturbance
  - growth form or chemistry suited for successful competition for resources
- (Baker, 1974).

Plants form the biological foundation of all terrestrial and freshwater communities (Krebs, 1994), therefore it follows that any change in the native landscape will have significant changes on the local environment. Because exotic species have the ability to proliferate quickly, their effects often move beyond the local environment, and into large areas of land. When exotic plants invade undisturbed areas, they are usually different in life form than the native species from that area (Simberloff, 1995), resulting in a change from the native habitat. Additionally, exotics are often able to out-compete natives, resulting in productivity, consumption, decomposition, water fluxes, nutrient cycling and loss, soil fertility, and erosion (Vitousek, 1986). Some invading plants have even been found to increase the frequency of fires (Simberloff, 1995).

The following table gives some examples of the scope of this problem. It lists some of the major invasive exotic species of Florida along with their area covered. Due to their ability to quickly take over other habitats, the amount of area they cover increases considerably every year unless there are active measures to control them.



### Approximate Ranges of Nonindigenous Plant Species in Southern Florida

Species	Year surveyed	Hectares
<i>Casuarina</i> spp. (Australian pine)	1993	151,246
<i>Eichhornia crassipes</i> (water hyacinth)	1993	680
<i>Hydrilla verticillata</i> (hydrilla)	1994	39,458
<i>Lygodium microphyllum</i> (climbing fern)	1993	10,434
<i>Melaleuca quinquenervia</i> (melaleuca)	1993	197,827
<i>Panicum repens</i> (torpedo grass)	1992	7,100
<i>Schinus terebinthifolius</i> (Brazilian pepper)	1993	284,708

Source: Simberloff et al., 1997

### Advantages of native species

Although not all exotic plants are detrimental to the environment, some are invasive, and pose a serious threat to biodiversity. Additionally, exotic plants that are not presently invasive may become so if they are not monitored. Native plants offer many benefits:

- Adapted to regional conditions and may require less maintenance and are cost-effective.
- More resistant to hurricane-force winds, thereby reducing the chances of damage due to high winds.
- Hardy.
- Environmentally friendly, require fewer pesticides and fertilizers because of natural adaptations.
- Promote biodiversity and stewardship.
- Provide food and shelter for native wildlife.
- Restore regional landscapes.
- Prevent future exotic introductions.

## Exotic species and Key Biscayne

The island of Key Biscayne represents a special case in that it is separated from other areas. Although many exotic plants have the ability to disperse over long ranges, the Key represents an area that is somewhat isolated from the mainland. For this reason, exotic plant removal plans will be more effective in such an area where the spread of exotics from other areas can more easily be controlled.

Key Biscayne contains three entities: Crandon Park, the Village of Key Biscayne, and Bill Baggs Cape Florida State Recreation Area. Of these three entities, the Village of Key Biscayne is the only one that has not yet developed and/or implemented an exotic plant control plan. Because these areas represent the same habitat as the Village, one may expect the same problems. For this reason, these will serve as excellent models for the Village to develop a similar plan. In March of 1991, Crandon Park established their Natural Areas Protection Plan which addressed the problems of exotic species. As a result, Crandon Park officials have prepared an Exotic Plant Control Implementation Program with the objectives of distinguishing and mapping areas within the park that were overrun with exotics, prioritizing these areas, and providing information for what is needed to begin the program. Crandon Park developed an exotic pest plant list that divided the exotic plants in the park into groups based on their degree of invasiveness (Appendix E).

In December 1996, Bill Baggs Cape Florida State Recreation Area approved its Exotic Plant

Removal Plan. This plan provided a list of goals for the overall removal of exotic plants, the highest priority exotic plants for removal, areas where exotic plant removal efforts need to be focused on first, objectives for volunteer and staff, and tasks designed to meet the goal of exotic plant removal. Like Crandon Park, they too developed an exotic plant list for Bill Baggs State Recreation Area (Appendix F), which identified a list of the top 6 exotic plants:

Burma reed (*Neyraudia reynaudiana*)  
Lather leaf (*Clumbrina asiatica*)  
Scaevola (*Scaevola taccada*)  
Day-blooming jasmine (*Cestrum diurnum*)  
Castor bean (*Ricinus communis*)  
Torpedo grass (*Panicum repens*)

The planting of certain species of plants in land under development has been discussed in the Village of Key Biscayne Master Plan, which was adopted by the Village Council on September 12, 1995, and accepted by the Florida Department of Community Affairs on October 20, 1995. One of the Goals listed in this document is "To Preserve and Enhance the significant natural features in Key Biscayne." Under this objective, Policy 1.7.9 states:

The Village shall enact and enforce land development regulations which prohibit the propagation and planting of the following plants; it shall also require that eradication of these species be carried out on all sites of new and redeveloped projects:

Melaleuca	Brazilian Pepper	Australian Pine
Earleaf Arcadia	Woman's Tongue	Bishop Wood
Shoebotton Ardisia	Day Blooming Jasmine	Colubrina
Aerial Potato	Eucalyptus	Lead Tree
Castor Bean		

Because the Village is surrounded by areas that have implemented exotic plant control programs, the development of an exotic plant removal plan within the Village is essential.

Due to an exotic's ability to spread rapidly into native areas, exotics within the Village have

the potential to spread into areas of Crandon Park and Bill Baggs Cape Florida State Recreation Area.

#### Exotic Eradication from Key Biscayne

The first step of the Exotic Eradication Program for the Village of Key Biscayne will deal with the identification of highly invasive exotics on Village land, and the replacement of these species with appropriate native plants. The Exotic Eradication Program for the Village of Key Biscayne was initiated in 1997, and was designed to identify invasive exotic species, concentrating on Australian pine and exotic Scaevola. The intention of the program is to entice residents to rid the island of invasive exotic species while replacing them with appropriate native landscaping, which will enhance restoration efforts. In order to reward land owners for voluntarily removing invasive exotics from their land, the Village will develop a program that will offer the appropriate native species in exchange for the exotic species. It will be important to educate residents on the economic and ecological benefits of such a program. In order to persuade residents to participate in this program, it will be necessary to stress that exotic plant removal becomes more expensive over time due to their ability to reproduce quickly. Residents will also be informed of other advantages of native species including: less maintenance, hurricane resistant, require fewer pesticides and fertilizers, and prevent future exotic introductions. Although certain laws are in effect for agriculture, no state laws require private land owners to remove exotic plants from their property or even prevent their introduction. What often results is that these areas serve as

“seed banks” that may spread to adjacent areas that have eradicated the exotic plants (Brown, 1997).

The natural landscape of Key Biscayne has been studied since 1800, with the first known botanical collection made by A. H. Curtiss in 1895. This landscape has changed much since then, with successive collections and lists made in the early 1900's (Britton, 1904; Small, 1913), mid 1900's (McAllister, 1938), and late 1900's (Hammer & Popenoe, 1979; Avery, 1991; Huck, 1993). An excellent history of how the landscape has changed can be found in an article by Robin B. Huck (1995) which lists all of the species found in these surveys (Appendix G). This list will serve as a guide to be used by anyone interested in planting plant species that are truly native to Key Biscayne.

Miami-Dade County has adopted a list of prohibited landscaping (Appendix H). A prohibited species is defined as species that may not be planted anywhere in Miami-Dade County in accordance with the landscape code. These species must be removed from sites upon site development. Miami-Dade County has also developed a list of controlled species (Appendix I). Controlled species are species that may not be planted within 500 feet of the native plant communities which they have been known to invade after the adoption of the revised Landscape Code. Both of these lists should be followed carefully when future development is planned.

## The Private Sector

As one may well imagine, many problems may arise when developing a plan that affects private land, and the removal of exotic species is no exception. This case is special in that in order to be fully effective, 100% of the invasive exotics need to be removed from the island; however, this is obviously impossible as states do not have control over private lands. Instead, the Village needs to concentrate on educating private land owners about the advantages of removing invasive exotics. Successful management of nonindigenous species requires a plan that emphasizes comprehensive, long-term efforts and the use of biophysical data. Although much research has been done on exotic species, better, more exact techniques need to be developed and implemented in order to develop a successful plan. These data then need to be widely available to all agencies involved in the program including private landowners. Investing early in the eradication of invasive exotic species may allow for eradication that may become impossible as these species proliferate. Additionally, the cost of implementing maintenance control can quickly exceed the cost of early eradication. One must remember that plants do not wait around until funding is acquired for eradication, instead, they continue to grow, move, and evolve (Brown, 1997).

A successful, long-term plan for the removal of exotic plant species from private land will start with concentration on those species that represent the greatest risk of spreading. Thirteen species of invasive exotics are listed in the Master Plan of the Village of Key Biscayne, and these are the species that should be targeted first by private land owners.

Based on the response to this first round of exotic plant removal, the Village will then decide on a time schedule and the species should be removed next.

The success of any long-term project entails constant monitoring of the situation in order to measure progress and to make educated decisions for future management plans. For this reason, the use of a Geographic Information System (GIS) will prove essential in the development and monitoring of this project. GIS has proven itself effective in the monitoring of exotic plants within Bill Baggs Cape Florida State Recreation Area (Bess et al, 1996). Here it was used to inventory plants installed through contract in order to determine contract compliance and plant survival. It also served to establish a permanent record of the plant species, size, and location in order to determine long-term success of the restoration project and provide information for future large-scale restoration projects.

Yet another local example of the successful use of GIS can be found in the Urban Ecological Analysis for Miami-Dade County conducted by American Forests in April 1996. This report provided an overview of the existing conditions of unincorporated townships in Miami-Dade County, and measured the benefits produced by various landscape structures, based on three factors: reducing storm water flow, conserving energy, and improving air quality (carbon storage and sequestration).

The major findings of this study include:

**Tree canopy cover of Unincorporated Miami-Dade County is estimated at only about 10%:**

-- The canopy cover needs to be reestablished as a result of development and

- storm drainage.
- If the tree canopy in the county were increased by 20%, the environmental and economic impact would be significant.
- Hurricane Andrew removed most of the tree canopy in areas where its winds were strongest south of Kendall Drive
- Damaged areas offer a major opportunity for increasing tree canopy. Tree cover in these areas can be increased by about 40%.

**Current summer energy savings from trees is valued at \$5.3 million**

- Florida Power and Light (FP&L) reports an average cooling cost of \$485 per home per year at single-family detached residences (FP&L, 1996).
- Over 90% of the homes in Miami-Dade County have air conditioning and 10% (based on study site statistics) have trees growing in optimum, energy-saving locations.
- Residential energy use equals 25% of all energy use in the state and half of that is for air conditioning.
- Trees currently provide direct energy savings of \$5.3 million per year to single-family, detached residents, based on 311,159 single-family detached homes.
- Adding one mature tree in the right location at each home would increase energy savings county-wide to over \$14.4 million a year and lower peak load demand, increasing summer savings from trees by 2-1/2 times.

**Tree canopy cover reduces storm water flow by up to 15%**

- Flooding and storm water problems can be reduced by increasing tree cover and reducing impervious surfaces
- At the South Miami Residential study site, a 21% existing tree canopy reduced storm water runoff by 15%.

**Tree canopy improves air quality, through carbon sequestration, by \$4.8 million annually**

- About 30% of the air quality problem in cities is attributed to heat island conditions. Trees lower air temperatures and reduce air pollution.
- Trees also reduce carbon in the air. Carbon is the most abundant of the greenhouse gases.
- In Miami-Dade County, trees sequester 5,245 tons of carbon annually with a market value of \$4.8 million.
- By increasing urban tree cover to match existing well-canopied sites, 13,792 tons of carbon could be sequestered annually, at a value of about \$12.6 million.



**Incorporating natural resources benefits into planning and development is a good investment**

- This study shows that the natural landscape can provide the County with substantial benefits, measured in terms of quantity and dollar values.
- The technique used is called the Urban Ecological Analysis, which provides a platform for incorporating natural resources effectively into planning and development.
- This technique is available to the County through the use of *CITYgreen* software.

**Selecting the right tree species and placement of new plants will greatly improve the ecological benefits they provide.**

- Select the right tree for the right place based on ecological conditions and benefits.
- For example, in the South Miami Residential study site, palm trees represent 38% of all trees at the site. Replacing them with live oak would increase the canopy by 21%, increase energy savings by 20%, increase carbon sequestration by 21% and reduce storm water by 8%.

**The new landscape ordinance supports ecological benefits**

- The new landscape ordinance supports the priorities of the urban ecosystem.
- An aggressive implementation plan for this new ordinance would improve benefits.

Yet another interesting point that is made within this report deals with the importance of planning vegetation standards within the entire urban forest. The typical urban forest inventory includes vegetation that is suitable for maintenance planning (primarily street and park trees); however, these make up only 10% of the entire urban forest resource. The other 90% is composed of private property, right-of-ways, vacant lots, unmanaged open space, and other areas that fall under various jurisdictions.

Parts of the Miami-Dade Landscape Ordinance that recognize the value of the urban

landscape include:

**Increasing Canopy Cover**

- Prevent the destruction of the community's existing tree canopy and promote its expansion (Section 18A-2 C).
- Limit the use of palms: no more than 30% of the minimum tree planting requirements may be met with palms (Section 18A-6 (C-6)).

**Planting for Energy Conservation**

- Provide shade and a visual edge along roadways (Section 18A-2 (B))
- Promote the use of trees and shrubs for energy conservation (Section 18A-2 (E)).
- Plant trees that grow to 35 feet in height or less at maturity, to provide shade to residents. All exterior air-conditioning units shall be shaded with trees (Section 18A-6 (C-5)).

**Planning for Sustainability**

- Preserve existing trees (Section 18A-6 (C-7)).
- Provide appropriate spacing for healthy growth. When not appropriate to plant in the public right-of-way, it may be required that trees be placed on private property (Section 18A-6 (C-11)).

Indeed, the Village would benefit greatly from utilizing GIS. Data on all of the street trees within the Village has been collected and could easily be input into any GIS system, and additional information could be included for later analysis. Using this information, it will be possible to make future policy decisions and changes regarding the control of exotic species within the Village.

## **Comprehensive Plan Implementation**

### **Step 1:            Removal of Invasive Exotics From Village Lands**

This step will involve the identification and mapping of invasive exotic plants on public lands including right-of-ways, parks, and medians. The Florida Exotic Pest Plant Council's List of Florida's Most Invasive Species will be followed, and priority will be given to Category I invasive exotics. In most cases, physical removal will be used for eradication, or in the case of larger species, the Village will consultant the methods used by Crandon Park and/or Bill Baggs Cape Florida State Recreation Area.

### **Step 2:            Invasive Exotics on Private Land**

The impetus for this step will be the education of residents on the disadvantages of invasive exotic species and the advantages of native species. To this end, a brochure will be developed that will discuss these key points, list invasive exotic plants known to exist on the Key, and illustrate some of the most prevalent species. Recommended native species will also be listed, along with the appropriate uses/placement. Another option available to residents would be to request the Village to come to their property and inventory the invasive exotic plant species on their land so that they may later be removed.

### Step 3:            Monitoring of the Status of Invasive Exotics

In order to measure the success of this project, the level of community involvement, as well as the status of invasive exotic plants within the Village, a long-term monitoring program will be used. The obvious tool for such a task is a GIS. This will involve the input of invasive exotic plants (both existing and removed) as well as the native plant species that were used to replace invasive exotic plants. The Village will also be able to evaluate long term impacts of manual and chemical methods used to control invasive plants, and determine the cost-effectiveness of manual and chemical control methods in relation to enhancement of barrier island habitat. This system will also allow the Village and scientists analyze the recruitment of native and exotic species within the Village.

### Grant Proposals

Because the cost of implementing a comprehensive invasive exotic plant removal management plan can be costly, the Village was interested in obtaining grant money to supplement this process. One funding source was through the Urban and Community Forestry Grant Program, a division of the Department of Agriculture and Consumer Services. The application for this grant included an explanation as to why an invasive exotic plant removal plan is necessary for the Village, a description of the project, and a proposed budget (See Appendix J). Pictures of invasive exotic plant species occurring on the Village's right-of-ways were included, along with maps showing the Village's proximity to Miami-Dade

County Crandon Park and Bill Baggs State Recreation area. This is a matching grant, with \$15,000 available from the Urban and Community Forestry Grant Program, and a local match of \$15,000.

A grant pre-proposal was also prepared for the South Florida Community - Urban Resources Partnership (See Appendix K). This funding source stressed the importance of utilizing the community and educational components in efforts to conserve natural resources. Indeed, a comprehensive invasive exotic plant removal plan for the Village will require the cooperation of private land owners. The Village has also partnered with the local Chamber of Commerce and the Key Biscayne Community School in an effort to revegetate a courtyard in the center of the school. The goal of this project is to replicate a native maritime hammock community that will serve as an outdoor classroom for the school. The educational component will involve informing residents about the disadvantages of invasive exotic plants, while emphasizing the advantages of native species, while using the outdoor classroom of an example.. The budget for this grant is \$20,000 -- \$10,000 from the funding agency, and a local match of \$10,000.

## **CONCLUSION**

During the course of this internship I was able to experience first-hand how government agencies function. This included, but was not limited to, the municipal government of the Village of Key Biscayne. Due to the size of this municipality, I was able to learn much about

the various departments within the Village and how they interact. I was also exposed to Miami-Dade County Department of Environmental Resource Management (DERM) and the US National Oceanographic and Atmospheric Administration (NOAA). I feel this experience was invaluable due to the fact that anyone in the environmental industry, whether in the private or public sector, will have to deal with the government in some way.

Throughout this internship it was made abundantly clear to me the need for increased environmental awareness at the governmental level. It is rare to find a politician who is also a scientist. For this reason, it is essential to have staff that can not only understand scientific information, but also be able to explain this information to public officials and the community. Also, in today's society, it is advantageous for a scientist to familiarize himself/herself with the process of government, including funding sources, environmental regulations, budgeting, and permitting.

In today's budget conscious government, it is necessary to justify any money spent on the environment. In the past, it was difficult to convince some individuals of the importance of a good environment, and more difficult to appropriate money to certain environmental issues. Fortunately today is different in that economists have found ways to value the environment. A perfect example of such a process is the economic valuation of beach nourishment which is a critical issue for the Village of Key Biscayne. Through the use of cost-benefit analysis, one is able to demonstrate to residents and politicians that every dollar spent on beach nourishment brings back more than one dollar to the economy. This can also be

applied to other environmental issues, such as invasive exotic plant eradication, thereby making conservation arguments much more convincing.

When I arrived at RSMAS, my background was in pure science, and I was unfamiliar with many of the governmental regulations associated with the environment, and the processes necessary to promote environmental conservation. I now have an effective understanding as well as hands-on experience of governmental regulations and environmental processes. Everyone understands money, and environmental valuation is a good way to convince people about the value of natural resources. I believe that economic valuation of natural resources will be one of the most important ways to convince law makers and citizens to conserve our environment for future generations. The Marine Affairs & Policy program is well suited to prepare environmentalists for this very important task.

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## **Appendix A**

### **Surveys for the Village of Key Biscayne Beach**

## Appendix A1

### Survey for the Village of Key Biscayne Beach

Tuesday, April 24, 1998

9:45 - 11:15 am

This survey was performed as a rough estimate to the berm width of several sections of the beach in order to document beach widths for the creation and standardization of a Village beach and dune data base. All distances were calculated with a standard measuring tape, during low tide conditions, from the stationary points of description straight out to the high water mark (the debris line).

Even though measurements were taken from stationary objects, some reference points vary greatly in their distance from the wet sand, thus large variations in measured beach width may occur between markers. These widths were measured simply as reference points for post-storm damage surveys and should not be used to assess the current instantaneous health of the beach, or be compared to one another. Distances from fixed points will only reveal changes at those locations after severe weather damage and/or sufficient lengths of time, and individually reveal nothing of the current status or trends of beach erosion.

Due to lack of precision, these measurements should only be compared to measurements at the same locations, and only be considered significant if greater than a 5 foot change in berm width is observed. These are not professional surveys.

<u>Stationary Point</u>	<u>Berm Width (dry/wet)</u>	<u>Pictures at Point</u>
Northeastern most corner of the Towers of Key Biscayne building (NOT THE SEAWALL).	132'23"	Yes
In line with the northeastern most corner of the Casa del Mar building, measured from the seawall with the white aluminum fence.	114'30"	No
Florida Department of Environmental Protection survey monument marker R-106 (In small dune near fence (N 1/3)).	64'35"	Yes
Southeastern corner of the Key Biscayne Beach Club property, measured from the seawall adjacent to the Ocean Club property.	53'39"	No

## Appendix A1

<u>Stationary Point</u>	<u>Berm Width</u>	<u>Pictures at Point</u>
Florida Department of Environmental Protection survey monument marker R-105.	67'/36'	Yes
Florida Department of Environmental Protection survey monument marker R-104.	62'/30'	Yes
Southeast corner of the Sonesta Beach Hotel property, measured from the seawall.	Omit	Omit
Florida Department of Environmental Protection survey monument marker R-103.	25'/24'	Yes
Southeastern corner of the Key Colony property, in line with the Red Sands Motel's most seaward structure.	Omit	Omit
Southeastern corner of the Island House shuffle board court.	147'/24'	No
Northeastern corner of the Commodore Club East seawall.	232'/16'	No
FDEP survey marker R-101 (In dunes NW of southernmost lifeguard shack, S end of Crandon Park).	200'/16'	Yes

## Appendix A2

### Survey for the Village of Key Biscayne Beach

Wednesday, June 11, 1998

15:30 - 16:50

This survey was performed as a rough estimate to the berm width of several sections of the beach in order to document beach widths for the creation and standardization of a Village beach and dune data base. All distances were calculated with a standard measuring tape, during low tide conditions, from the stationary points of description straight out to the high water mark (the debris line).

Even though measurements were taken from stationary objects, some reference points vary greatly in their distance from the wet sand, thus large variations in measured beach width may occur between markers. These widths were measured simply as reference points for post-storm damage surveys and should not be used to assess the current instantaneous health of the beach, or be compared to one another. Distances from fixed points will only reveal changes at those locations after severe weather damage and/or sufficient lengths of time, and individually reveal nothing of the current status or trends of beach erosion.

Due to lack of precision, these measurements should only be compared to measurements at the same locations, and only be considered significant if greater than a 5 foot change in berm width is observed. These are not professional surveys. -

<u>Stationary Point</u>	<u>Berm Width (dry/wet)</u>	<u>Pictures at Point</u>
Northeastern most corner of the Towers of Key Biscayne building (NOT THE SEAWALL).	125'5"/38'6"	Yes
In line with the northeastern most corner of the Casa del Mar building, measured from the seawall with the white aluminum fence.	113'5"/37'8"	No
Florida Department of Environmental Protection survey monument marker R-106 (In small dune near fence (N 1/3)).	57'1"/42'6"	Yes
Southeastern corner of the Key Biscayne Beach Club property, measured from the seawall adjacent to the Ocean Club property.	59'0"/32'9"	No

## Appendix A2

<u>Stationary Point</u>	<u>Berm Width</u>	<u>Pictures at Point</u>
Florida Department of Environmental Protection survey monument marker R-105.	69'0"/33'5"	Yes
Florida Department of Environmental Protection survey monument marker R-104.	66'0"/29'1"	Yes
Southeast corner of the Sonesta Beach Hotel property, measured from the seawall.	Omit	Omit
Florida Department of Environmental Protection survey monument marker R-103.	30'5"/25'1"	Yes
Southeastern corner of the Key Colony property, in line with the Red Sands Motel's most seaward structure.	Omit	Omit
Southeastern corner of the Island House shuffle board court.	143'3"/33'2"	No
Northeastern corner of the Commodore Club East seawall.	238'0"/22'0"	No
FDEP survey marker R-101 (In dunes NW of southernmost lifeguard shack, S end of Crandon Park).	206'2"/20'2"	Yes

Notes:

Low tide @ 15:09 according to Govt. Cut; tide tables.

**Survey for the  
Village of Key Biscayne Beach**

Friday, July 31, 1998

10:10 - 11:50

This survey was performed as a rough estimate to the berm width of several sections of the beach in order to document beach widths for the creation and standardization of a Village beach and dune data base. All distances were calculated with a standard measuring tape, during low tide conditions, from the stationary points of description straight out to the high water mark (the debris line).

Even though measurements were taken from stationary objects, some reference points vary greatly in their distance from the wet sand, thus large variations in measured beach width may occur between markers. These widths were measured simply as reference points for post-storm damage surveys and should not be used to assess the current instantaneous health of the beach, or be compared to one another. Distances from fixed points will only reveal changes at those locations after severe weather damage and/or sufficient lengths of time, and individually reveal nothing of the current status or trends of beach erosion.

Due to lack of precision, these measurements should only be compared to measurements at the same locations, and only be considered significant if greater than a 5 foot change in berm width is observed. These are not professional surveys.

Stationary Point	Berm Width (dry/wet)	Pictures at Point
<u>R-108 (N. Edge of Cape Florida,</u> orange steak - no monument?)	<u>95'8"/13'2"</u>	<u>No</u>
Northeastern most corner of the Towers of Key Biscayne building (NOT THE SEAWALL).	136'7'1" * small clump of sea lavender	Yes
In line with the northeastern most corner of the Casa del Mar building, measured from the seawall with the white aluminum fence.	117'11"/12'7"	No
Florida Department of Environmental Protection survey monument marker R-106 (In small dune near fence (N 1/3)).	66'5"/11"	Yes

<u>Stationary Point</u>	<u>Berm Width</u>	<u>Pictures at Point</u>
Southeastern corner of the Key Biscayne Beach Club property, measured from the seawall adjacent to the Ocean Club property.	59'10"/6'7"	No
Florida Department of Environmental Protection survey monument marker R-105.	72'6"/11'6"	Yes
Florida Department of Environmental Protection survey monument marker R-104.	69'10"/13'10"	Yes
Southeast corner of the Sonesta Beach Hotel property, measured from the seawall.	Omit	Omit
Florida Department of Environmental Protection survey monument marker R-103.	32'0"/12'5"	Yes
Southeastern corner of the Key Colony property, in line with the Red Sands Motel's most seaward structure.	Omit	Omit
Southeastern corner of the Island House shuffle board court.	156'5"/16'1"	No
Northeastern corner of the Commodore Club East seawall.	234'/12'4"	No
FDEP survey marker R-101 (In dunes NW of southernmost lifeguard shack, S end of Crandon Park).	200'5"/10'10"	Yes

Notes:

Low tide @ 09:36 according to Govt. Cut; tide tables.

Surveyors: H. Groschel-Becker and K. McFadden



**Survey for the**  
**Village of Key Biscayne Beach**  
Friday, September 11, 1998  
10:15 - 11:45 a.m.

This survey was performed as a rough estimate to the berm width of several sections of the beach in order to document beach widths for the creation and standardization of a Village beach and dune data base. All distances were calculated with a standard measuring tape, during low tide conditions, from the stationary points of description straight out to the high water mark (the debris line).

Even though measurements were taken from stationary objects, some reference points vary greatly in their distance from the wet sand, thus large variations in measured beach width may occur between markers. These widths were measured simply as reference points for post-storm damage surveys and should not be used to assess the current instantaneous health of the beach, or be compared to one another. Distances from fixed points will only reveal changes at those locations after severe weather damage and/or sufficient lengths of time, and individually reveal nothing of the current status or trends of beach erosion.

Due to lack of precision, these measurements should only be compared to measurements at the same locations, and only be considered significant if greater than a 5 foot change in berm width is observed. These are not professional surveys.

<u>Stationary Point</u>	<u>Berm Width (dry/wet)</u>	<u>Pictures at Point</u>
R-108 (N. Edge of Cape Florida, orange steak - no monument?)	86'5"/12'5"	Yes
Northeastern most corner of the Towers of Key Biscayne building (NOT THE SEAWALL).	126'2"/9'1"	No
In line with the northeastern most corner of the Casa del Mar building, measured from the seawall with the white aluminum fence.	105'0"/8'7"	Yes
Florida Department of Environmental Protection survey monument marker R-106 (In small dune near fence (N 1/3)).	40'9"/8'9"	Yes

<u>Stationary Point</u>	<u>Berm Width</u>	<u>Pictures at Point</u>
Southeastern corner of the Key Biscayne Beach Club property, measured from the seawall adjacent to the Ocean Club property.	46'1"/5'8"	Yes
Florida Department of Environmental Protection survey monument marker R-105.	60'9"/9'7"	Yes
Florida Department of Environmental Protection survey monument marker R-104.	64'3"/7'5"	Yes
Southeast corner of the Sonesta Beach Hotel property, measured from the seawall.	Omit	Omit
Florida Department of Environmental Protection survey monument marker R-103.	21'8"/7'3"	Yes
Southeastern corner of the Key Colony property, in line with the Red Sands Motel's most seaward structure.	Omit	Omit
Southeastern corner of the Island House shuffle board court.	154'4"/7'11"	Yes
Northeastern corner of the Commodore Club East seawall.	236'4"/7'6"	Yes
FDEP survey marker R-101 (In dunes NW of southernmost lifeguard shack, S end of Crandon Park).	189'8"/12'10"	Yes

Notes:

Low tide @ 7:39 a.m. according to Govt. Cut; tide tables.

Surveyors: H. Groschel-Becker, K. McFadden, & A. Nunez

## Appendix A5

### Survey for the Village of Key Biscayne Beach

September 23, 1998 (Pre-Hurricane Georges)

2:15 - 3:30 pm

This survey was performed as a rough estimate to the berm width of several sections of the beach in order to document beach widths for the creation and standardization of a Village beach and dune data base. All distances were calculated with a standard measuring tape, during low tide conditions, from the stationary points of description straight out to the high water mark (the debris line).

Even though measurements were taken from stationary objects, some reference points vary greatly in their distance from the wet sand, thus large variations in measured beach width may occur between markers. These widths were measured simply as reference points for post-storm damage surveys and should not be used to assess the current instantaneous health of the beach, or be compared to one another. Distances from fixed points will only reveal changes at those locations after severe weather damage and/or sufficient lengths of time, and individually reveal nothing of the current status or trends of beach erosion.

Due to lack of precision, these measurements should only be compared to measurements at the same locations, and only be considered significant if greater than a 5 foot change in berm width is observed. These are not professional surveys.

<u>Stationary Point</u>	<u>Berm Width (dry/wet)</u>	<u>Pictures at Point</u>
R-108 (N. Edge of Cape Florida, orange steak - no monument)	93'1" / 12'4"	Yes
Northeastern most corner of the Towers of Key Biscayne building (NOT THE SEAWALL).	115'1" / 15'1"	Yes
In line with the northeastern most corner of the Casa del Mar building, measured from the seawall with the white aluminum fence.	104'9" / 9'2"	No
Florida Department of Environmental Protection survey monument marker R-106 (In small dune near fence (N 1/3)).	41'6" / 13'2"	No

## Appendix A5

<u>Stationary Point</u>	<u>Berm Width (dry/wet)</u>	<u>Pictures at Point</u>
Southeastern corner of the Key Biscayne Beach Club property, measured from the seawall adjacent to the Ocean Club property.	48'7" / 19'10"	Yes
Florida Department of Environmental Protection survey monument marker R-105.	58'2" / 9'2"	No
Florida Department of Environmental Protection survey monument marker R-104.	71'10" / 20'0"	Yes
Southeast corner of the Sonesta Beach Hotel property, measured from the seawall.	Omit	Omit
Florida Department of Environmental Protection survey monument marker R-103.	28'2" / 15'3"	Yes
Southeastern corner of the Key Colony property, in line with the Red Sands Motel's most seaward structure.	Omit	Omit
Southeastern corner of the Island House shuffle board court.	163'0" / 16'5"	Yes
Northeastern corner of the Commodore Club East seawall.	249'3" / 15'4"	Yes
FDEP survey marker R-101 (In dunes NW of southernmost lifeguard shack, S end of Crandon Park).	192'5" / 14'11"	Yes

### Notes:

Low Tide: 5:46 p.m. according to Govt. Cut; tide tables  
 Surveyors: K. McFadden, T. Hefferberth

## Appendix A5

## Appendix A6

### Survey for the Village of Key Biscayne Beach September 28, 1998 (Post-Hurricane Georges) 12:45 - 1:50 pm

This survey was performed as a rough estimate to the berm width of several sections of the beach in order to document beach widths for the creation and standardization of a Village beach and dune data base. All distances were calculated with a standard measuring tape, during low tide conditions, from the stationary points of description straight out to the high water mark (the debris line).

Even though measurements were taken from stationary objects, some reference points vary greatly in their distance from the wet sand, thus large variations in measured beach width may occur between markers. These widths were measured simply as reference points for post-storm damage surveys and should not be used to assess the current instantaneous health of the beach, or be compared to one another. Distances from fixed points will only reveal changes at those locations after severe weather damage and/or sufficient lengths of time, and individually reveal nothing of the current status or trends of beach erosion.

Due to lack of precision, these measurements should only be compared to measurements at the same locations, and only be considered significant if greater than a 5 foot change in berm width is observed. These are not professional surveys.

<u>Stationary Point</u>	<u>Berm Width (dry/wet)</u>	<u>Pictures at Point</u>
R-108 (N. Edge of Cape Florida, orange steak - no monument)	84' / 14'	Yes
Northeastern most corner of the Towers of Key Biscayne building (NOT THE SEAWALL).	117' / 8'	Yes
In line with the northeastern most corner of the Casa del Mar building, measured from the seawall with the white aluminum fence.	109' / 9'	Yes
Florida Department of Environmental Protection survey monument marker R-106 (In small dune near fence (N 1/3)).	39' / 12'	Yes

## Appendix A6

<u>Stationary Point</u>	<u>Berm Width (dry/wet)</u>	<u>Pictures at Point</u>
Southeastern corner of the Key Biscayne Beach Club property, measured from the seawall adjacent to the Ocean Club property.	<u>40' / 7'</u>	<u>Yes</u>
Florida Department of Environmental Protection survey monument marker R-105.	53' / 7'	No
Florida Department of Environmental Protection survey monument marker R-104.	46' / 5'	Yes
Southeast corner of the Sonesta Beach Hotel property, measured from the seawall.	Omit	Omit
Florida Department of Environmental Protection survey monument marker R-103.	24' / 6'	Yes
Southeastern corner of the Key Colony property, in line with the Red Sands Motel's most seaward structure.	Omit	Omit
Southeastern corner of the Island House shuffle board court.	141' / 14'	Yes
Northeastern corner of the Commodore Club East seawall.	220' / 7'	Yes
FDEP survey marker R-101 (In dunes NW of southernmost lifeguard shack, S end of Crandon Park).	193' / 6'	Yes

### Notes:

Low Tide: 8:53 am according to Govt. Cut; tide tables

Surveyors: K. McFadden, A. Nunez

## **Appendix B**

### **Village Beach Resources and Management Task Force Agendas**



**Agenda for the May 20, 1998 Meeting of the  
Village Beach Resources and Management Task Force**

"To provide short-term and long-term monitoring and management strategies to sustain Key  
Biscayne's beaches as the preeminent natural asset for our community."

**Sandra Goldstein, Chairwoman**

**Betty Sime, Councilwoman**

**C. Samuel Kissinger, Village Manager**

**James D. DeCocq, Assistant to the Village Manager**

**Debby Castillo, Marketing Director, Sonesta Beach Hotel**

**Brian Flynn, Coastal Programs Administrator, DERM**

**Chilton Harper, President and Chief Operating Officer, VestTech Int. Corp.**

**John A. Hinson, President, Ocean Club Development Company**

**Sam Houston, Meteorologist, NOAA**

**Paul Lin, Coastal Engineer, CSI, Inc.**

**Kris McFadden, Village Beach Preservation Intern - RSMAS**

**Hal Wanless, Geologist, University of Miami**

**Ex Officio:**

**Lee Niblock, Park Manager, Cape Florida State Recreation Area**

1. **Call to Order - S. Goldstein**
2. **Approval of Minutes - General Consensus**
3. **Agenda**
  - A. **Status of Short-Term Beach Nourishment**
    - i. Sand Quality - B. Flynn, Enclosures
    - ii. Wanles Letters, Enclosures
    - iii. Permit Requirements - B. Flynn, Enclosure
    - iv. Additional Information - General Consensus
  - B. **Implementation of Long-Term Beach Nourishment** - Enclosure
    - i. Status of Key Biscayne Regarding State and Dade County Funding
    - ii. Status Reimbursement Agreement for State and County
    - iii. Sand Source Selection - J. DeCocq
    - iv. Status of Permitting - B. Flynn
    - v. Field Investigations - J. DeCocq
    - vi. Preliminary Designs
  - C. **Progress Report on Lobbyist**
  - D. **RSMAS - Village Beach Preservation (Fall) Intern** - J. DeCocq, Enclosure

- E.     **Sonesta Beach Resort Improvements** - D. Castillo, J. DeCocq, Enclosure
- F.     **Waterfronts Florida**, Enclosure
- G.     **Florida Shore and Beach Preservation Association**, Enclosure
- H.     **American Coastal Coalition**, Enclosures
- 4.     **New Business**
  - i.       **Participation in American Coastal Coalition's June 25 Summit**
  - ii.      **Implementation of Community Awareness Projects**
- 5.     **Schedule of Next Meeting** - General Consensus
- 6.     **Adjournment** - S. Goldstein

**VILLAGE BEACH RESOURCES AND MANAGEMENT (BRM) TASK FORCE  
VILLAGE OF KEY BISCAYNE, FLORIDA**

**WEDNESDAY, FEBRUARY 18, 1998**

**KEY BISCAYNE POLICE CONFERENCE ROOM  
85 WEST ENID DRIVE**

1. **CALL TO ORDER/ROLL CALL OF MEMBERS:** The meeting was called to order by Chair Sandra Goldstein at 3:15 p.m. Present were Village Manager C. Samuel Kissinger, Assistant to the Village Manager James D. DeCocq, Ocean Club Development Company President John Hinson, National Oceanic and Atmospheric Administration (NOAA) Meteorologist Sam Houston, Miami-Dade County Department of Environmental Resources Management (DERM) Coastal Programs Administrator Brian Flynn, University of Miami Geologist Hal Wanless, MAST Academy student Sylvia Oleck, and Village Lobbyist L. Grant (Jack) Peeples.

2. **APPROVAL OF MINUTES:** The minutes were adopted without change.

3. **AGENDA**

A. **Question and Answer Session with J. Peeples** - Sandra Goldstien introduced Task Force members to Jack Peeples, and explained that this would be used as an informational meeting for Mr. Peeples.

i. **Adoption of Long Term Beach Nourishment Plan** - A finalized and adopted copy of the Plan had been forwarded to Mr. Peeples prior to the meeting to be used as background information and support for lobbying.

ii. **State Funding** - James DeCocq reviewed the formula for determining the amount of State cost share, including how the Village may gain funding for increased public access with the new Grand Bay Hotel. Sandra Goldstien voiced concerns as to how the "time-share" section of the proposed Hotel may affect funding. Sam Kissinger commented that all Village residents are allowed to walk through the Grand Bay property and use their beach club. Mr. Peeples indicated that he was fairly confident that he would be able to lobby for the required State funding for the Village 1999 beach project. He added that legislation was in session and, if approved, funds would be appropriated July 1.

Brian Flynn mentioned that HB 3427 was under consideration and would establish a Doc. Stamp Trust Fund of \$10 million this year, \$20 million next year, and \$30 million annually thereafter, as a dedicated source of beach nourishment funding. John Hinson commented that Ocean Club alone has paid \$3.5 million in Doc. Tax. Ms. Goldstien suggested that Debbie Flack would be a good supplemental lobbyist for these issues.

Sam Kissinger commented that Key Biscayne does not receive bed tax, while every other municipality

does, with Jack Peebles stating that annually this is approximately \$1.5 million. Brian Flynn explained that all of the big previous nourishments were performed before the bed tax, and since then the money has been allocated with little to no chance of recovery. Mr. Peebles agreed that this was not a good battle.

iii. **County Funding** - Brian Flynn stated that County funding is based on public access. Other beaches have terminal streets to the beach, but Key Biscayne does not, thus reducing the amount of credit for public access. The County, therefore, normally pledges the same percent of the local cost as the State share of the entire project. James DeCocq explained the expected financial breakdown: **Total Project Cost: \$2.67 million; State Share (44.54% of Total Project Cost): \$1.189 million; Local Share (55.46% of Total Project Cost): \$1.481 million; County Share (44.54% of Local Share): \$659,640; Village Share (55.46% of Local Share): \$821,360.**

Jack Peebles asked about tapping into present funds, with Brian Flynn responding that all money has been allocated to projects expected north of Government Cut and earmarked by contract. Mr. Flynn suggested that after the State allocates funds, that the County cost share should be addressed Manager to Manager. Jack Peebles said that he would initiate a conversation with the County Manager about funding.

iv. **State Reimbursement Agreements** - James DeCocq reported that he had been in contact with Ann Lazar of the Florida Department of Environmental Protection to discuss a reimbursement agreement. To date, no formal agreements have been made, however, conversations have continued along these lines. Brian Flynn commented that a reimbursement agreement would allow the Village to move ahead with other aspects of the nourishment project.

v. **County Reimbursement Agreements** - Brian Flynn said that a reimbursement agreement was probably something to be worked out between Sam Kissinger and the County Manager. Mr. Flynn emphasized that it was very important to identify local funds immediately because when the State appropriates money, it is only for that particular fiscal year.

**Comments** - John Hinson inquired as to whether the Federal Government could be a viable funding source for fixing erosion. Hal Wanless suggested suing the Army Corp for past dredging and the construction of Government Cut, and/or the Port of Miami. Brian Flynn commented that first a formal Inlet Management Plan would have to be developed and adopted. Mr. Flynn also commented that many agencies are willing to reimburse for damage but only want to pay their fair share. John Hinson suggested that Key Biscayne enlists the aid of the City of Miami and Fisher Island before we approach the Army Corp. Sandra Goldstien stated that a long-term goal should be to sue the Army Corp.

Jack Peebles said that he wants to work to get Federal funding by speaking with the new Colonel of the Army Corp, as well as the County. He wants to make a presentation to the Army Corp from the standpoint that the Federal Government is lucky as the State of Florida will probably fund \$1.189 million of the \$2.67 million periodic nourishment of a Corp project. Mr. Peebles said that he wants to get away from the public access issue and start to emphasize sources of erosion. Moreover, Mr. Peebles mentioned the investigation obtaining funds from the "oil spill fund" by linking the recovery team to the Port of Miami. Jack Peebles feels that he can at least get more money than Key Biscayne is presently credited for, and wants to build a case for 100% funding.

Sandra Goldstien inquired about "FIND" funds for Army Corp damage, with Jack Peebles responding that these are for navigation and dredging, not beach nourishment.

In closing, Mr. Peebles stated that he wants a library of information. That he will concentrate on the State appropriation first, then he will attempt to get funding increased directly at the State level through Trust Fund provisoes. Mr. Peebles emphasized that the State sessions had begun two weeks prior to this meeting, and that time was of the essence.

B. Miami-Dade County Dedicated Funding Source - This item was not discussed.

C. State of Florida Dedicated Funding Source - See Item A ii.

D. Beach Watch - FSBPA - See Item A ii.

E. Status of Short Term Beach Nourishment

i. Sand - James DeCocq announced that the Short-Term nourishment was presently underway, but that due to unexpected erosion along the Ocean Club property, the sand would probably not go as far as expected.

ii. Beach Nourishment Permit - James DeCocq stated that the Field permit was in hand for the Short-Term nourishment.

iii. Additional Information - Questions were raised as to the usability of the offshore borrow site for the long-term nourishment. Brian Flynn commented that first the Village should secure funding, then we can be proactive about investigating the feasibility of the borrow pit. Mr. Flynn added that DERM and DEP will coordinate monitoring. John Hinson asked about using the Crandon Park sand flats. James DeCocq explained how removal of that sand would destabilize the entire beach system. Hal Wanless offered a brief history of Crandon sand flats including that the Army Corp used the near shore sand bars in 1969 and 1972 for nourishment projects.

Brian Flynn commented that the Long-Term Beach Nourishment permit has been submitted to DEP, and any investigation will be handled from the West Palm Office.

F. RSMAS Intern Selection - James DeCocq announced that Kris McFadden was selected as the new RSMAS-Beach Preservation Intern.

G. American Coastal Coalition - Enclosures

4. New Business - No new business was discussed.

5. Schedule of Next Meeting - No meeting was scheduled.

6. Adjournment - 5:10 p.m.

## **Short-Term Beach Nourishment**



# VILLAGE OF KEY BISCAYNE

Office of the Village Manager

*Village Council*  
John F. Festa, *Mayor*  
Mortimer Fried, *Vice Mayor*  
Martha Fdez-León Broucek  
Gregory C. Han  
Hugh T. O'Reilly  
Michele Padovan  
Betty Sime

*Village Manager*  
C. Samuel Kissinger

May 6, 1998

## MEMORANDUM

TO: C. Samuel Kissinger  
Village Manager

FROM: James D. DeCocq  
Assistant to the Village Manager

RE: Beach Nourishment Monitoring and Grain Size Analysis

Per your request, this is to outline the short-term beach nourishment monitoring and analysis activities since February 20, 1998; completion date of the project.

- 1) Since February 20, 1998, Ocean Club Development has had crews on the beach on a regular basis to remove larger items (i.e. rocks, conch shells, wood, etc.) that have surfaced during the readjustment of the Cape Florida sand. In addition, Ocean Club provided equipment and personnel for the April 8, 1998 reprofiling and tilling of the sand to meet DEP sea turtle specifications.
- 2) I have personally monitored, observed, photographed, and/or written commentary about the nourishment project in memorandum form on February 19, 24 and 26, March 2, 4, 5, 18, 24, 26 and 31, April 3, 8, 9, 10, 14, 21 and 22, and May 4, 1998. From my observations, water quality can be categorized in the following ways:
  - a) significant silt in the water: February 24 and 26, 1998;
  - b) silt but good to excellent water clarity: March 4 and April 14, 1998; and
  - c) no silt and good to excellent water clarity: March 2, April 10, 21 and 22, and May 4, 1998.
- 3) Universal Beach Service Corp. has constantly raked the area since February 24, addressing compaction, profiles, and escarpments. On March 24, 1998 Universal agreed to work the nourishment area seven days a week, weather permitting, to address the gorges that had formed due to unusual conditions, including compaction, berm height and reverse slope, design slope, and most importantly chronic heavy rains. Universal volunteered personnel and equipment for the April 8,

VILLAGE OF KEY BISCAYNE

1998 reprofiling and tilling activities, and have attached a heavier rake on their tractor to better loosen the new beach sand.

4) I collected sand samples for visual inspection on March 4 and April 16, 1998. The samples visually revealed that fine material seems to be sorting out of the beach nourishment sand. Mixing ambient and nourishment sand in a minimum 1:1 ratio seems to reduce compaction as well as result in an end product that is almost visually and dactylally undetectable from 1987 nourishment sand.

5) Brian Flynn informed me on March 18, 1998 that nine random sand samples had been taken from three transects along the project area, for grain size analysis. On March 26, 1998 Mr. Flynn informed me that all nine samples individually contained less than 3% fine material as determined by dry sieve analysis, with less than 10% being acceptable by DERM and DEP.

6) Brian Flynn informed me on March 18, 1998 that the compaction of the nourishment sand was greater than acceptable by DEP permit standards. On March 31, 1998 Jim King, Crandon Park Manager, agreed to make heavy equipment and an operator available to the Village in order to till and reprofile the nourishment area. On April 8, 1998, I supervised these activities which addressed the compaction, slope, escarpments, and rivulets forming in the nourishment sand. I monitored the beach on April 10 and 14, 1998 to inspect the retilled beach nourishment. I discovered that the new slope was suffering no erosion, escarpments, or gorges, and that turbidity had significantly decreased, with perfectly clear water on April 10. To date, the reprofiled nourished beach has weathered two decent rain storms with no significant gorge formation, escarpments, and/or siltation.

7) I produced and submitted a report concerning "Cape Florida Sand Compatibility" on March 20, 1998 in response to questions as to the proper investigation and quality of the wetland beach sand.

8) In response to a request by the Village Council, Mr. Flynn investigated wet sieve analysis techniques with the Army Corp of Engineers on April 3, 1998. He was informed that the research performed on the Village beach and nourishment sand was considered more than adequate. In addition, Mr. Flynn was told that wet sieving is the accepted Geologist standard, while dry sieving is the accepted Engineering standard. Brian Flynn informed me that he would utilize the open contract with Coastal Systems International, Inc. to perform wet sieve analyses, as DERM could not perform this function in-house. On May 4, 1998, I contracted BKJ Services Inc. to perform individual wet sieve analyses on the nourishment sand. These results will not only be used as additional information, but will also study different sections of the nourished area after one and one-half months of adjustment. Both DERM's and the Village's independent wet sieve information should be in my Office by May 15, 1998.





3 MARCH 1998

College of Arts and Sciences  
Department of Geological Sciences  
P.O. Box 249176  
Coral Gables, Florida 33124  
Phone: 305-284-4253 Fax: 305-284-4258

TO: John Festa, Mayor, Village of Key Biscayne

FROM: Harold R. Wanless, Professor Geological Sciences  
and Member Beach Resources and Management Task Force

SUBJECT: Sand Placed in Front of Ocean Club on Key Biscayne

A handwritten signature in dark ink, appearing to read "H. R. Wanless", written in a cursive style.

At the Lighthouse Dedication on Saturday, I was besieged with complaints about the sand that has recently been placed on the beach in front of the new Ocean Club facility on Key Biscayne. I believe you also expressed concern. As a result I went to look at it on Saturday afternoon.

Put simply, I am appalled that sand of that poor quality was allowed on the beach. It must be removed immediately. As is obvious to everyone on the beach, this material contains a large percentage of material that is too fine to stay on the beach. As a result, it is severely accentuating the turbidity in the near shore zone. This makes it unpleasant for people but significantly stressful for the seagrasses and hard bottom communities offshore. The stress is both in the decreased light reaching the bottom and the smothering that must be occurring in the seagrass beds. In addition, were this sand to stay long enough, it would be a disaster for turtles. I could hardly dig in it after only a few weeks of placement.

I am a member of the Beach Resources and Management Task Force for the Village and have watched with concern as the committee members drooled over the 'free sand.' I have repeatedly warned that much of the material available from the scraping of the Park will be unsuitable and what appears OK must be observed very carefully as it is brought to the beach. This obviously was not done. I fought for ten years to make sure the 1985 beach nourishment would not harm our beach. Now this.

There are three lessons from this. First, to maintain a first class beach, Key Biscayne should expect and plan to pay for top quality sand. Second, Key Biscayne must have a truly qualified person supervise the selection and placement of sand on the beach, and that person must have the authority to stop placement of improper sand. Third, the Task Force must work from a stronger scientific base for its decisions.

Though a member of the Beach Resources and Management Task Force, I was not aware that placement of this material had occurred until there were complaints this weekend. I am embarrassed and angry that this was permitted to happen. It is unacceptable to damage the beach system of Key Biscayne. This material must be removed immediately.

I collected a sample of the new material places on the beach in front of Ocean Club on Saturday February 28, 1998. The sample was collected by scraping a vertical profile up the 45 centimeters high eroding cliff of the new material. I then dry sieved it to determine the physical grain size of the material. It contains:

<u>Size Fraction (in microns)</u>	<u>Weight Percent</u>	<u>Cumulative % finer than</u>	
greater than 4000	5.1		
4000-2000	5.1	<4000	94.9%
2000-1000	5.7	<2000	89.8%
1000-500	8.4	<1000	84.1%
500-250	22.1	<500	75.7%
250-125	35.7	<250	53.6%
125-62	13.2	<125	17.9%
less than 62	4.7	<62	4.7%

A decent beach sand for Key Biscayne would be 100% greater than 250 microns, with little material coarser than 1000 microns. I have highlighted in bold the portions of the analyzed material that is **not suitable** for Key Biscayne's beach. The sample analyzed is 53.6% less than 250 microns! And 15.9% is coarser than 1000 microns. Thus only 30.5% is in the suitable for beach sand range.

Sand finer than 200 microns tends to move in suspension and will not stay on a beach. Half of the material placed on the Ocean Club beach is such that it will move away in suspension, as it is doing. This material is not poor quality beach sand; it has nothing to do with beach sand. I have enclosed the sieved sample for you to see. This material must be removed from the beach immediately.

I will be out of the country from March 4-9 when the newspaper says that there is a Council or Town Meeting that will be considering the beach problems. Feel free to express my statements from this letter or to pass it on to others.

pc: Sandra Goldstein, Chairwoman, Beach Resources and Management Task Force



College of Arts and Sciences  
Department of Geological Sciences  
P.O. Box 249176  
Coral Gables, Florida 33124  
Phone: 305-284-4253 Fax: 305-284-4258

2 APRIL 1998

TO: Sandra Goldstein, Chairman  
Beach Resources and Management Task Force, Village of Key Biscayne

FROM: Harold R. Wanless, Professor Geological Sciences

SUBJECT: Pertinent Beach Information

As the recent beach problem has moved from the Task Force to the Council, it is important that all concerned are properly informed as to the nature of the problem. Would you please distribute copies of this to the Village Mayor and Vice Mayor, Council Members, the Village Manager and Assistant, Task Force Members, Mr. Brian Flynn at DERM, Mr. Hinson of Ocean Club development and others you consider might benefit.

#### METHODS FOR ANALYSIS OF BEACH SAND

There are three possible methods for measuring grain size distribution. The methods and conditions for use of each are described below.

1. *Dry Sieving.* Sands are most commonly analyzed for grain size distribution by passing through a stack of sieves of different mesh sizes. The stack of sieves is placed on a shaker or vibrator to give the grains opportunity to move down through the decreasing mesh sizes. This is usually done dry if the grains are not aggregated together. If the sand is collected in salt water, it is necessary to rinse the salt before drying the sample.
2. *Wet Sieving.* If the sand has even a few percent mud it is necessary to either remove it by wet sieving (through a 62 micron mesh sieve) prior to dry sieving or to do the analysis by wet sieving. Salts and mud (especially calcium carbonate mud) will stick the grains together (aggregated) to give a dry sieve result that is coarser than true. When grains are aggregated it is necessary to wet them (sometimes with a solvent added) to disaggregate them to their individual grains.

If a sample with significant carbonate mud has dried, it can be very difficult to disaggregate the particles, even though they will eventually disaggregate if

placed back in an agitated marine environment. As a result, we try never to dry samples containing carbonate mud prior to wet sieving.

Wet sieving involves passing the sand sample through a stack of sieves using water. If the mud fraction (<62 microns) is to be saved, the water is collected in a container at the base of the stack of sieves. Fine jets of water and gentle agitation are commonly used. The sand retained on each sieve is then dried and weighed. The <62 micron material is left to settle, the clear water then decanted (poured off), and the mud fraction then dried in a beaker for weighing. Settling took over two days for the recent beach fill material.

3. *Settling Analysis.* If sand grains have either unusual shape or different than normal density (termed 'effective excess density' and explained below), sieving analysis can be very misleading in predicting how grains will behave. In these cases settling analysis should be used. This involves settling the grains in a column of water and measuring the time for the grains to reach the bottom. The settling tube has been calibrated with a subrounded quartz sand (quartz has a density of 2.65). Settling only measures one aspect of a particles behavior. Another aspect is how and how easily the particle moves (think of a piece of paper versus a wad of paper). Nevertheless, settling analysis gives a much more valid assessment of a sand's behavior than sieving if the particles are not equant in shape or not of the density of quartz .

To understand this consider a golf ball, a Nerf ball, and a piece of paper. The piece of paper may be much bigger than the balls but will move much more easily in the wind or waves because of its shape. The Nerf ball may be the same size as the golf ball but will move much more easily because it is less dense. The material making up the Nerf ball may be similar in density to the density of the golf ball, but the Nerf ball is full of pores (holes) that will be filled with the fluid (air or water). It will thus have a much lower 'effective excess density' than the golf ball (effective density = the density of the grain including all contained fluid pores; excess = the effective density of the grain minus the density of the fluid). The same applies to the sand of the beach fill.

The natural beach sand on Key Biscayne (and the sand used on in the 1987 beach renourishment) is composed mostly of a mixture of subrounded quartz ( $\text{SiO}_2$ ) and rounded shell fragments of calcium carbonate ( $\text{CaCO}_3$ ). These rounded calcium carbonate fragments have about the same effective excess density as the quartz grains. There are also some fragments of other calcium carbonate skeletons which are platy and/or which have a porous interior resulting in a lower effective excess density. These will behave (move and settle out) similar to finer grains of quartz.

In the samples from the recent beach fill, calcium carbonate skeletal grains dominate over quartz. AND, much of the sand-sized carbonate grains are

grains of *Halimeda*, produced by a calcifying green alga that is common in our nearshore waters and especially common on the flats south of Key Biscayne. These are platy, about 2000 microns in size, and have numerous hollow tubes inside. They look like a slightly puffed up oatmeal flake. Their effective excess density is thus much lower than that of a solid calcium carbonate grain since much of the inside is hollow. In addition, they are platy. Whole *Halimeda* plates settle together with quartz grains  $\frac{1}{4}$  their size or smaller, but because of their platy shape they move with even finer particles.

Most of the sand in the recent beach fill samples that I have analyzed also has broken *Halimeda* fragments dominating the coarse, medium and fine sand fractions. These *Halimeda* fragments also move and settle together with much finer quartz grains. For example a 500 micron *Halimeda* fragment will settle together with quartz grains 100-150 microns in size. Thus, what appears to be good beach sand by dry or wet sieving turns out to be too fine to be stable on a beach (see 'Movement in Suspension' below).

4. Summary of Methods. Because of the type of particles in the beach fill, settling analysis is the only method that will give a fair representation of how the beach fill will behave. Dry sieving is invalid because the particles do not disaggregate to the individual grains that they will become in water. Wet sieving is better than dry sieving, but is not suitable because of the abundance of *Halimeda* and other porous and platy skeletal grains in the recent beach fill. Wet sieving will produce a grain size coarser than the grain behavior size.

## DURABILITY

The *Halimeda* and much of the other skeletal material that dominates the recent beach fill is not durable. To the extent that these skeletal grains remain in the surf zone, they will quickly break down to smaller grains. Thus, even the settling analysis for grain size is misleading. Much of the medium to coarse (250-2000 micron) sand in the recent beach fill will quickly break down into particles too fine to remain on the beach. As particles break down, they also release a lot of fine mud particles.

## MOVEMENT IN SUSPENSION

When there is enough energy to move grains of quartz less than 200 microns in size, there is enough turbulence in the water column to put them in suspension. Thus grains less than 200 microns tend to move in suspension and will not stay on a beach, where material is constantly moving.

The skeletal carbonate grains which settle together with quartz grains finer than 200 microns also tend to move in suspension and will not stay on a beach. Because of their platy shape, coarse grains like *Halimeda* will also tend to move in suspension even

though their sieved size may be 2000 microns or their settling size may be 500 microns. In other words, *Halimeda* plates will not stay on the beach no matter how big they are.

As much of the recent beach fill is platy *Halimeda* and other porous and/or platy skeletal grains, none of that will remain on the beach.

## TURBIDITY

During the Council meeting on March 31, Mr. Flynn suggested that the turbidity would diminish soon. It will not.

The 1987 beach renourishment was sand pumped (slurried) from an offshore site through a pipe to the beach. There was some fine material associated that clouded the water during placement of the beach renourishment. But the resulting new beach was basically free of this fine material, and within a short time the nearshore waters were again clear. As that 1987 beach renourishment has eroded, it has yielded only very little turbidity to the nearshore waters.

In contrast, the recent beach fill was apparently trucked to the site and bulldozed to a profile. It was never washed, and the contained mud never had a chance to move offshore during placement. I have driven to cores through the recent beach fill and made vertical samplings of the eroded cliff. In all of these, there is an amazing amount of mud. As this new beach fill erodes, there will be a constant release of mud to the nearshore waters, causing nearly constant high turbidity.

In 1982-84, I did a study for the county on the causes for high persistent turbidity within northern Biscayne Bay. One of the findings was that the raw fill shorelines were a source of persistent turbidity release. Since then Mr. Gary Milano and others at DERM have done an outstanding and creative job of reducing this source of turbidity. In other words, 15 years ago it was recognized that muddy sediments should not be put on the shorelines even within Biscayne Bay. They most definitely should not be put on our beaches.

## BEACH COMPACTION

Because of the high carbonate mud content within the recent beach fill, this material will repeatedly and perpetually recompact and harden. The only thing that reworking it will do is to hasten wind erosion of the <200 micron fraction (fine sand, silt and clay fractions). Rain and wave wetting will recompact it.

This recent beach fill will never attain a beach profile because it will never become loose sand. The fill cliff that has characterized the fill since emplacement is what will persist.

This fill will remain unsuitable for turtle nesting, building sand castles, and comfort because of its mud content and resulting firmness.

## SOURCES AND QUALITY OF BEACH SAND

In contrast to what was suggested at the Council meeting on March 31, the sand used in the 1987 beach renourishment was excellent. I fought for 15 years to make sure of that. As the hearing records will show, I recommended the source site, analyzed (by sieving and settling) the recommended sands and compared them to the natural sand on the Key Biscayne beach. They were essentially identical. The result has been a physically good, esthetically attractive and environmentally sound renourished beach.

There is sand available for future beach renourishments of equivalent quality as that used in 1987. There is no reason to use anything of lesser quality. In the early 1980s, Miami Beach went ahead with a major beach renourishment that degraded the water quality of its nearshore environment (though the material was not as bad as the recent beach fill on Key Biscayne). Do not let this happen on Key Biscayne.

## SUMMARY

In talking with Mr. Hinson of Ocean Club development, it is clear that he asked those involved to make sure that this was suitable beach sand before placing it on the beach. Unfortunately, the recent beach fill was not evaluated properly. There are standard procedures to evaluate materials being considered for beach placement. As outlined in this letter they involve much more than just dry sieving if the material is other than clean quartz sand.

Nothing presented here is some kind of fanatical bias. It is all just basic sedimentology (methods used for the study of sediments) and fundamental logic. There can be no regulations that would require one to use an analysis method that would result in the particles being still aggregated. Nor can there be a regulation that would want one to overlook the fact that the grains are ping pong balls or eggs and not the golf balls anticipated.

I was disappointed that this had to come before the Council as a confrontational scientific event. I have agreed to serve as a member of your Village Beach Resource and Management Task Force to help guide the Village Manager, DERM and the people of Key Biscayne so that mistakes like this would not happen. I can be of little help if I am not thoroughly included in the considerations prior to decisions and implementation. It would be helpful if both DERM and the Village Managers office would not consider my contributions as adversarial but necessary to making the correct decisions for the future of Key Biscayne's most valuable assets – a good beach and clear nearshore waters.

## CONCLUSION

As I said repeatedly in my letter of March 4 to Mayor Festa, get this recent beach fill off of the beach immediately. It is not poor quality beach sand; it has nothing to do with beach sand. Every day it is left on the beach is degrading to the quality of life in the nearshore marine environments and to the quality of life on Key Biscayne.





# VILLAGE OF KEY BISCAYNE

Office of the Village Manager

*Village Council*

John F. Festa, *Mayor*  
Mortimer Fried, *Vice Mayor*  
Martha Fdez-León Broucek  
Gregory C. Han  
Hugh T. O'Reilly  
Michele Padovan  
Betty Sime

*Village Manager*

C. Samuel Kissinger

March 26, 1998

## MEMORANDUM

TO: C. Samuel Kissinger  
Village Manager

FROM: James D. DeCoq  
Assistant to the Village Manager

RE: Cape Florida Sand Capability - Grain Size Analysis

Brian Flynn, Miami-Dade County Department of Environmental Resources Management (DERM) Coastal Programs Administrator, informed me via telephone today that the results of the nine grain size analyses have been finalized. According to Mr. Flynn, all nine samples are well within County and State specifications for beach quality sand. In fact, all nine individually contained less than 3% "fine" material, with the State Department of Environmental Protection (DEP) allowing up to 10% "fines".

Mr. Flynn will forward information pertaining to this matter.



# VILLAGE OF KEY BISCAYNE

Office of the Village Manager

*Village Council*

John F. Festa, *Mayor*  
Mortimer Fried, *Vice Mayor*  
Martha Fdez-León Broucek  
Gregory C. Han  
Hugh T. O'Reilly  
Michele Padovan  
Betty Sime

*Village Manager*

C. Samuel Kissinger

March 31, 1998

## MEMORANDUM

TO: C. Samuel Kissinger  
Village Manager

FROM: James D. DeCocq  
Assistant to the Village Manager

RE: Beach Nourishment Sand Tilling

According to the Miami-Dade County Department of Environmental Resources Management (DERM) the Village must till the nourished beach area in order to reduce compaction to within the Florida Department of Environmental Protection (DEP) specifications. To this end, Jim King, Crandon Park Manager, has agreed to have heavy equipment and an operator with this capacity on the Village beach at 7:30 a.m. April 8, 1998.

In have also arranged for Universal Beach Services, Inc. to be present to rework the area to more conducive configurations. I will personally oversee the performance of this project.

## **Long-Term Beach Nourishment**

# UP-TO-THE-MINUTE LEGISLATIVE UPDATE



TRACKING AND ANALYSIS OF LEGISLATION  
AND ISSUES AFFECTING REAL ESTATE

FILED IN THE 1998 LEGISLATIVE  
SESSION

## FLORIDA ASSOCIATION OF REALTORS®

PO BOX 1663  
TALLAHASSEE, FL 32302

TO: Combined List  
SUBJECT: Beaches, L/T, Contracting  
DATE: March 13, 1998  
TIME: 4 p.m.  
NO. PAGES: 8

## Repair and Deduct Stalls in House

**TALLAHASSEE** - FAR-opposed legislation that would allow tenants to make emergency repairs to rental property and deduct the amount of the repair from the rent stalled in a House committee, Tuesday, March 10. HB 1163, by Rep. Beryl Roberts-Burke (D-Miami), was heard in the House Real Property and Probate Committee but was tabled for future consideration before a vote was taken.

The bill, amended from its original version, allows only emergency repairs of less than \$100 and tenants would still have to give landlords seven days notice prior to making the repair. The bill gives the landlord the option of providing the tenant with a list of approved vendors to make repairs. Committee members discussed what type of repair would constitute an "emergency," which led to another amendment listing allowable repairs. The more the committee members discussed the bill, the more questions arose about how the bill would work in the real world. At that point, a member made a motion to TP the bill. This is an acronym for "temporarily passed," but it is misleading. In reality, this tables the bill for future consideration, and allows the sponsor time to rework the bill to answer the questions that were raised by the committee members. The problem is, once a bill is TP'd, it is very difficult to get the bill back on the committee agenda for a later meeting. If the bill is rescheduled during this legislative session, you will be notified.

**BEACH RENOURISHMENT** - FAR-supported legislation to create a dedicated funding source for beach renourishment passed out of the House Environmental Protection Committee, Tuesday, March 10.

HB 3427 by Rep. Dennis Jones (R-Seminole) creates the Ecosystem Management and Restoration Trust Fund, which would be funded from existing doc stamp revenue. The first year apportionment is \$10 million, the second year is \$20 million, the third year is \$30 million and each year thereafter is \$30 million. This bill seeks to have the first 10, 20, or 30 million dollars from the general revenue provided by doc stamps, depending on the year, earmarked for beach renourishment. The bill will be heard next in the House General Government Committee.

**SCHOOL CONCURRENCY** - Broward County's school concurrency plan was dealt a final blow Tuesday when the governor and cabinet, sitting as the Administration Commission, ruled that the plan did not comply with state law. This ends a two-year legal challenge brought by FAR, the Florida Home Builders Association and the Building Industry Association of South Florida.

**THE TRACKER** - Accompanying this update is the first issue of FAR's chart-style legislative bill tracking publication. Follow the progress of bills as the session progresses. You can check the committee abbreviations in your 1998 *Know Your Legislator* guide. One thing you can determine at a glance is how many committees a bill is referred to. The more committees, the more difficult to get all the way through the system. If you have questions, or need further information, call FAR in Tallahassee at (850) 224-1400.

**LEGISLATIVE DAY** - Only 11 days left until the 28<sup>th</sup> Annual FAR Legislative Day program. Register today at 800/669-4327 if you want to receive advance talking points on the issues.

**SPECIAL ANNOUNCEMENT:** Dial 850 -- the new area code for Tallahassee and the panhandle west of Tallahassee is official this week. You must use it in order to call the area. 904 remains as the area code for Jacksonville and the area west of Jacksonville to Jefferson County.

*Handwritten signature: Sandra Goldstein*

# UP-TO-THE-MINUTE LEGISLATIVE UPDATE



TRACKING AND ANALYSIS OF LEGISLATION  
AND ISSUES AFFECTING REAL ESTATE

## FLORIDA ASSOCIATION OF REALTORS®

PO BOX 1863  
TALLAHASSEE, FL 32302

TO: Combined List  
SUBJECT: Session Update  
DATE: April 17, 1998  
TIME: 4:30 p.m.  
NO. PAGES 2

### Continue Calling Legislators

## So Close And Yet So Far

TALLAHASSEE - Senators slowed down SB 340 by Sen. Charles Clary (R-Destin), Friday, as they debated the merits of the amendments that would conform the senate bill to HB 3211 by Rep. Mark Ogles (R-Bradenton). By the time FAR lobbyists answered their questions outside the chamber and satisfied the senators' concerns, the session had run out of time and the senators adjourned for the day. The good news is that the bill should be taken up first as unfinished business when the senators go back into session, Tuesday, April 21. That means there's still time to call senators and ask them to support SB 340.

HB 3211 is on the consent calendar for Monday's House session scheduled to begin at 1:30 p.m. Continue calling representatives and ask them to vote for HB 3211.

The legislation will:

- Allow REALTORS® to arrange for minor repairs and construction, on behalf of owners, using licensed subcontractors, up to a limit of \$5,000.
- Allow a broker to designate one licensee in a firm to be the single-agent representative of the buyer or tenant and another licensee in the firm to be the single-agent representative of the seller or landlord in a commercial transaction. Each designated licensee would keep confidential information from the other, to avoid the possibility of creating dual agency, which is no longer allowed in Florida.
- Conform Florida's appraisal guidelines to federal standards, thereby preventing the federal decertification of Florida appraisers.
- Repeal the energy efficiency rating disclosure, although REALTORS® will still pass out the brochure.
- Repeal the 'snitch' law requiring REALTORS® to report other REALTORS® who violate the license law.
- Allow limited liability companies and partnerships to register and be licensed under CH. 475.

**WHO'S YOUR LEGISLATOR** - Now you can key in your residential zip code to learn who is your lawmaker and send her or him an e-mail instantly. The service is available at FAR's Internet site, Florida REALTOR® Place, <http://fl.realtorplace.com>. All the information is available on the home page. You'll also have access to your legislator's phone and fax numbers. Check it out online. If you do not have access to the Internet, a list of Senators and Representatives with their Tallahassee phone numbers and e-mail addresses is located on FAR's fax-on-demand system. Call (407) 438-3559 from your fax machine and request document #409.

**BEACH RENOURISHMENT** - HB 3427 by Rep. Dennis Jones (R-Seminole) passed the House this week and is in messages to the Senate. The bill earmarks existing documentary stamp taxes to support beach restoration and preservation. The bill provides \$10 million the first year, \$20 million the second year and \$30 million each year thereafter.

**PLEASE DISREGARD ALL PRIOR SCHEDULES** - Listed below is the most current list of congressional appointments taking place during NAR's convention next week. For updates to this list during the convention, please check at the NAR registration desk.

*Ann -*  
*Nate* *341*  
*Anderson*

# FAR TRACKER

Status of House Bills in the Florida Legislature: April 17, 1998

FLORIDA  
Association  
of REALTORS®

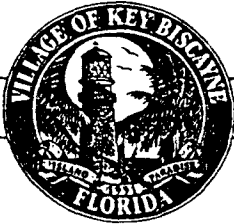


Bill	FAR	Compan	Description / Sponsor	House Committees			C	F	Senate Committees			C	F	Gov	Comments
3427	S	882	Beach Management Funding Jones	EP	GG		✓	✓							Funds management plan with adding the stamp for revenues. PASSED HOUSE. IN SENATE MESSAGES.
3567	M	1914	Affordable Residential Accommodations Raddick	CA											Oversee "Affordable Residential Accommodations Act" re affordable housing for the poor. WITHDRAWN from Committee. Referred to CA.
3821	M	1020	Agency Accountability Act Posey	GR	CJ										Holds agency employees liable for their findings.
3845	M	738	Partial-Year Assessment of Real Property Harrington	RP	CA	FT									Constitutional amendment Authorizes partial-year assessment of real property. VOTED DOWN IN RP.
3707	RA	1172	Residential Pool Barriers Wasserman-Schultz	CA	CP	HC									Requires fences around residential swimming pools.
3761	M	972	Master Association/Condo Regulation Livingston												Revises condo law. Defines "Master Association" as any association comprised of other associations.
3827	M		Homeowners' Insurance Uppman	FS	GR	GG									Consolidates Nelson's bill. Eliminates J.M. Establishes FAIR plan.
3863	M		Coastal Zone Protection Act Argenzano	CA	RP		✓	✓							Repeals "unintentional improvements." PASSED HOUSE. IN SENATE MESSAGES.
3927	M	1594	Telephonic Solicitations House Business Reg. Consumer Affairs	ER	FT										Revises Telephonic Solicitations Act to prohibit most unsolicited calls including charitable, political calls.
3947	M	2040	Residential Tree Replacement Program Leones	AG	GG										Requires Dept. of Ag. to replace residential trees removed due to citrus canker.
3885	M		Public School Element Lost Gov't Planning Silver												Requires a public schools element in local comprehensive plans and provides that public schools are subject to concurrency. WITHDRAWN.

Key: Amended, *Continued*, CS-Committee Substitute, Floor, Governor, Monitor, Oppose, Support, Tabled, Voted, ✓-Law without signature, ✕-Governor signed.

*Referred* committee codes indicate passage from that committee.

Florida: These are tentative final actions. These actions are subject to change pending release of the final Daily Legislative Information Booklet.



# VILLAGE OF KEY BISCAYNE

Office of the Village Manager

*Village Council*  
John F. Festa, *Mayor*  
Mortimer Fried, *Vice Mayor*  
Martha Fdez-León Broucek  
Gregory C. Han  
Hugh T. O'Reilly  
Michele Padovan  
Betty Sime

*Village Manager*  
C. Samuel Kissinger

March 23, 1998

Paden E. Woodruff, Environmental Administrator  
Bureau of Beaches and Coastal Systems  
Department of Environmental Protection  
Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

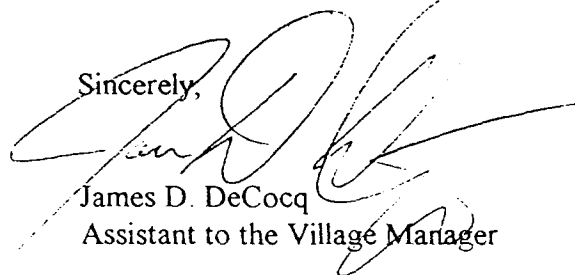
Dear Mr. Woodruff:

Attached please find excerpts from the Village of Key Biscayne "Long Range Beach Nourishment Plan", adopted by Village Council with Resolution 97-55 on October 28, 1997.

At this time the Village is in the FY 98-99 Department Budget for \$1.189 million, based on a greater than anticipated credit for public access (State funding originally estimated at \$988,000, Table 4.2). I felt, however, that it is important that you be made aware of the proactive steps that we have taken toward our own beach preservation.

The attachments show the anticipated beach nourishment expenditures and funding for the next 50 years, as well as a schedule for implementation of the present project. Should you require additional information or desire clarification, please contact me at the Office of the Village Manager.

Sincerely,



James D. DeCocq  
Assistant to the Village Manager

/jdd  
Enclosures

**TABLE 4.2**  
**ESTIMATED COST FOR**  
**VILLAGE OF KEY BISCAYNE BEACH NOURISHMENT PROJECT**

PROJECT ITEMS	1st BEACH PROJECT			PROJECTED LOCAL SHARE FOR EACH PROJECT OVER 50-YEAR LIFE <sup>2</sup>					
	TOTAL	STATE <sup>1</sup>	LOCAL	FY 99-09	FY 09-19	FY 19-29	FY 29-39	FY 39-49	TOTAL
Engineering/Design/Permitting	\$320,000	\$118,000	\$202,000	\$202,000	\$271,000	\$365,000	\$490,000	\$659,000	\$1,987,000
Monitoring, Physical & Environmental	\$350,000	\$130,000	\$220,000	\$220,000	\$296,000	\$397,000	\$534,000	\$718,000	\$2,165,000
Beach Fill Construction	\$2,000,000	\$740,000	\$1,260,000	\$1,260,000	\$1,693,000	\$2,276,000	\$3,058,000	\$4,110,000	\$12,397,000
Total	\$2,670,000	\$988,000	\$1,682,000	\$1,682,000	\$2,260,000	\$3,038,000	\$4,082,000	\$5,487,000	\$16,549,000

1. Based on 74% public access of the entire Village beach

2. Assuming 3% annual inflation rate



### TABLE 4.3

**SCHEDULE FOR PROJECT IMPLEMENTATION**  
**KEY BISCAYNE BEACH NOURISHMENT PROJECT**

DESCRIPTION OF ACTIVITY	1997												1998												1999											
	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D		
I. LONG-RANGE BEACH RENOURISHMENT PLAN (including review)	■	■	■	■	■	■																														
II. SELECTION OF SAND SOURCES							■	■																												
III. FUNDING APPLICATION AND PROCESSING																																				
a) Funding Applications	■																																			
b) Funding Processing		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■														
IV. PERMIT APPLICATION AND PROCESSING																																				
a) Permit Sketches and Application	■																																			
b) Permit Processing		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
V. FIELD INVESTIGATIONS																																				
a) Hydrographic Survey											■																									
b) Resource Mapping/EIA											■	■																								
VI. PRELIMINARY AND FINAL DESIGN																																				
a) Preliminary Design													■	■																						
b) Final Design																										■	■									
VII. CONSTRUCTION ADMINISTRATION																																				
a) Bidding and Contract Award																																				
b) Construction Administration																																				
VIII. POST-CONSTRUCTION MONITORING																																				
a) Hydrographic Surveys																																				
b) Biological Surveys																																				

Annually  
For  
5 Years

## **RSMAS - Village Beach Preservation (Fall) Intern**

11215 S.W. 125 Court  
Miami, FL 33186

March 5, 1998

Mr. James DeCocq  
Assistant to the Village Manager  
Village of Key Biscayne  
85 McIntyre Street  
Key Biscayne, FL 33149

Dear Mr. DeCocq:

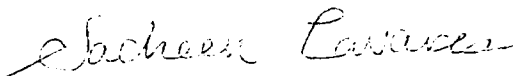
I am writing to express my interest in an internship with the Village of Key Biscayne as discussed at the RSMAS Alumni Mixer on February 26, 1998. I am currently pursuing a Master of Arts degree in Marine Affairs at the University of Miami - Rosenstiel School of Marine and Atmospheric Sciences.

I firmly believe that my background in marine affairs and the natural sciences, coupled with my enthusiastic approach to any given problem would be an asset to your program. Having studied and lived in Jamaica, I have a keen interest in coastal zone management, as I have become aware of the many problems experienced by coastal states. As such, this has greatly influenced my career path, and I am confident that I possess both the problem solving and interpersonal skills necessary to succeed in the field.

I have attached my resume and am eagerly looking forward to further information from you regarding this position.

Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script, reading "Sacheen Tavares".

Sacheen Tavares

Encl.

## **Sacheen Anika Tavares**

---

**Current Address:**  
11215 S.W. 125 Court  
Miami, FL 33186  
(305) 275-0017  
stavares@rsmas.miami.edu

**Permanent Address:**  
3 Amethyst Close  
P.O. Box 117, Kgn. 19  
Kingston 19 Jamaica W.I.,  
(876) 944-2711

---

**OBJECTIVE**      An internship in coastal zone management with the goal of learning and gaining more experience in the field.

**EDUCATION**      **UNIVERSITY OF MIAMI - ROSENSTIEL SCHOOL OF MARINE AND ATMOSPHERIC SCIENCE** Miami, FL  
Master of Arts to be awarded in May 1999, Marine Affairs

**UNIVERSITY OF THE WEST INDIES** Kingston, Jamaica,  
Bachelor of Science (Hons) May 1997, Botany and Zoology

**ACTIVITIES**

- \* Propeller Club - Port of Miami
- \* Royal Jamaica Yacht Club
- \* British Sub-Aqua Club: certified sports diver
- \* Volunteer for Florida Coastal Cleanup
- \* Volunteer for National Ocean Sciences Bowl
- \* Soundings Magazine: Assistant to the Editor
- \* Liaison officer for 1996 Jamaican Olympic Team Homecoming
- \* Volunteer for 1991 Pan-American Games, Kingston, Jamaica

**SKILLS**

Computer

- \* Proficient in Windows 95', Microsoft Word and Excel, and Wordperfect 7.0

Language

- \* Conversant in French

**EXPERIENCE**

**UNIVERSITY OF MIAMI: ROSENSTIEL SCHOOL OF MARINE AND ATMOSPHERIC SCIENCES - DEAN'S OFFICE** Miami, FL  
Administrative and Outreach assistant: September 1997 - present

**CONRAD DOUGLAS & ASSOCIATES** Kingston, Jamaica,  
Assistant to the Systems Coordinator: July - August 1997, June - August 1996

- \* Responsible for preparing environmental resources database and compiling Jamaica Systems Plans

**MEDI-GRACE LIMITED** Kingston, Jamaica,  
Customer service representative: June - August 1995

**RELEVANT  
COURSES**

Marine Affairs  
\* Economics of Natural Resources  
\* Ocean Policy and Development and Analysis  
\* Coastal Law  
\* Environmental Law  
\* Environmental Planning and The EIS  
\* Biology and Ecology of Mangroves  
\* Marine Cultural Resource Management  
\* Political Ecology of Resource Management  
\* Coastal Zone Management  
\* Marine Ecology  
\* Biology of Coastal Plant Communities  
\* Ecology and Management of Caribbean Terrestrial Environments  
\* Data Management  
\* Public Speaking

**AVAILABILITY**

September 1998

**REFERENCES**

Available on request

## **Sonesta Beach Resort Improvements**



400 AUSTRALIAN AVE, SUITE 855

WEST PALM BEACH, FL 33401-5045

(561) 659-0041 FAX 659-3733

February 26, 1998

Mr. Brian Flynn  
Miami-Dade Department of Environmental Resources Management  
33 S.W. 2<sup>nd</sup> Avenue, Suite 300  
Miami, FL. 33130-1540

Re: Hotel improvements Sonesta Beach Resort, Key Biscayne, Florida.

Dear Mr. Flynn:

Applied Technology and Management, Inc. (ATM) is working with Ed Stone and Associates (EDSA) and the management of the Sonesta Beach Resort on Key Biscayne to accomplish a variety of improvements at the hotel site. It is unfortunate that your schedule has prevented you from attending the pre-application meeting at the Sonesta and that we have been unable to reach one another by phone. The proposed work at the hotel involves a number of improvements on the eastern (seaward) on the side of the hotel. These improvements include:

- Modifications on the elevated pool deck
- Construction of an at-grade concrete paver walkway
- Installation of a children's wading pool and foot bath water feature
- Extension of the parking area roof on the North East side of the hotel
- Replacement of non-native vegetation northeast with native plantings, including modifications to the irrigation system
- Improvements to the lighting system to make it more "turtle-friendly"

A more thorough description of these project components and drawings are attached.

Because the coastal construction control line extends through the hotel, and all these project components are seaward of coastal construction control line, the project does require permitting by the Florida Department of Environmental Protection. The Bureau of Beaches and Coastal Systems in Tallahassee is currently reviewing our application.

It is ATM's understanding that because none of the proposed work is located seaward of the DERM Erosion Control line that no permit is required from Dade County. Naturally building permits are also being obtained from the Village of Key Biscayne.

*Environmental & Coastal Engineers, Scientists & Management Consultants*

Mr. Brian Flynn  
February 26, 1998  
Page 2

We would appreciate your review of the attached description and drawings and your written concurrence that the project does not require permitting by Dade County DERM. If you have any questions please feel free to contact me at your convenience at 561-659-0041.

Sincerely,  
Applied Technology and Management, Inc.



Greg Braun,  
Environmental Specialist

GB/ls

Enclosures

cc: R. Dugan, EDSA (without enc.)  
A. Sonnabend, Sonesta (without enc.)  
James DeCocq, Village of Key Biscayne (with enc.)



SONESTA BEACH RESORT KEY BISCAYNE  
PROPOSED HOTEL IMPROVEMENTS

DESCRIPTION OF WORK

The applicant proposes to make the following improvements to the existing Sonesta Beach Resort-Key Biscayne:

- 1) Install a children's wading pool with concrete paver deck and foot bath
- 2) Pool Deck Improvements
  - A) Spa pools
  - B) Pool Bar Extension
  - C) Towel Hut / Overhead Lattice
  - D) Construct Planters in Pool Deck for Coconuts
  - E) Pool Shell Modification
  - F) Pool Deck Resurfacing
  - G) Water Feature
  - H) Planter Modifications
- 3) Install new restrooms and concession area beneath the new extension of the pool deck at the pool bar
- 4) Extend the covered parking roof below the ballroom 16'-8" toward the east
- 5) Install a concrete unit paver walkway and make associated landscaping improvements along the east side of the existing pool area.
- 6) Replace existing exterior lighting with a more turtle-sensitive lighting scheme.

As the Coastal Construction Control Line (CCCL) was established after the construction of the Sonesta Beach Resort-Key Biscayne and was adopted in an alignment that extends through the existing habitable portion of the hotel, all of the proposed improvements are seaward of the CCCL. All of the improvements identified above are described in further detail in the following narrative description and are shown on the attached landscape architectural and engineering drawings.

1) Children's Wading Pool

The applicant proposes to construct a small wading pool as shown on Sheets L-1, A-2, and A-19 of the attached drawings. The pool will be constructed such that the water level will be approximately 7" above existing grade. The proposed foot bath as shown on Sheet L-6 will be of similar construction as the wading pool but shall have a water depth of approx. 3". Prior to construction, existing landscape plants will be salvaged, and saved for re-use if feasible. Approximately 33 cu. yds. of existing soil will be excavated to an approximate depth of 1' 6" to allow appropriate bedding material to be installed for the wading pool. A concrete unit paver deck surrounding the wading pool shall be constructed at grade. Sand removed will be added to the beach east of the construction area as shown on sheet L-1. Electricity to the pool area will be provided as shown on Sheet L-1 and native plant landscaping materials will be installed as shown on Sheet L-2. The pool will drain into the existing sanitary sewer via an existing lift station.

Existing children's playground equipment present in the area of the proposed pool will be relocated/re-oriented as shown on Sheet L-1.

## 2) Pool Deck Improvements

### A) Spa pools

Currently one spa pool is located on the west side on the existing elevated pool deck. In order to increase privacy and enhance the enjoyment of both occupants of the spa pool and occupants of the terrace area located immediately west of the existing spa pool, the applicant proposes to remove the existing spa pool. It will then be replaced with two spa pools as shown on Sheets L-1, A-1, A-8, and A-9 of the drawings. The spa pools will be constructed on a 10' eastern extension of the pool deck area not to extend beyond the eastern most edge of the current planter wall. Each spa pool will be 6' x 8' in size and have the capacity of eight persons. The pools will drain into the existing sanitary sewer system.

### B) Pool Bar Extension

In order to increase the available space for hotel patrons, the applicant proposes a 10' eastward extension of the pool deck around the pool bar as shown in Sheets A-1, A-10, and L-1. This extension will extend no further than the eastern edge of the existing planter retaining wall. The flooring will be supported by the vertical continuation of the eastern-most wall to the elevation of the current pool deck (EL+14.0).

### C) Towel Hut / Overhead Lattice

Currently the location of the towel hut on the pool deck does not allow the attendant to monitor the entry of guests into the pool deck area. By replacing the existing towel hut with a new one along the northern edge of the deck, the hotel will be able to monitor the entry and departure of guests in and out of the pool deck as well as into and out of the hotel from the beach. The structure will be similar but smaller in construction to the existing pool bar with a lattice gateway extending across the promenade. Two additional overhead lattice structures are also proposed to cross the promenade. These structures are detailed in Sheets L-2, A-11, A-12, and A-13.

### D) Construct Planters in Pool Deck for Coconut Palms

In an effort to increase the amount of shade and give a more tropical feel to the north side of the pool deck, the applicant proposes to create new planter wells for nine coconut palms. The planters will be constructed on the pool deck as shown on sheet L-1, L-2, and detailed on Sheet A-20.

The owner also proposes to remove the existing Sabal palms to the west of the pool and create new planters for date palms to the east and west of the pool.

E) Pool Shell Modification

The existing pool has deep end depths of 10', a holdover from when a diving board had been present on the south end of the pool. This diving board has been removed and the current depth significantly reduces the usable area of the pool (since most pool patrons do not use the deep-water area). The hotel proposes modifying the pool depth to a deep point of 5'- 6" as noted on Sheet L-1 and Sheet A-1. New pool stairs will be constructed at all four corners to facilitate ingress/egress. These modifications will create more usable area in the pool and create a safer environment for swimmers. These improvements will be accomplished by making modifications to the existing pool shell.

F) Pool Deck Resurfacing

The existing pool deck is a conglomeration of various color tiles laid on top of an original layer of Chattahoochee stone. Many of the tiles are buckling and water is seeping into the garage below. The hotel proposes to strip down the entire pool deck, waterproof and resurface the deck with precast concrete pavers.

G) Water Feature

In an effort to screen the existing stairs leading down to the existing restrooms on the south side of the pool, and provide an additional amenity, the hotel proposes to install a new water feature as shown on Sheet L-1. This water feature will be a small basin with a wall behind over which water will fall to create both a visual and auditory effect. Drainage from this water feature will be connected to the existing sanitary sewer system.

H) Planter Modifications

New planters are to be added around the Purple Dolphin Restaurant Terrace to create a better buffer between users of the pool deck and restaurant patrons. As part of this new planter addition, the existing stairs on the south edge of the Purple Dolphin Terrace will be removed and new stairs shall be added on the east side of the terrace.

Additionally, in front of the existing planter near the existing spa pool, a new low planter will be added to provide an additional buffer in this area.

3) Install new restrooms and concession area beneath the new extension of the pool deck at the pool bar

In response to an increasing demand for additional bathroom facilities on the beach level of the hotel by guests using both the beach and the Seagrape Bar, the hotel proposes to utilize the space beneath the new pool deck extension. By installing new restrooms as well as relocating the existing concession area beneath the pool bar expansion, the hotel

will be able to maximize the space created by this improvement without constructing additional structures on the beach. The plumbing for the proposed restrooms will be tied into the existing sanitary sewer system.

4) Extend the roof of the covered parking area below the ballroom 16'-8" toward the east.

The existing ballroom balcony is inadequate in size and currently users overlook a parking area. In order to optimize the use of this feature, increase visual aesthetics, and protect more cars from the sun and rain, the applicant proposes to extend the existing parking area roof toward the east by a distance of 16'-8". As shown on Sheet A-15, the flooring will be supported by 16" square reinforced concrete columns spaced 27' on center, in line with the existing concrete columns. Additional screening of the parking area will be achieved through the use of ornamental trelliswork suspended from the new roof extension.

5) Install a concrete unit paver walkway and make associated landscaping improvements along the east side of the existing pool area.

In order to provide a more naturalized beach environment, the applicant proposes to replace the existing concrete walk with a new 6' wide concrete unit paver walkway to be constructed as shown in the attached Sheets L-1 and L-3. The walkway will be built at grade, and therefore require little (if any) excavation or relocation of sand. Any sand that is excavated will be placed on the adjacent, non-vegetated beach. A landscape buffer using attractive native dune vegetation will be installed between this walkway and the pool deck as shown in Sheet L-2.

6) Replace existing exterior lighting with a more turtle-sensitive lighting scheme.

In response to the concerns of the Department of Environmental Protection - Bureau of Protected Species Management, the hotel proposes to remove all existing exposed source globe lights on the pool deck. In order to maintain safety for hotel visitors and employees, the globe lights will be replaced with light fixtures that are more sensitive to the needs of nesting sea turtles. The owner proposes to replace all existing tree-mounted uplights with shielded-source fixtures both on the pool deck and on the beach. A diagram showing the existing lighting is attached on Sheet L-5. The proposed lighting plan is shown on Sheet L-7, and specification sheets for the proposed light fixtures are attached as Sheets L-8, L-9, L-10 and L-11. In combination with screening techniques using dunes and plant material, the new lighting scheme will help to reduce negative effects on sea turtle nesting.

## Reasons for permit issuance (Cont'd)

### Environmental Protection

There are currently no dunes on the beach at the project location. Environmental benefits of the project include the creation of a dune feature seaward of the proposed children's wading pool and the replacement of existing non-native ornamental vegetation with species that are native (e.g. sea oats, beach bean, beach elder and bay cedar). In this way the beach dune system will actually benefit from the proposed project.

The children's wading pool, paver walkways and other structures have been designed to be expendable.

### Sea Turtles

The operation of the hotel and the project specifically have the potential to impact protected species of sea turtles during two time periods; the temporary period during construction and the long-term period after construction. In order to determine the extent of these potential impacts it is necessary to examine the history of recorded sea turtle nesting in the project area.

### Background

Currently the Dade County Department of Parks and Recreation conducts monitoring of sea turtle nesting activity. Daily nest surveys are conducted during the nesting season, and all nests in the urbanized area of Key Biscayne (including the project site) are relocated to safe 'in-the-beach' hatchery areas. Monitoring of nesting activities during the last four years (1994-'97) have indicated the following nests and false crawls on the beach in the front of the Sonesta Hotel property:

	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>Average</u>
# Nests	3	2	5	3	3.25
# False Crawls	3	6	3	8	<del>5.0</del>

Monitoring of nesting in recent years has included measurements of the location where nests have been laid in relation to the observed "wrack line" (approximately Mean High Water). While measurements from fixed landward structures (e.g. seawall) would be preferable, the measurements obtained do give a rough approximation of the area that sea turtles have found to be acceptable for nesting. In the three property area which includes the Sonesta and the adjacent property on both the north (Silver Sands Hotel) and south (Grand Bay Resorts and Residences), nest locations have varied from 16' to 123' west of the observed wrack line. In the absence of any greater specificity, if one assumes the existing MHW (as measured on the current topographic survey) to be the wrack line (likely a conservative assumption in some years) all components of the proposed work would be at least 50' west of the most landward recorded nest. It is therefore the applicant's belief that the proposed project will not remove any portion of the beach where turtles have been recorded to have laid their nests.

## Reasons for permit issuance (Cont'd)

Existing beach vegetation and permitted structures (e.g. cabanas) located waterward of the proposed improvements may serve as a westerly boundary for sea turtle nesting.

### Minimization of impacts to sea turtles during construction

The work is proposed to be performed during the summer of 1998. While the applicant is aware of the potential for nesting by protected species of sea turtles, the majority of the proposed work will be performed in areas that are not currently accessible for turtle nesting. No construction will be performed during nighttime hours and all construction components on the beach level will be done without the use of heavy construction equipment on the beach. Most of the work will be performed with hand-labor, and access will be via existing pathways.

In consideration of the replacement of the existing globe lights with concealed source lights, completion of the lighting component of the project prior to completion of the summer 1998 nesting season could result in a net improvement in sea turtle nesting conditions. In addition to the lighting plan described above, all turtle nests will continue to be relocated to an approved hatchery, so it is unlikely that the project would have any affect on turtle hatchlings.

### Minimization of impacts to sea turtles after construction

Long term effects of the project are expected to be positive. Based on the observations of sea turtle nesting locations as recorded by the Dade County Department of Parks and Recreation, the project is not expected to cause the loss of any habitat that has been documented as being used for sea turtle nesting. With the improvements in lighting and re-introduction of native plants identified above, any effect on sea turtles by the proposed project is therefore expected to be positive. No other protected species are known to inhabit the project area.

Sonesta Key Biscayne  
Landscape lighting inventory

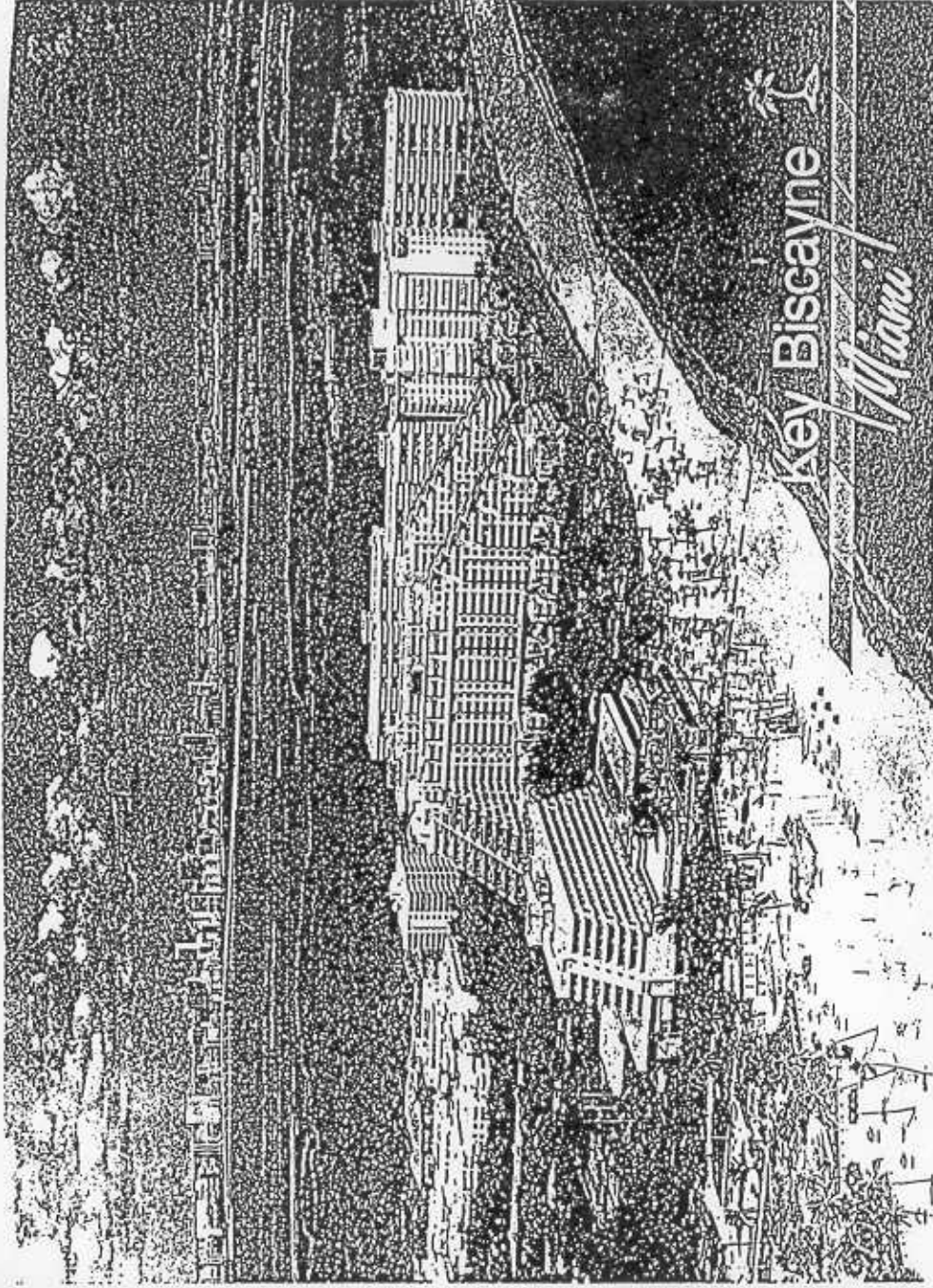
EXISTING	QTY	BULB
WALL MOUNTED GLOBE	8	75 PAR 38
POLE MOUNTED GLOBE	25	75 PAR 38
TREE MOUNTED UPLIGHTS	4	75R
GROUND MOUNTED UPLIGHT	14	75R
DOWNLIGHT	30	75R
EXTERIOR RECESSED DOWNLIGHT	12	40-A-BUG
ACCENT LIGHT	24	75R
POOL LIGHT	21	300-12V

TOTAL QTY. 138

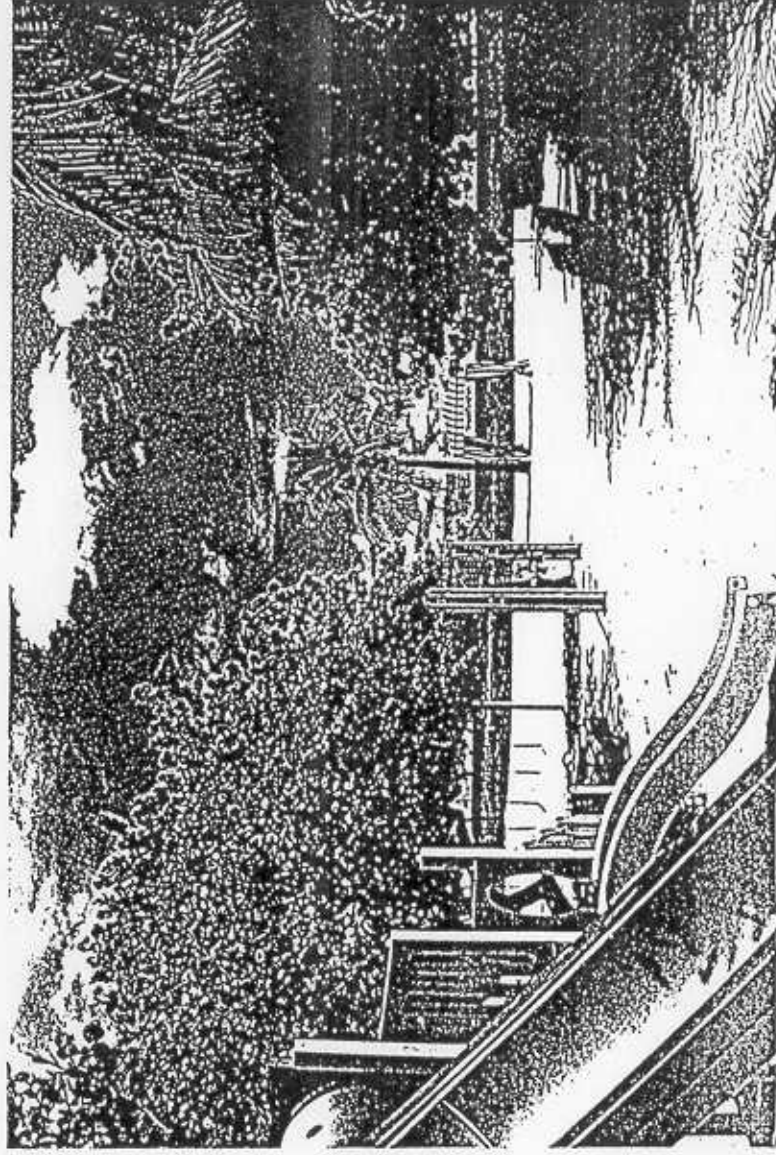
PROPOSED	QTY	BULB
EXTERIOR RECESSED DOWNLIGHT	41	40-A-BUG
EXTERIOR TREE DOWNLIGHT	20	75R
SHIELDED WALL LIGHT	21	35W HPS
SHIELDED ONE SIDED BOLLARD	16	35W HPS
POOL LIGHT	26	300-12V
EXISTING DOWNLIGHTS	25	75R
EXISTING TREE UPLIGHTS	4	75R
180 SHIELDED LOUVERED BOLLARD	10	70W HPS
EXISTING TREE UPLIGHTS	3	HPS

TOTAL QTY. 166

SONESTA BEACH RESORT KEY BISCAINE



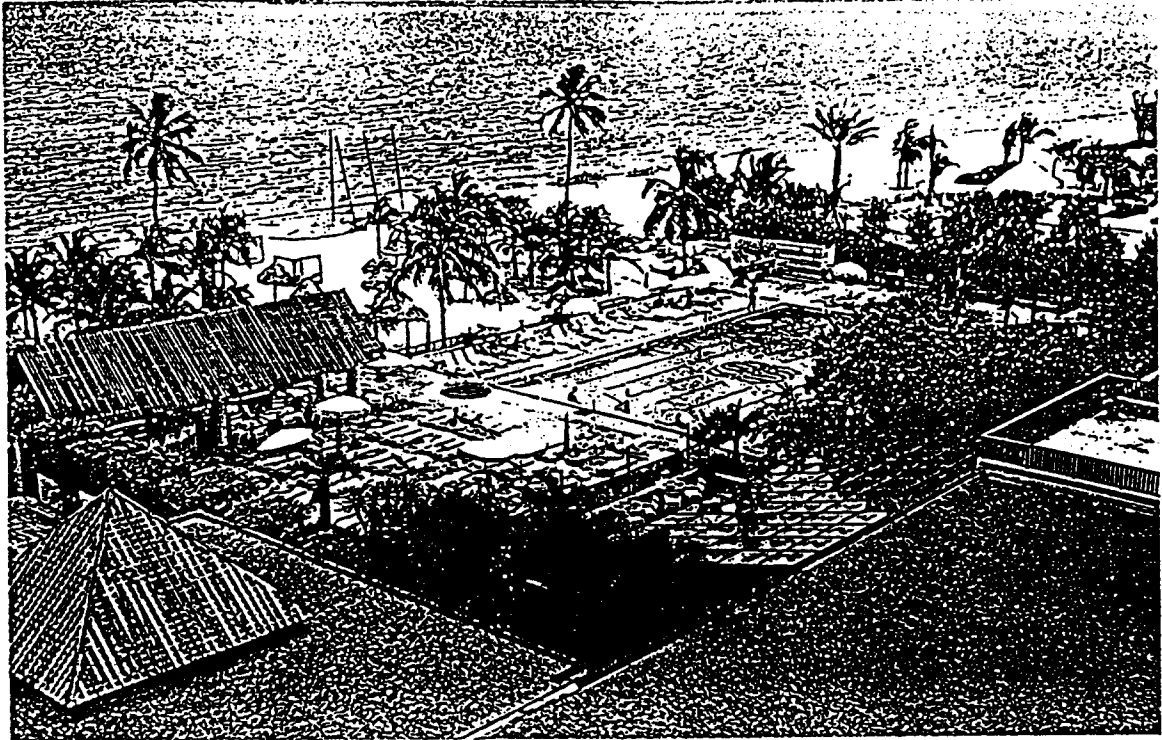
Project Site



View east from area of proposed children's wading pool



# SONESTA BEACH RESORT KEY BISCAIYNE



Existing elevated Pool Deck



Planter area where pool deck will be extended  
Existing wall to be heightened and restrooms to be constructed behind wall

SONESTA BEACH RESORT KEY BISLAYNE



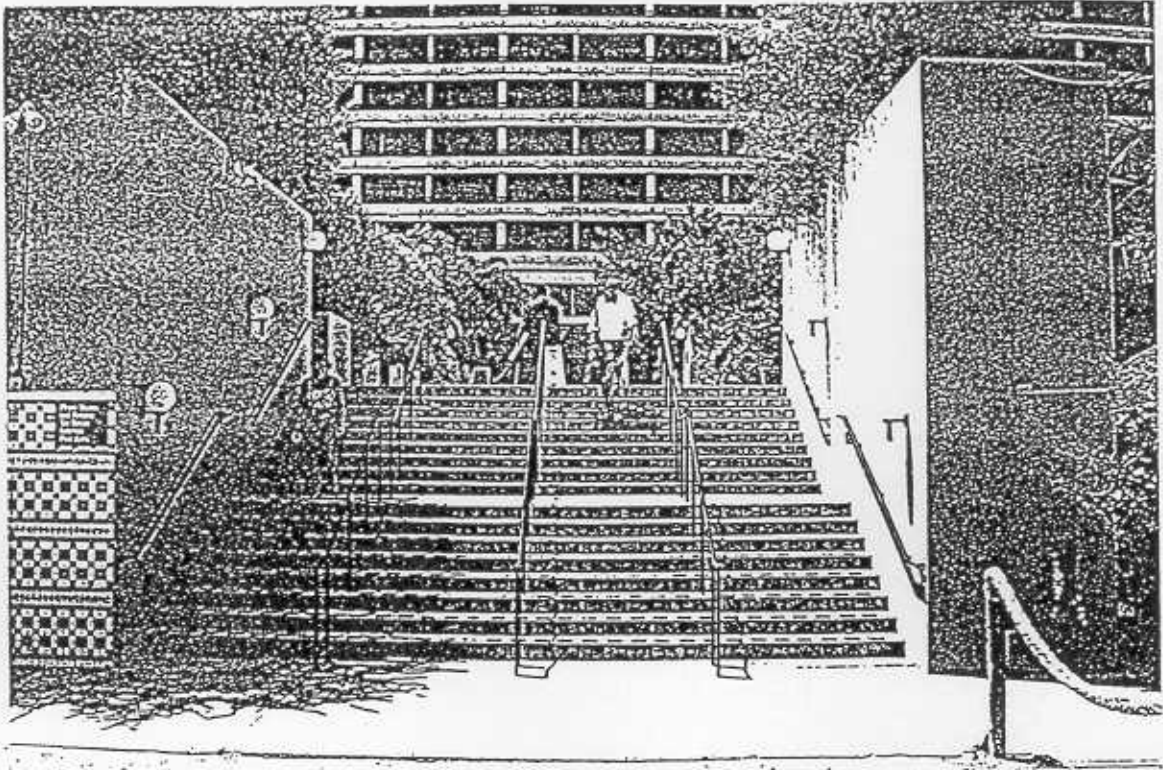
Roof of Parking Area to be extended approx. 18' east



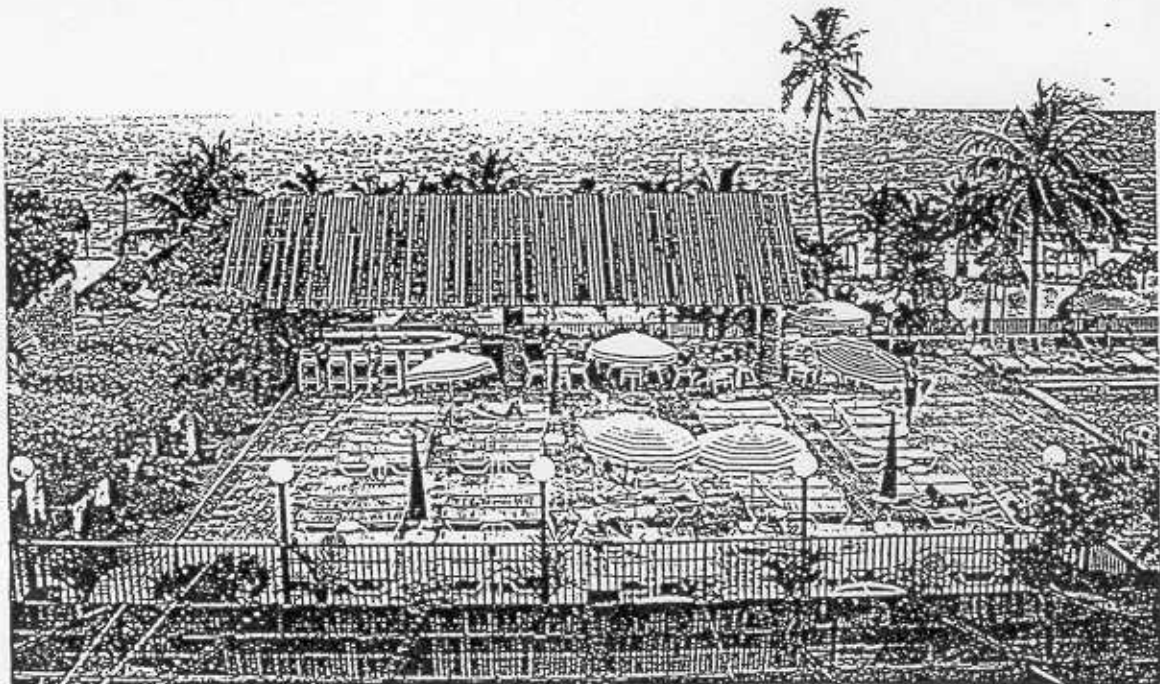
Existing concrete walkway to be replaced by meandering paver walkway  
10'-15 east

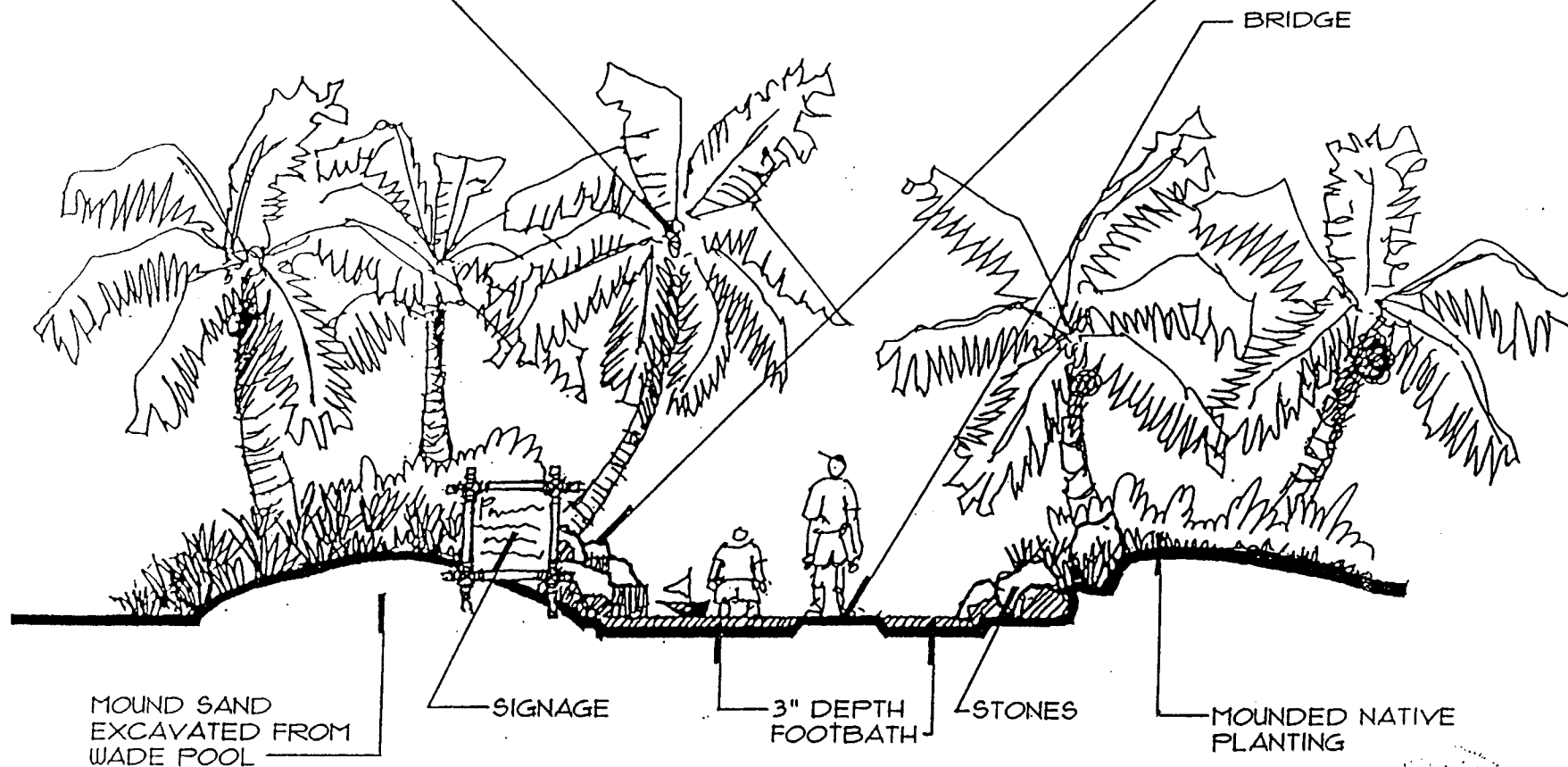


SONESTA BEACH RESORT KEY BISCAIYNE



Existing Lighting to be replaced with fixtures and bulbs that are more  
"turtle-friendly"

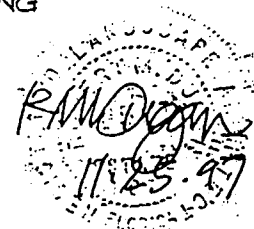




FOOTBATH SECTION LOOKING WEST

SECTION

SCALE: 1/16" = 1'-0"

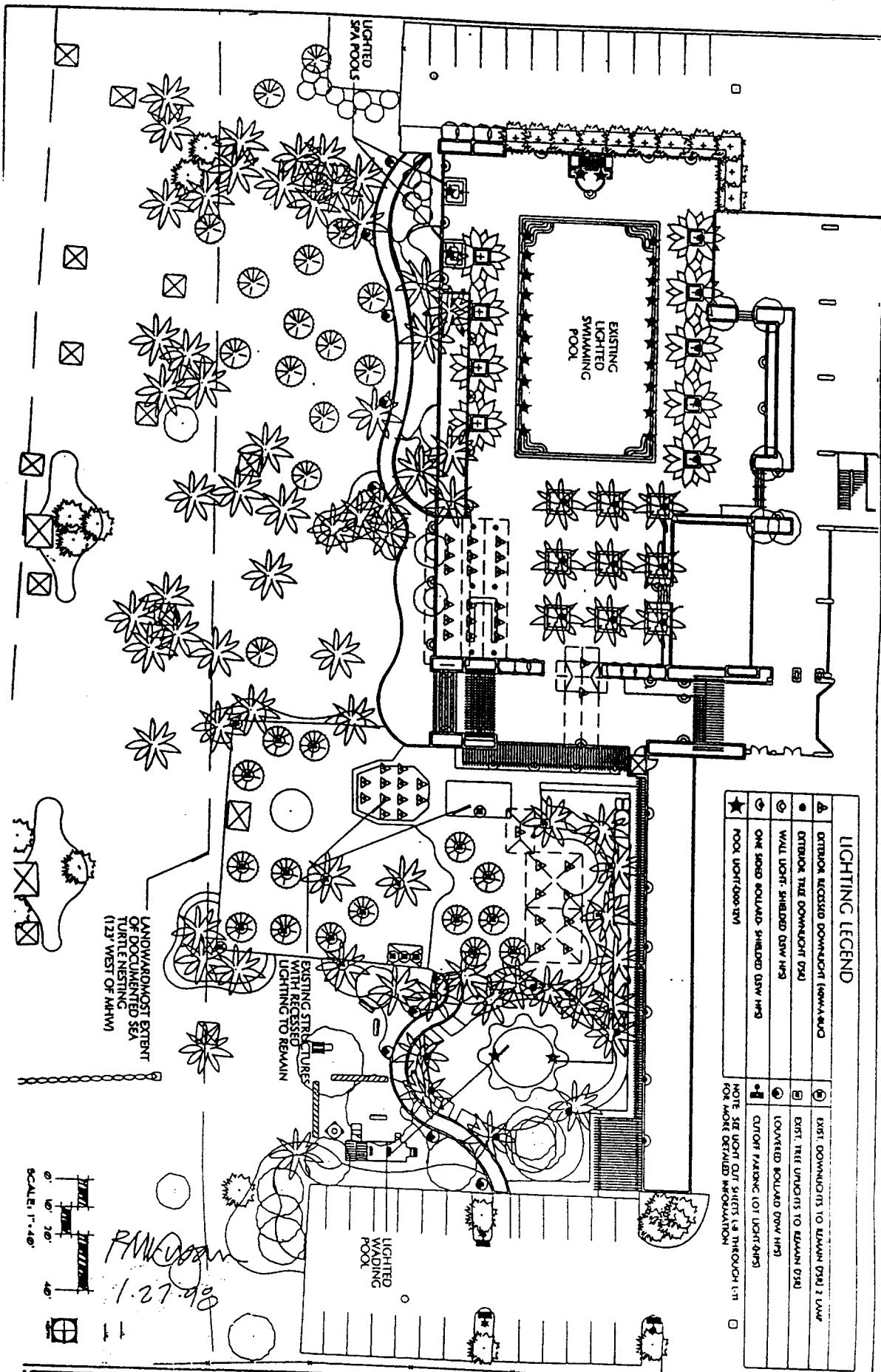


Prepared for	Sonesta International Hotels Corporation
Site Location	Key Biscayne, FL
Prepared by	D. S. A.
Reviewed by	Planning and Landscape Architects
Scale	1/16" = 1'-0"
Sheet Number	17
Sheet	17

Consulting Architect  
 Sonesta International Hotels Corporation  
 1000 Brickell Avenue, Suite 1000  
 Miami, Florida 33131  
 Phone: (305) 372-1000  
 Fax: (305) 372-1001  
 E-mail: sonesta@sonesta.com

**SONESTA BEACH RESORT**  
 KEY BISCAINE, FLORIDA

**FOOTBATH SECTION**



# LIGHTING LEGEND

▲	OUTDOOR RECESSED DOWNLIGHT (NEW-A&D)	●	EXIST. DOWNLIGHTS TO REMAIN (DS) 2 LUM
●	OUTDOOR TREE DOWNLIGHT (DS)	■	EXIST. TREE UPGRADES TO REMAIN (DS)
○	WALL LIGHT- SHIELDED (DS) HPS	●	LOUNGED BOLLARD (DS) HPS
○	ONE ROAD BOLLARD- SHIELDED (DS) HPS	■	CUTOUT PARKING LOT LIGHTS (DS)
★	POOL LIGHT (DS) 300-30W	□	

NOTE: SEE LIGHT CUT SHEETS & THROUGH LIT FOR MORE DETAILED INFORMATION

LANDWARDMOST EXTENT OF DOCUMENTED SEA TURTLE NESTING (125' WEST OF MHHM)

EXISTING STREET LIGHTS TO REMAIN

LIGHTED WADING POOL

EXISTING LIGHTED SWIMMING POOL

LIGHTED SPA POOLS

RM 1.27.98



SCALE: 1"=40'

SITE LIGHTING PLAN

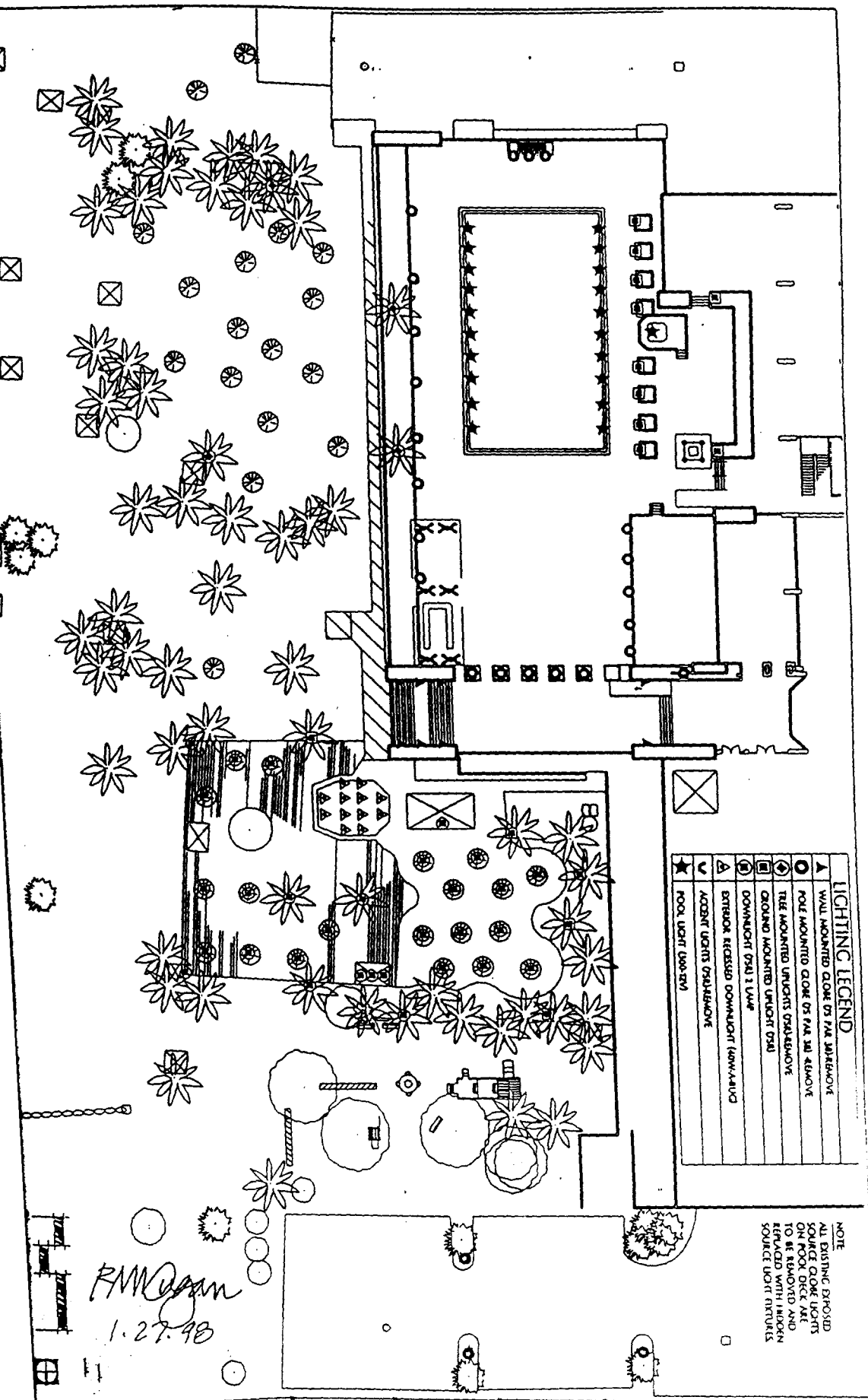
**SONESTA BEACH RESORT**  
KEY BISCAYNE, FLORIDA

Prepared for:  
Sonesta International Hotels Corporation  
200 Ocean Drive  
Miami, FL 33139  
Prepared by:  
**E D S A**  
Planners and Landscape Architects  
1715 S. Bayshore Drive, Suite 100  
A. Lauderhill, FL 33305

Consulting Architect:  
**Koroglu Associates, P.A.**  
200 Corporate Plaza  
Coral Gables, FL 33133

NO.	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Date: May 15, 1997  
Drawn by: TAD  
Approved by:  
Scale: 1" = 40'  
Checked by:  
Project No.: 1-17772  
1 - 100 Sheets & 100%  
2 - 100 Sheets & 100%  
3 - 100 Sheets & 100%



LIGHTING LEGEND	
▲	WALL MOUNTED GLOBE ON POLE MOUNT
●	POLE MOUNTED GLOBE ON POLE MOUNT
○	TRAIL MOUNTED UNITS (GALAXY)
□	GROUND MOUNTED UNITS (GALAXY)
△	DOWNLIGHT (GALAXY) 2' DIA
▽	EXTENSION RECESSED DOWNLIGHT (GALAXY)
★	ACQUANT LIGHTS (GALAXY)
☆	POOL LIGHT (GALAXY)

NOTE  
ALL EXISTING EXPOSED  
SOURCE GLOBE LIGHTS  
ON POLES, COLUMNS  
TO BE REMOVED AND  
REPLACED WITH INCANDESCENT  
SOURCE GLOBE FIXTURES

R.M. Ogan  
1.27.98

EXISTING LIGHTING	<b>SONESTA BEACH RESORT</b> KEY BISCAIYNE, FLORIDA	Prepared for: Sonesta International Hotels Corporation 200 Cleveland Street Boston, MA 02116	Consulting Architect: Koroglu Associates, P.A. 701 Commercial Park Coconut Creek, FL 33066	Date: Nov. 21, 1997 Drawn by: TMB Approved by: Scale: 1" = 40' 0" Checked by: Project No.: 171578 1st Revision: 11/21/97 2nd Revision: 11/21/97
		Prepared by: E D S A Planners and Landscape Architects 140 E. Broward Boulevard, Suite 100 Ft. Lauderdale, FL 33301		

TREES	KEY	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
CO		Conocarpus erectus sericeus	Silver Buttonwood	10'Ht x 6'Spr/BB/full to ground
CE		Conocarpus erectus	Green Buttonwood	12'-14'Ht x 6'Spr/BB/Multi-Trunk
CR		Clusia rosea	Pitch Apple	12'Ht x 7'Spr/BB

Total Trees

#### LARGE PALMS

CMX	Cocos nucifera-Maypan	Maypan Coconut Palm	8'-10'CW/BB/Heavy
PDX	Phoenix dactylifera 'Medjool'	Medjool Date Palm	14'CW/matched/ Classic Cut'

#### SMALL PALMS

BNX	Bismarckia nobilis	Silver Bismarck Palm	6'CW/BB
PWX	Acoelorrhaphe wrightii	Paurotis Palm	12'Ht, 5-7 Stems min., Specimen
SPX	Sabal palmetto	Cabbage Palm	10-12'CW/Hurricane cut

Total Palms

#### SHRUBS, GROUNDCOVERS AND VINES

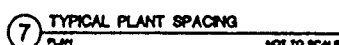
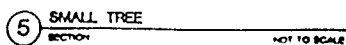
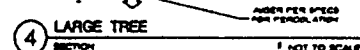
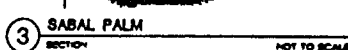
AGA	Agave americana	Century Plant	30"OA/3 Gal/24" OC
ANN	Annals	Annual Flowers	Selected by E D S A/6" pots/12"OC
BGG	Bougainvillea glabra	Dwarf Bougainvillea	18"OA/3 Gal/24"OC
BOU	Bougainvillea spectabilis	Bougainvillea	24"OA/3 Gal/36"OC
CRI	Crinum americanum	Crinum Lily	30"OA/7 Gal/42"OC3 Plants per pot
CON	Conocarpus erectus sericeus	Silver Buttonwood	18" OA/3 Gal/24"OC
HYM	Hymenocallis latifolia	Spider Lily	18" OA/3 Gal/24"OC/3 Plants per pot
PAS	Passiflora spp.	Passionflower	3 Gal/Trellis
RAP	Raphiolepis indica	Indian Hawthorn	18' OA/ 3 Gal / 24" OC
SET	Stecreasa purpurata	Purple Queen	12" OA / 1 Gal / 15" OC
SPA	Spartina bakeri	Sand Cordgrass	18"OA/3 Gal/24"OC
SRX	Serenoa repens	Saw Palmetto	24"OA/7 Gal/3 stems min.
TRD	Tripsacum dactylodes	Fakahatchee grass	24"OA/3 Gal/36"OC

#### DUNE PLANTING

CAN	Canavalia maritima	Beach Bean	12"OA/1 Gal/ 24"OC
COC	Coccoloba uvifera	Seagrape	24"OA/3 Gal/36" OC
HEL	Helianthus debilis	Dune Sunflower	12" OA/1 Gal/ 18"OC
IPO	Ipomoea pes-caprae	Beach Morning glory	12"OA/1 Gal/ 18"OC/5 Runners per pot
IYA	Iva imbricata	Beach Elder	liners/12"OC
SCA	Scaevola plumieri	Native Inkberry	18 "OA/3 Gal/24"OC
SES	Sesuvium portulacastrum	Shore Purslane	10"Spr / 1 Gal/ 18"OC
SPA	Spartina bakeri	Sand Cordgrass	18"OA/3 Gal/24"OC
SUR	Suriana maritima	Bay Cedar	12"OA/1 Gal/18"OC
TOU	Tournefortia gnaphalodes	Sea Lavander	18"OA/3 Gal/24"OC
UNI	Uniola paniculata	Sea Oats	15"OA/3 Gal/24"OC

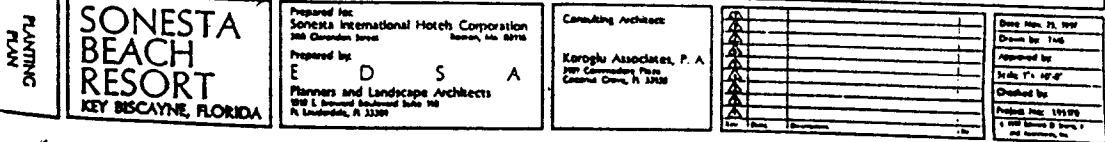
11-25-97  
PLANT LIST

<b>SONESTA BEACH RESORT</b> KEY BISCAYNE, FLORIDA	Prepared for: Sonesta International Hotels Corporation 300 Churton Street Miami, FL 33136	Consulting Architect: Koroglu Associates, P. A. 1021 Commodore Plaza Coconut Grove, FL 33133	Date: Nov. 21, 1997 Drawn by: TJS Approved by: Scale: AS NOTED Checked by: Project No.: 19172 1 x 100' Section 3, 100' x 100'
	Prepared by: E D S A Planners and Landscape Architects 1332 E. Broward Boulevard Suite 170 Ft. Lauderdale, FL 33301	(Grid lines and dimensions)	



Sheet Number **L-3**





SONESTA  
BEACH  
RESORT  
KEY BISCAIYNE, FLORIDA

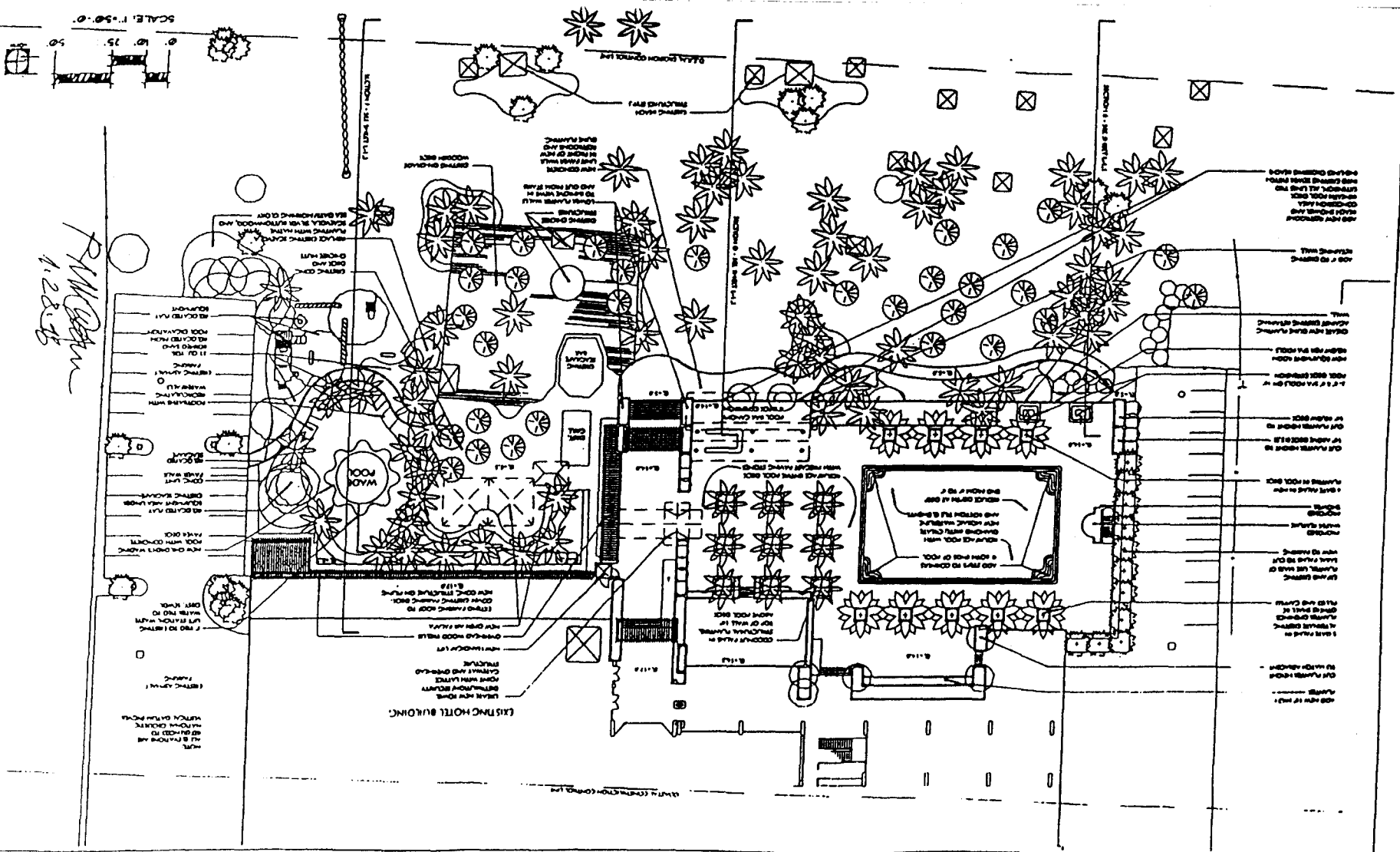
Prepared for:  
SOMERSET INTERNATIONAL HOUSES CORPORATION  
2200 CRENSHAW AVENUE  
CHICAGO, ILL. 60628

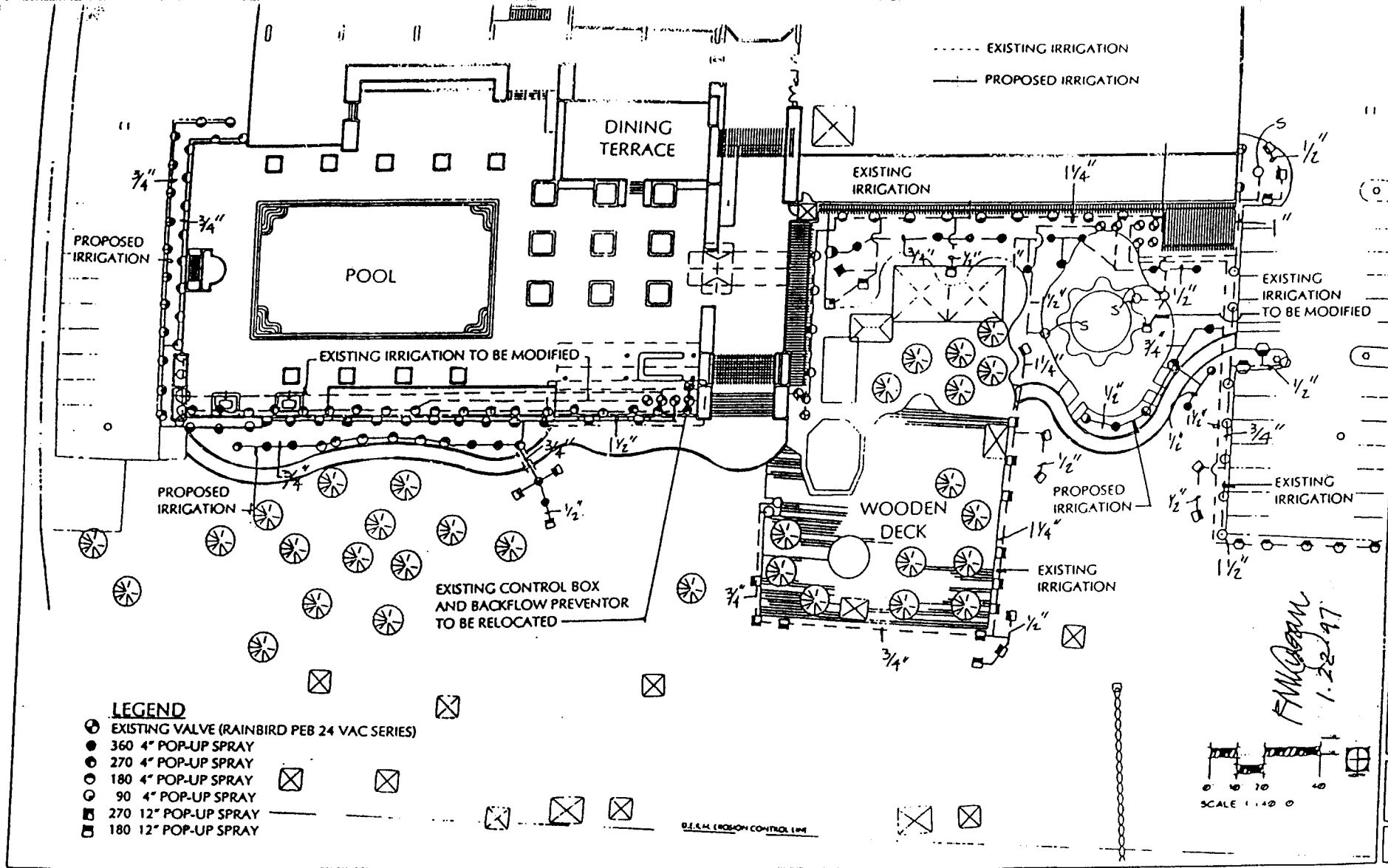
Prepared by:  
E D S A  
PLANNING AND LANDSCAPE ARCHITECTS  
2211 N. LEXINGTON AVENUE  
CHICAGO, ILL. 60610

Community Advocate  
 Kenneth Abbot  
 101 Community Ave  
 Canton, Ohio 44705

[illegible]

Date Rec'd. is rec'd.
Drawn by 1100
Approved by
Initials & Sign.
Outward by
Initials & Sign.
Initials & Sign.

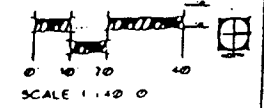




**LEGEND**

- ⊗ EXISTING VALVE (RAINBIRD PEB 24 VAC SERIES)
- 360 4" POP-UP SPRAY
- 270 4" POP-UP SPRAY
- 180 4" POP-UP SPRAY
- 90 4" POP-UP SPRAY
- 270 12" POP-UP SPRAY
- 180 12" POP-UP SPRAY

D.I.E.M. EROSION CONTROL LINE



*FWC*  
1.22.97

Prepared by: Checked by: Drawn by: Date:	Consulting Engineer: Registered Professional Engineer License No.:
Prepared for: Sonesta Beach Resort 10000 S.W. 10th St. Miami, FL 33150	Project No.: Date:

**SONESTA BEACH RESORT**

**OVERALL IRRIGATION PLAN**

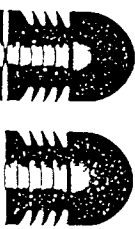
# BOLLARD

BRM 820/821/823

LOUVER

GENERAL DESCRIPTION: General description of the product, including dimensions, materials, and finish. The BRM 820/821/823 is a heavy-duty, cast aluminum bollard with a louvered top. It is designed for use in parking lots, streets, and other areas where vehicle control is required. The bollard is available in three heights: 42", 48", and 54". The louvered top is made of heavy-duty aluminum and can be opened or closed at will. The bollard is finished with a powder-coat paint in a color of your choice. The BRM 820/821/823 is a heavy-duty, cast aluminum bollard with a louvered top. It is designed for use in parking lots, streets, and other areas where vehicle control is required. The bollard is available in three heights: 42", 48", and 54". The louvered top is made of heavy-duty aluminum and can be opened or closed at will. The bollard is finished with a powder-coat paint in a color of your choice.

TYPE	HEIGHT	WATTAGE	VOLUME	FINISH	OPTIONS
BRM 820	42"	100W	120	WR	540
BRM 821	48"	150W	180	WR	540
BRM 823	54"	200W	240	WR	540



NOTES	FINISH	OPTIONS
1. Use standard 1/2" x 1/2" x 1/2" bolts for mounting.	WR	540
2. 1/2" x 1/2" x 1/2" bolts for mounting.	WR	540
3. 1/2" x 1/2" x 1/2" bolts for mounting.	WR	540
4. 1/2" x 1/2" x 1/2" bolts for mounting.	WR	540

BRM 820

BRM 821

LOUVERED BOLLARD LIGHT

© Gordon Lighting  
3811 Avenue Street  
San Leandro, CA 94577  
U.S. 800/271-4700  
CA 510/351-8800  
FAX 510/351-2000

# FORM 10

EH/H ARM MOUNT

GENERAL DESCRIPTION: The EH/H Arm Mount is a heavy-duty, cast aluminum arm mount for use in parking lots, streets, and other areas where vehicle control is required. The arm mount is available in three heights: 42", 48", and 54". The arm mount is made of heavy-duty aluminum and can be opened or closed at will. The arm mount is finished with a powder-coat paint in a color of your choice. The EH/H Arm Mount is a heavy-duty, cast aluminum arm mount for use in parking lots, streets, and other areas where vehicle control is required. The arm mount is available in three heights: 42", 48", and 54". The arm mount is made of heavy-duty aluminum and can be opened or closed at will. The arm mount is finished with a powder-coat paint in a color of your choice.

TYPE	HEIGHT	WATTAGE	VOLUME	FINISH	OPTIONS
EH/H 42"	42"	100W	120	WR	540
EH/H 48"	48"	150W	180	WR	540
EH/H 54"	54"	200W	240	WR	540

NOTES	FINISH	OPTIONS
1. Use standard 1/2" x 1/2" x 1/2" bolts for mounting.	WR	540
2. 1/2" x 1/2" x 1/2" bolts for mounting.	WR	540
3. 1/2" x 1/2" x 1/2" bolts for mounting.	WR	540
4. 1/2" x 1/2" x 1/2" bolts for mounting.	WR	540

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3811 Avenue Street  
San Leandro, CA 94577  
U.S. 800/271-4700  
CA 510/351-8800  
FAX 510/351-2000

CUTOFF PARKING LIGHT

© Gordon Lighting  
3811 Avenue Street  
San Leandro, CA 94577  
U.S. 800/271-4700  
CA 510/351-8800  
FAX 510/351-2000

SONESTA  
BEACH  
RESORT  
KEY BISCAYNE, FLORIDA

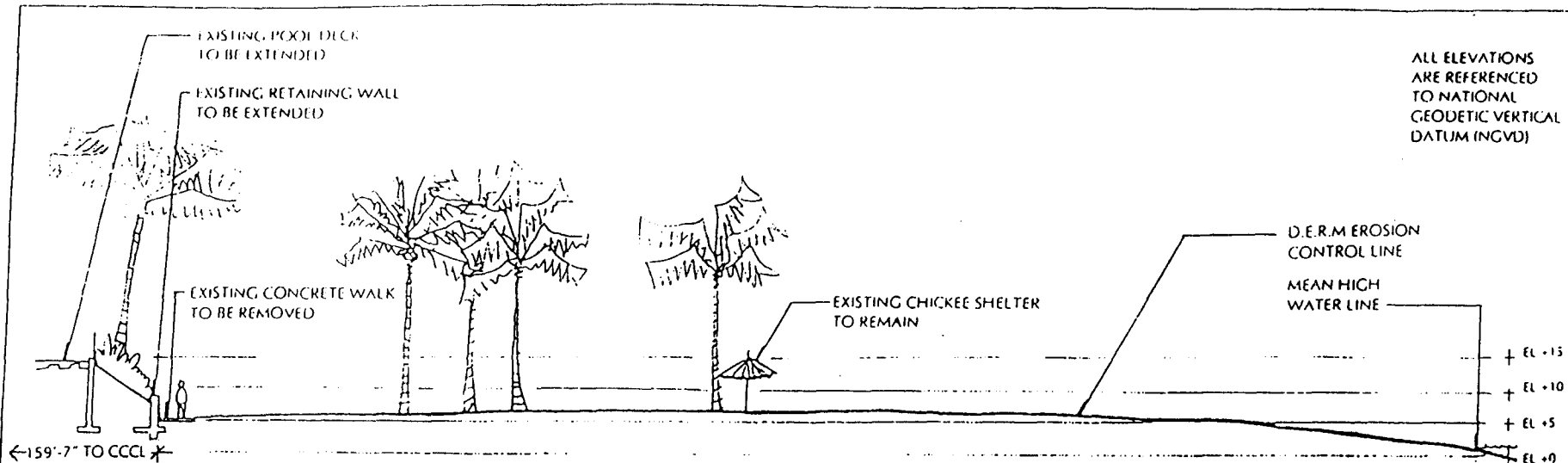
Prepared for:  
Sonesta International Hotels Corporation  
200 Grandview Street  
Baton Rouge, LA 70801  
Prepared by:  
E D S  
Planners and Landscape Architects  
1210 E. Broadway Suite 100  
N. Little Rock, AR 72109

Consulting Architect:  
Korogha Associates, P.A.  
200 Grandview Street  
Baton Rouge, LA 70801

DATE	BY	REVISION
10/25/87	1	Initial Design
11/03/87	2	Final Design

LYONING  
OUT SHEETS

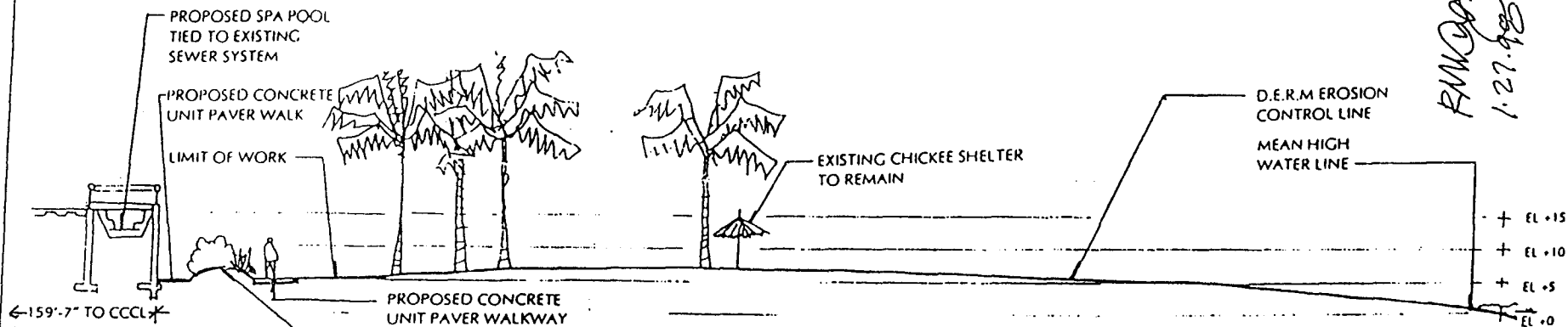
Sheet 1 of 1



ALL ELEVATIONS  
ARE REFERENCED  
TO NATIONAL  
GEODETIC VERTICAL  
DATUM (NGVD)

### SECTION A

EXISTING SITE SECTION LOOKING NORTH  
SCALE 1"=20'-0"



### SECTION B

PROPOSED SITE SECTION LOOKING NORTH  
SCALE 1"=20'-0"

Drawn by	Checked by	Reviewed by	Approved by	Project No.	Sheet No.

Consulting Architect	Engineer	Surveyor	Geologist	Hydrologist	Ecologist	Historic Preservation	Archaeologist	Other

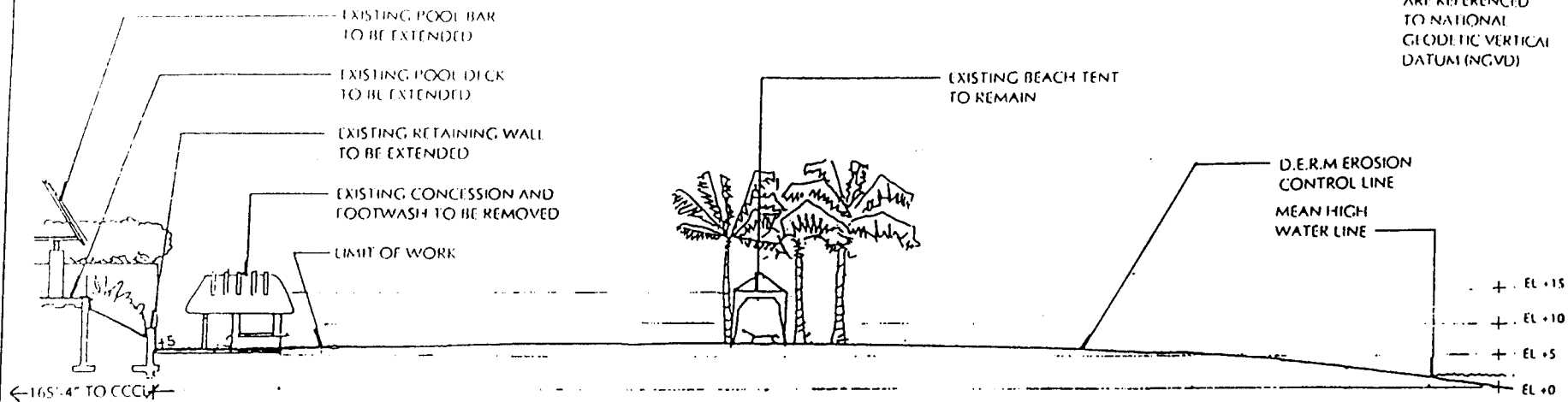
Consulting Architect	Engineer	Surveyor	Geologist	Hydrologist	Ecologist	Historic Preservation	Archaeologist	Other

Approved for	Prepared by	Checked by	Reviewed by	Approved by

SONESTA BEACH RESORT	KEY BISCAYNE, FLORIDA
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SITE SECTION
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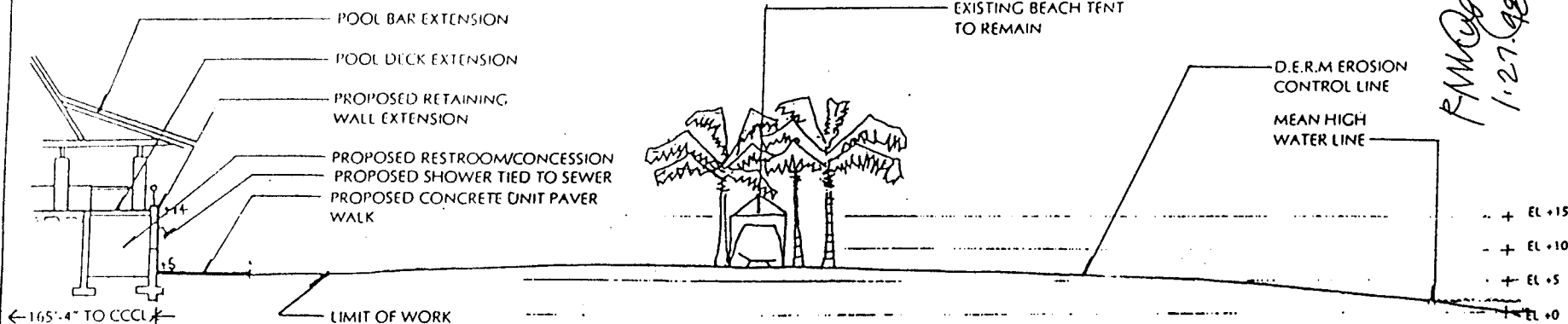
*RWD*  
1.27.00



ALL ELEVATIONS  
ARE REFERENCED  
TO NATIONAL  
GEODETIC VERTICAL  
DATUM (NGVD)

### SECTION C

EXISTING SITE SECTION LOOKING NORTH  
SCALE 1"=20'-0"



### SECTION D

PROPOSED SITE SECTION LOOKING NORTH  
SCALE 1"=20'-0"

Drawn by	Checked by	Reviewed by	Scale	Sheet

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Consulting Architect	Geography Associates, P.A.
Prepared by	John A. S. S.
Checked by	John A. S. S.
Reviewed by	John A. S. S.
Scale	1"=20'-0"
Sheet	1

Prepared by	John A. S. S.
Checked by	John A. S. S.
Reviewed by	John A. S. S.
Scale	1"=20'-0"
Sheet	1

SONESTA BEACH RESORT
KEY BISCAYNE, FLORIDA

SITE SECTIONS
---------------



## **Waterfronts Florida**



# THE MARINER

March 1998 Continuing Voyage

Volume 1 Number 3

**Editor's Note:** This is the third issue of the *Mariner*, a communication tool of the Waterfronts Florida Partnership. If you would like to receive any information about the Waterfronts program or the timing of the next round of applications for accepting new partnering communities please call us at (850) 222-9813.

## *Anchors Aweigh!*

### *Upcoming Events*

★ **Waterfronts Florida Workshop** - Plan to attend our next Waterfronts Florida workshop coming up on May 19th, in St. Andrews/Panama City! We want to see as many waterfront communities as possible attend this workshop, especially those close by in the panhandle region. The topics of the workshop will be support of a viable, traditional waterfront economy and providing public access to working waterfronts and other coastal resources. Speakers will include Laura McKay from the Virginia Coastal Management Program who has been working to revitalize waterfront communities in Virginia, and Theo Petritsch from the Florida Department of Transportation's pedestrian/bicycle and traffic-calming group. Mr. Petritsch will provide a pragmatic session on what communities, such as St. Andrews, may do to incorporate sustainable, citizen-friendly design features into their communities. Space is available on a first come, first serve basis so call us at (850) 222-9813 if you want to attend.

★ **Friends of Trashed Rivers Conference** - The Coalition to Restore Urban Waters (CRUW) is hosting this conference from May 14-16, 1998 in New Orleans, La. CRUW encompasses 400 partner organizations interested in finding progressive solutions to urban watershed management issues. Contact the Lake Pontchartrain Basin Foundation at (504) 836-2215 for more information about the conference.

★ **National Workshop** - In May the Maryland State Highway Administration and the Federal Highway Administration will jointly sponsor a meeting entitled, "National Workshop on Context Sensitive Highway Development" The workshop is aimed at identifying a better design and development process that will bring the public in from the start and allow an interdisciplinary approach to be followed. For more information, please call (703) 893-3219.

### *Scuttlebutt*

★ **Linking Up** - Waterfronts Florida can now be found on the Web! The site is included as part of the 1000 Friends of Florida site which is associated with the Florida Internet Center for Understanding Sustainability (FICUS) at the University of South Florida. The site offers a glance at the purpose and goals of the Waterfronts Florida Partnership, as well as a description of the process involved in becoming a Waterfronts Florida community. You can also familiarize yourself with the three current Waterfronts communities of St. Andrews, Mayport, and San Carlos. Issues of the *Mariner*, the Waterfronts Florida quarterly newsletter, may be viewed at the site. This website also offers links to other waterfront-related resources. In addition to Waterfronts Florida information, the overall site contains information about the functions of 1000 Friends of Florida as a legal advocacy group, an affordable housing advocate, as well as other functions. Come visit us at <http://www.1000fof.usf.edu/waterfront/default.htm>

★ **Florida Coastways** - The Florida Department of Community Affairs (DCA) is developing a coastal network between, and within, Florida's coastal communities called the "Florida Coastways." The network would aim to develop a signed (marked) auto, bicycle and pedestrian trail around the coast of Florida. This effort is in its infancy, but if it proceeds we hope to have our waterfront communities participate from the beginning. For further information contact Teresa Divers at DCA's Coastal Management Office at (850) 414-6558

★ **The Greening of the Army Corps** - The Army Corps of Engineers is making strides to increase the extent to which environmental concerns factor into its decision-making. We are all familiar with the traditional engineering programs addressing flood control, navigation, shore protection, emergency response, planning assistance, and regulatory work. But now the Corps states it has elevated its environmental mission to equal its engineering charge. There are a variety of specific programs for which the Corps is providing assistance. For example, they have been involved in several ecosystem restoration projects, as well as in studies in progress to determine the carrying capacity for the Florida Keys. The Corps also participates in four National Estuary Programs in Florida. The administrative goal is to elevate

(ITE) has released guidelines for traditional street design. In traditional neighborhood design the street network and individual streets are considered to be shared spaces in which the needs of pedestrians and bicycles are given equal or greater importance than those of autos. Developing these concepts into the redesign of several of our Waterfront Florida communities has been noted as an important priority and is likely important to other communities.

If you would like to receive a copy of the full report, call the ITE Bookstore at (202) 554-8050 and ask for publication number RP-027. If you would like to get a copy of the *Flexibility In Highway Design* you should contact the FHWA by calling (202) 366-0106 and ask for publication number FHWA-PD-97-062.

Further information about the Surface Transportation Policy Project, its activities and newsletter can be found on the Web at <http://www.transact.org> or by email at [stpp@transact.org](mailto:stpp@transact.org).

★ "Toronto's Waterfront Revival" - The January 1998 issue of *Urban Land* has an interesting overview of Toronto's Waterfront revitalization efforts. Toronto is experiencing increased growth and revival in its central waterfront area. This increase is a direct result of the current planning strategy which embraces mixed-use development. The plan is for the city to grow and evolve over the next several years through projects in different stages of the permitting and construction process. One step Toronto made was to remove most of the zoning controls from two downtown former industrial neighborhoods. This made room for the \$660 million worth of development in the form of factories converted to residential units, space for film and graphic arts companies, small office space, and other uses. The city has abandoned the idea of a restrictive, pre-planned city where development is subject to stringent land-use controls. In its place, you will find a downtown waterfront area thriving on a diverse mixture of commercial, residential, entertainment, and other land uses.

★ "New Life for Old Waterfronts" - The February 1998 American Planning Association's *Zoning News* focuses on the efforts of several communities to bring mixed use development into waterfront areas. In the article, "New

Life for Old Waterfronts," author Mike Davidson provides an interesting overview of a planning process, as well as real-life examples. Davidson suggests that visioning is an essential part of the waterfront development process. The visioning process is often spurred on by the restlessness of the people in a deteriorating community, and provides a starting place for communities to plan for waterfront revitalization.

Several other issues must be considered when attempting to revitalize an old working waterfront. For instance, the waterfront must be free from environmental contaminants, and psychologically and physically accessible to the entire community. The area must also contain aesthetic and functional elements that would benefit the community as a whole. The final issue is what land-use controls can be implemented and enforced to help a community waterfront plan meet its objectives. Once the visioning process is completed, and these issues are addressed, real change can be facilitated in a waterfront community. (*Editor's note: Sound familiar?*)

### *Attention! Grant Opportunities*

★ Florida Communities Trust is offering a grant opportunity as part of the Preservation 2000 program. All local governments are eligible to submit projects for funding by the Trust. Examples of projects eligible for this grant include projects that further natural resource conservation, and coastal protection. Applications are due April 27, 1998. Contact Keith McCarron of Florida Communities Trust at (850) 922-2207 with any questions.

★ Florida Humanities Council provides information about a variety of programs on its website at <http://www.flahum.org>. The site contains valuable information such as grant deadlines and application forms, a speakers bureau catalog and application forms, and information about their exhibit series.

★ Florida DEP, Office of Greenways and Trails, offers grants and assistance. The program involves the acquisition of areas by the state to become part of the statewide greenways and trails system. Eligible projects include linear corridors, open space connectors, or a trails. Proposals must be received by Greenways and Trails by April 30, 1998. Contact Samantha Waters or Patti Doer at (850) 488-3701 for more information.

Prepared for the Florida Department of Community Affairs, Florida Coastal Management Program, pursuant to National Oceanic and Atmospheric Administration Award No. NA77OZ0183. The views expressed herein are those of the authors and do not necessarily reflect the views of the State of Florida, NOAA or any of its subagencies. This communication tool is produced by the Waterfronts Florida Partnership in the Successful Communities Institute of 1000 Friends of Florida. For more information, please contact: Dan Pennington or Alex Magee, Waterfronts Florida Partnership, P. O. Box 5948, Tallahassee, FL 32314-5948; or phone (850) 222-9813.



## **Florida Shore and Beach Preservation Association**



# FLORIDA SHORE & BEACH PRESERVATION ASSOCIATION

A League of Cities and Counties on Beach and Coastal Issues

2952 Wellington Circle  
Tallahassee, Florida 32308  
(850) 906-9227  
(850) 906-9228 FAX

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February 16, 1998

To: Coastal City Manager/County Administrators

From: Stan Tait, President

Re: Correction on Resolution on Dedicated Beach Funding

On February 13, I sent you a memo asking your Board of Commissioners to pass a resolution supporting dedicated state funding for beach projects.

Sorry but I goofed. The sample resolution included with my memo failed to mention SB882, the companion bill, in two places. That needs to be corrected because the sponsor of SB882 is Senator Sullivan, Chair of the Senate Ways and Means Committee and it's important that he get full recognition for his leadership on this legislation.

Enclosed is a corrected version of the recommended resolution which I hope your commission will enact.

SAMPLE DEDICATED FUNDING RESOLUTION

Resolution No.

A RESOLUTION OF THE BOARD OF COMMISSIONERS OF  
\_\_\_\_\_, FLORIDA, URGING THE 1998  
FLORIDA LEGISLATURE TO PASS HB 3427 AND SB 882  
WHICH PROVIDES A DEDICATED FUNDING SOURCE FOR  
STATEWIDE BEACH MANAGEMENT; AND PROVIDING FOR AN  
EFFECTIVE DATE.

WHEREAS, Beaches are Florida's number one tourist attraction, in 1996 generating \$18.9 billion for the State's economy, 442,000 jobs, and more than \$500 million in State sales and use taxes; and

WHEREAS, Florida's beaches protect over \$150 billion in upland coastal property against hurricane and storm waves, and healthy beaches can reduce damages to coastal development by as much as 50%; and,

WHEREAS, The Florida Department of Environmental Protection estimates that more than 300 miles of Florida's beaches are experiencing a state of critical erosion; and,

WHEREAS, when legislation authorizing the State's beach management program was enacted in 1986, the Legislature declared an intent to "appropriate at least \$35 million annually" to implement this program; and

WHEREAS, appropriations over the past decade have fallen far short of the amount needed to repair the State's eroding beaches; and

WHEREAS, Legislation, designated HB 3427 and SB 882, has been introduced in the 1998 Legislature, which provides for a stable, designated funding source for Florida's Beach Management Program; NOW, THEREFORE,

BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF \_\_\_\_\_,  
FLORIDA:

Section 1. The Board supports legislative efforts to provide a stable, long-term, dedicated funding strategy to protect, restore, and enhance Florida's beaches, and urges the Legislature to pass into law HB 3427 and SB 882 as introduced.

Section 2. The Board authorizes and directs the \_\_\_\_\_ to furnish copies of this Resolution to \_\_\_\_\_'s State Legislative Delegation, the President of the Florida Senate, and the Speaker of the Florida House of Representatives.

Section 3. EFFECTIVE DATE.

This Resolution shall become effective upon adoption.

ADOPTED this \_\_\_\_\_ day of \_\_\_\_\_, 1998

## **American Coastal Coalition**

**Subject: Summit and White House Conference; OMB Shoreline Protection Working Group**

**Date: Wed, 25 Feb 1998 03:13:27 -0500**

**From: "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>**

**To: ACC@mail.netlobby.com**

1. We have Senators Mack and Hollings confirmed.
2. T.J. Glauthier, Deputy Director of OMB, has confirmed.
3. Other invitations are out and more will go out before the week ends.

Don't be surprised to see a White House Conference on the Oceans. Incredibly, it may be set for June 8th, although how they have time to put it together beats me. Where it will be and who will be invited are up in the air. I DO NOT SEE THIS AS UNDERCUTTING THE SUMMIT IN ANY WAY. In fact, it may help to build interest in the Summit.

OMB is trying to put together a Working Group to develop a new shoreline protection policy. This comes as a direct result of the meeting ACC had with OMB on February 9th. The first meeting of the Working Group may come as early as March 11th. I don't know the membership, but ACC will be well represented and we have had input on some of the other members.

If you have comments or questions, e-mail me at the above address OR at ACC.Monitor@mail.netlobby.com



**Subject: Discussion Paper to be Used in Connection with OMB Working Group**

**Date: Sat, 07 Mar 1998 17:40:04 -0500**

**From: "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>**

**To: ACC@mail.netlobby.com**

Since a large number of people will be gathering in Washington for the OMB Working Group on Shoreline Protection, it would be helpful if a core group of us agreed on various points so that we can hopefully move the discussion in a productive manner. Rather than address the issues of cost-sharing formulas and other items at this time, it seems that some more basic and more immediate issues need to be agreed upon. Included below is a memorandum I have drafted which I hope you will examine today and respond with your thoughts.

The memorandum follows. It is also attached as a Word Perfect version 7.0 for Windows file attachment.

---

### **Developing an Enhanced National Shoreline Protection Program**

The essence of the discussion of beach nourishment as a means of shoreline protection can be boiled down to these two overriding questions --

A. Is it too costly to justify the investment of federal dollars?

B. Is it effective enough to justify the investment of federal dollars?

While these two questions overlap each other and at the same time do not directly address a number of related issues, they nevertheless go to the heart of the policy debate on shoreline protection programs.

The question of cost is difficult to address because there is no comprehensive national inventory of capital needs for shoreline protection. The current process is based on project needs, rather than on the coastal management needs of the various regions of the country. Those states with historically active shoreline protection programs have projects that are either already in the pipeline (studies; authorized; appropriated) or, having previously received federal investment, are now or will in the future be ready for additional federal investment (periodic renourishment; re-authorization; etc.). While a reasonable inventory can be produced of these projects, there are other regions of the coastlines which would be omitted from such an inventory. This omission may be caused by the fact that state or local government officials simply have not yet made the commitment to participate in shoreline protection. It may also be caused by the fact that current federal policies preclude certain regions of the country from the shoreline protection program.

The American Coastal Coalition believes that beach nourishment is an effective method of shore protection based on engineering and fiscal criteria. By beach nourishment, we refer to sand placement or sand replenishment or what is often referred to as a "soft solution" to shoreline protection. Not every sandy beach is an appropriate candidate for beach nourishment, but most are. Of those which are, there must be an understanding and acceptance of the fact that beach nourishment has as its objective the reconstruction of a beach so that the net loss of sand caused by wave action and storms — and in many cases exacerbated by the existence of inlets and other forms of human intervention — can be slowed to a minimum. So long as we look at each "beach project" in a microcosm, we lose sight of the fact that it is part of a natural sand system that (in most cases) has been altered by human intervention. The existence of an inlet, for example, will naturally trap sand upward of the inlet, causing an accretion of sand, while starving the downward beach of sand. Beach nourishment can slow the net loss of sand on the downward portion of the beach, but it is highly unlikely to make that downward beach self-sustaining. Future periodic renourishment — meaning placing sand from an accreting region on all or part of the sand-starved portion of the beach — is an integral part of the beach nourishment process. It is by no means a sign of the failure of beach nourishment.

The alternative to beach nourishment is hard structures. While there are places where hard structures are appropriate, those usually occur as part of a shore protection project whose main feature is the soft solution of sand replenishment. As a substitute for beach nourishment, hard structures are largely ineffective. They protect property, but they do not preserve sandy beaches. The American Coastal Coalition is concerned about the loss of coastal property to storms. However, we believe that as a matter of general policy, healthy beaches with stable dunes afford the most effective and environmentally sound approach to protecting property while at the same time affording the best approach to protecting the economic and environmental interests of the region and the nation.

We do not believe that "retreat" from our coastlines is an acceptable alternative to beach nourishment. The history of mankind is replete with evidence that people are drawn to coastlines for both economic and recreational reasons. Unless the coasts are cordoned off with barbed wire, that attraction will continue. Hindsight shows that some areas of the coastline are less conducive to the recreational and/or economic presence of human beings than others. That is equally true of the significant development which has taken place in riverine areas of the nation. Using the combined tools of effective shoreline protection and hazard mitigation, the costs of maintaining these coastal regions and reducing the losses resulting from natural disasters can be substantially reduced.

We are opposed to over-development of coastal areas, and we believe that it is often appropriate for governmental policies to discourage or prohibit the development of pristine, undeveloped regions of the coastline. However, the only situations in which "retreat" is appropriate are those where the local community has decided to take that course. Federal policies should neither dictate retreat or make retreat necessary by withholding appropriate assistance (i.e., shoreline protection) from those regions which are willing to share the costs and responsibilities of shoreline management with the federal government.

The American Coastal Coalition rejects the contention that beach nourishment benefits only those relatively few people who own property immediately upland from the beach. Governmental assistance for beach nourishment is for public beaches whose recreational, economic, and hazard mitigation benefits are enjoyed by extremely large numbers of people. One need only look at the variety of people enjoying a beach or the many businesses or tourist attractions which would not exist without the presence of that beach to appreciate the depth and breadth of the population that benefit from beaches.

Therefore, the American Coastal Coalition supports an enhanced national shoreline protection policy which is based on a strong federal partnership with states and local governments in rebuilding and maintaining public sandy beaches. We believe that the annual federal investment in this part of our coastal infrastructure can remain in the very modest range of \$100 million to \$150 million. We believe that the current balance of the federal-state-local partnership should be modified to give a stronger role to states and local governments in the management and implementation of shoreline protection policies and an increased responsibility for sharing the monetary and non-monetary costs of such management. Equally, we believe that the current federal process of selecting which beaches are suitable for federal shore protection assistance and of implementing that assistance must also be enhanced in a manner which increases the effectiveness of shoreline protection projects while reducing their costs.

We are confident that current discussions within Congress, the Administration, and the private sector will produce legislative proposals that will address both the re-balancing of the partnership and the project selection and management process. While we have a series of recommendations which will address these issues, we believe that a limited number of significant initiatives must be implemented during the current congressional session. Each of these will assist the implementation and management of the enhanced federal shoreline protection program regardless of the specific elements of that program.

These initiatives address the need for useful data on relevant coastal conditions and on the testing of a sand systems, programmatic approach that will replace the current project-by-project approach.

#### 1. Establishment of a National Shoreline and Shore Erosion Data Bank

Several federal agencies currently collect or have the ability to collect data that is vital to the management of our coastlines. In addition, data is collected by states, academic institutions, and private sector research facilities. To facilitate the long-term management of our shorelines, all interests should have access to all of the useful data they need to make responsible policy determinations. The authorization of a National Shoreline and Shore Erosion Data Bank in WRDA '98 and the funding of that Bank in the Energy and Water Development Appropriations Bill for Fiscal 1999 and beyond would be a significant step toward pulling together and augmenting the available data and establishing a mechanism for its maintenance and dissemination.

## 2. Study of the Regional and National Economic Impacts of Beaches

Most of us believe that healthy sandy beaches have a very positive effect on regional economies and on the national economy, as well. However, we do not have hard data on the magnitude or the geographical dispersion of that benefit. Such a study can be authorized in WRDA '98 and funded in the Energy and Water Development Appropriations Bill for Fiscal 1999 and beyond.

## 3. National Feasibility Study of a Systems Approach to Sediment Management

We ought to test the systems approach to sediment using projects (many of which are already in the pipeline) in different parts of the country. Rather than leave such a study to the ad hoc decision of the Corps, it would be better to have Congress state that it directs the Corps to undertake such a study and to complete it with a report to Congress by a date certain. This can be done in WRDA '98 with the actual funding of projects in the Energy and Water Development Appropriations Bills for FY 1999 and beyond. It is likely that there are several projects currently in the pipeline that can be used for this test. However, in some areas of the country (such as California and Texas), there are simply no shore protection projects in the pipeline. The systems approach needs to be tested in these areas, as well. The testing of the systems approach to sediment management should in no way be used to defer any existing shoreline protection projects, nor should it discourage the implementation of a systems approach with projects that are, or will soon be, under construction.

## 4. National Feasibility Study of a Programmatic Approach to Funding Shoreline Protection

This is the logical complement to a systems approach to sediment management and the Data Bank, as well. If we approach shoreline protection and navigation projects on a programmatic basis — rather than a project-by-project basis — logic says that it will provide Congress with the information it needs to make better decisions about project funding. That, however, may not be the case in all parts of the country. Once again, WRDA '98 can be used to direct the Corps to study this concept and report to Congress by a date certain. The costs of this study can be funded in the Energy and Water Development Appropriations Bills for FY 1999 and beyond. Here, too, this study should not be used in any way to defer action on existing or new shoreline protection projects.

## 5. Research and Development Efforts for a More Effective and Cost-Efficient Approach to Shoreline Protection

Federal financial support for R&D efforts must be increased so that we can develop more effective and less costly methods of shoreline protection. The European Community as well as Japan are investing in R&D efforts related to sand replenishment. We need to increase our own R&D efforts under the Corps, other federal agencies, as well as universities and private sector research facilities in the appropriations bills for FY 1999 and beyond.

## 6. Fund the Shoreline Demonstration Program

A demonstration program to test alternative shoreline protection technologies in different parts of the country was authorized by WRDA '96 for a total of \$18 million over three years. So far, no money has been appropriated for this program. We need to fund this program at \$6 million annually for Fiscal 1999, 2000, and 2001. It has been several years since the federal government funded such a demonstration program. During that time, coastal engineers and scientists have learned a great deal. That knowledge

should be field-tested to see what works and under what conditions does it work.

The funding of these initiatives should be part of the shoreline protection program. Clearly, they will add to the cost of that program. However, the Administration's budget request for shoreline protection for Fiscal '99 is only \$23 million. Even if no new initiatives were added, Congress would be faced with the need to find the money to fund a \$100-plus million shoreline protection program (which is the level of funding this program has received over the past two years). To achieve that level of funding as well as to fund some or all of the initiatives discussed above, we must first act to assure that the Congressional Budget Resolution includes an adequate figure for "Function 300" (which includes, but is not limited, to the Corps civil works program) and which includes report language which states that the Budget Committees place a priority on the full range of water projects that are included within this budget function. The current figure being used by the water resources community that will enable adequate funding of Corps civil works projects is \$4.5 million — a slight increase from Fiscal 1998. It will be necessary to determine if this figure needs to be (or can be) increased to fund the initiatives discussed above.

NOTE: This is a discussion draft dated March 6, 1998. If you have any comments, please call Howard Marlowe at 202-775-1796 or fax to 202-775-0214 or e-mail to Howard.Marlowe@mail.netlobby.com

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## MEMORANDUM

TO: Select Distribution List (on cover sheet)

March 12, 1998

FROM: Howard Marlowe

SUBJECT: Letter from Mayors to Mayors

Several weeks ago, I faxed a draft letter to be sent by a dozen or so mayors to the mayors of coastal communities throughout the nation. There was enough positive response to indicate that we can now proceed to get this letter into production.

Attached to this memo is a copy of the text of the letter. Please give a copy of this letter to any mayors in your region who may be willing to sign it.

Ask them to provide their signature on the SEPARATE PAGE that accompanies the letter, and type their name and the name of their town or city underneath their signature.

We will reduce these signatures so they will appear together on a single page. A final copy of the signed letter will be sent to you and to each mayor. (Please note that there is space on the signature page for the mayor's address as well as phone and fax numbers.)

THIS LETTER WILL BE MAILED TO COASTAL MAYORS ON APRIL 15<sup>th</sup>. Therefore, we will need to receive all signatures by April 8<sup>th</sup>.

If you have any questions, please call me at 202-775-1796.

Dear Mayor:

As Mayors of coastal communities, we are writing to ask you to join us at the National Coastal Summit, June 24th-26th in Washington, D.C. Together with people who live or do business in coastal communities, the Summit is our opportunity to tell the federal government how important our coastal resources are to the economy and environment of this nation.

This is the Year of the Ocean. Our interest is to assure that Washington pays sufficient attention the needs of coastal communities from the Atlantic to the Pacific Oceans, as well as from the Gulf of Mexico to the Great Lakes. The National Coastal Summit is about promoting shore protection, disaster relief, and environmental policies which will help our communities to prosper.

The Summit is sponsored by the American Coastal Coalition, a tax-exempt national advocacy organization for coastal communities. Enclosed is a preliminary agenda as well as information about the ACC.

Please join us in registering for the National Coastal Summit today. A form with registration fees as well as hotel and airline information is also enclosed.

Let's show the real strength of coastal America by participating in this important event. If you need more information, call the ACC at (800) 627-5693.

Sincerely,

**SIGNATURE PAGE INSTRUCTIONS**

**Please sign your name in BLACK ink above the line and type your name and the name and state of your community below the line.**

**Add the additional information requested below so that we can get a signed copy of the letter to you. We will reduce each signature we receive so that the names of all signatories appear on one page. The signed letter will be sent to coastal mayors throughout the nation on or about April 15<sup>th</sup>. Thank you for your cooperation.**

**Howard Marlowe, President  
American Coastal Coalition**

\_\_\_\_\_

Type Your Name: \_\_\_\_\_

Your Address \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

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**American  
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## **PRESS RELEASE**

**For Immediate Release  
March 12, 1998**

**For Further Information Contact  
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202-775-1796**

### **ADMINISTRATION RECONSIDERS OPPOSITION TO SHORE PROTECTION PROJECTS**

(Washington, DC) The Clinton Administration is convening a group of experts to help it decide whether to end its opposition to using federal money to maintain some of the nation's public beaches. Since 1995, the White House has taken the position that beach nourishment projects cost too much and provide local benefits which should be paid for by local governments. In 1996, the American Coastal Coalition was formed to be a voice for coastal communities in Washington. The group's major priority has been to turn Administration beach nourishment policy around. ACC President Howard Marlowe hailed the Administration's decision to consider new approaches to its beach nourishment policy. "This is a good faith effort to bring people with different views together to help White House policy makers determine how best to use limited federal funds to manage the country's sandy public beaches," he said.

In a letter inviting a group of private citizens, Members of Congress, and Executive Branch officials to join a Working Group of Shore Protection Policy, Office of Management and Budget Associate Director T.J. Glauthier noted that, "Given constrained Federal resources, the Federal government cannot continue to expand the size of [the shore protection program] indefinitely.

(MORE)

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**1667 K Street NW, Suite 480, Washington, DC 20006  
Phone: 202-775-1796/Fax: 202-775-0214  
Email: ACC.Monitor@mail.netlobby.com  
Webpage: <http://www.coastalcoalition.org>**

Page 2

We need your help to come up with options to best manage this program over the coming years."

Each year, Congress has rejected the Administration's policy to oppose spending on beach nourishment projects. To some observers, it has become a war of wills between the two branches of government. Congress has passed new laws and appropriated money in support of repairing badly eroded beaches, while the Administration has ignored the lawmakers' opposition to its policy. The Administration's decision to reconsider its position comes as Congress is beginning its annual appropriations process. It also comes in the wake of El Nino storms which have battered the country's coasts.

"We have never understood the Administration's willingness to support dams, locks and other projects that protect against inland flooding while it opposes projects that provide the same type of protection against coastal flooding," said ACC President Marlowe. "Healthy public beaches contribute billions of dollars to the economies of coastal regions and the nation as a whole. They protect the lives and property of coastal residents against storms, and they provide recreational and environmental benefits that are enjoyed by millions of Americans as well as foreign tourists. Since more than half of our population lives within 50 miles of a coast, it is critical that the federal government continue to work with state and local governments to manage the nation's beach resources."

"The ACC looks forward to working with the Administration and Congress to develop an enhanced shore protection policy that offers the nation's public beaches more protection at a reduced cost for federal taxpayers," added Marlowe.

*The first meeting of the OMB Working Group on Shoreline Protection Policy will take place in Washington on March 16<sup>th</sup>. For more information on this issue, contact the ACC by calling (202) 775-1796. A wealth of information about America's coasts can be found on the ACC webpage: <http://www.coastalcoalition.org>*

Page 2

**Subject: ACC Press Release****Date: Thu, 12 Mar 1998 02:57:52 -0500****From: "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>****To: ACC@mail.netlobby.com**

For Immediate Release

For Further Information Contact

March 12, 1998 Howard Marlowe

202-775-1796

**ADMINISTRATION RECONSIDERS OPPOSITION  
TO SHORE PROTECTION PROJECTS**

(Washington, DC) The Clinton Administration is convening a group of experts to help it decide whether to end its opposition to using federal money to maintain some of the nation's public beaches. Since 1995, the White House has taken the position that beach nourishment projects cost too much and provide local benefits which should be paid for by local governments. In 1996, the American Coastal Coalition was formed to be a voice for coastal communities in Washington. The group's major priority has been to turn Administration beach nourishment policy around. ACC President Howard Marlowe hailed the Administration's decision to consider new approaches to its beach nourishment policy. "This is a good faith effort to bring people with different views together to help White House policy makers determine how best to use limited federal funds to manage the country's sandy public beaches," he said.

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**Subject: President to Nominate new Ass't Secretary**

**Date: Thu, 12 Mar 1998 17:26:26 -0500**

**From: Howard Marlowe <Howard.Marlowe@mail.netlobby.com>**

**To: ACC@mail.netlobby.com**

For Immediate Release

March 4, 1998

PRESIDENT CLINTON

NAMES JOSEPH W. WESTPHAL AS ASSISTANT SECRETARY OF  
THE ARMY FOR CIVIL WORKS AT THE DEPARTMENT OF DEFENSE

The President today announced his intent to nominate Joseph W.  
Westphal to be the next Assistant Secretary of the Army for Civil Works  
at the Department of Defense.

Dr. Joseph W. Westphal, of Herndon, Virginia, is currently the  
Senior Policy Advisor to the Assistant Administrator for Water at the  
Environmental Protection Agency. From 1995 to 1997, he was Director  
of the Congressional Sunbelt Caucus in the Senate, and from 1988 to 1995,  
he was Executive Director of the House Sunbelt Caucus. From 1987 to  
1988, he was a visiting Scholar at the Institute for Water Resources,  
and from 1975 to 1987, he was a Professor and Department Head in the  
Political Science Department at Oklahoma State University. He has also  
been an Adjunct Professor at Georgetown University since 1996.

Dr. Westphal received his B.A. from Adelphi University, his M.A.  
from Oklahoma State University, and his Ph.D. from the University of  
Missouri-Columbia, all in Political Science.

The Assistant Secretary of the Army for Civil Works is responsible  
for overall supervision of the functions of the Department of the Army  
relating to civil works programs, including water resources development,  
environmental programs and policies, the Panama Canal, sea level canal  
affairs and the U.S. Army Corps of Engineers.

-30-30-30-



**Subject: Today's Meeting at OMB**

**Date: Mon, 16 Mar 1998 18:13:39 -0500**

**From: Howard Marlowe <Howard.Marlowe@mail.netlobby.com>**

**To: ACC@mail.netlobby.com**

The meeting at OMB today on the Administration's shoreline protection policy went well. No one at the meeting spoke up against doing shore protection projects, and OMB stated that it wanted to see shore protection projects funded at a \$80 to \$100 million annual level. The issue for them was their belief that the demand for shore protection and the cost of shore protection projects would exceed that level. Therefore, they wanted to examine what could be done to reduce total project costs. There was much discussion and several good ideas were raised. However, we took the position that (a) there was an immediate need to get the federal shore protection program back on track, (b) there is a near-term need to include a broader definition of economic benefits in the determination of the benefit-cost ratio.

The American Coastal Coalition issued a press release prior to the meeting that will be sent to you by separate fax. We are not waiting for OMB to act. We will meet with our congressional allies to recommend amendments for the Water Resources Development Act of 1998. These meetings will lead to a grassroots effort that will culminate on June 25th at our National Coastal Summit when we got to the Hill to meet with Members of Congress.

In addition, we have developed for INTERNAL circulation of position paper outlining the steps we recommend to develop an enhanced National Shoreline Projection Policy. This document is a much-revised version of the long e-mail you received on 3/11. Since this document will be used to develop materials for the National Coastal Summit, I urge you to read it and comment on the current draft -- which you can receive by replying to this e-mail with the phrase "Position Paper".

Please call me at 202-775-1796 if you have any questions.

**Subject: ABC-TV WORLD NEWS TONIGHT: 3/19/98**

**Date: Wed, 18 Mar 1998 02:38:50 -0500**

**From: "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>**

**To: ACC@mail.netlobby.com**

ABC-TV WORLD NEWS TONIGHT WILL RUN A STORY ON THE 'WASTE OF TAXPAYERS'  
MONEY' INVOLVED WHEN PEOPLE BUILD TOO CLOSE TO THE COAST.

**Subject: ACC Requested to Testify**

**Date: Fri, 20 Mar 1998 02:51:20 -0500**

**From: "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>**

**To: ACC@mail.netlobby.com**

The ACC has been requested to testify on shore protection policy on March 31st.

The hearing is being held by the Water Resources Subcommittee of the House Transportation & Infrastructure Committee.

While the hearing is on the Water Resources Development Act of 1998, we are being asked to discuss shore protection policy and what has happened since passage of the Shore Protection Act (sec 227 of WRDA '96).

I have no other information at this time.

We have been asking for a similar opportunity on the Senate side.

**Subject: ACC's 3/31 WRDA Testimony**

**Date: Tue, 31 Mar 1998 01:40:24 -0500**

**From: "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>**

**To: ACC@mail.netlobby.com**

You can request a MAILED copy of ACC's WRDA '98 testimony before the House Subcommittee on Water Resources and the Environment by replying to this e-mail and including your name and mailing address. The testimony is too long to be faxed. You will also receive a copy of ACC's press release on the hearing.

**Subject: Other materials available**

**Date:** Tue, 31 Mar 1998 01:43:21 -0500

**From:** "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>

**To:** ACC@mail.netlobby.com

You can receive a copy of any of the materials listed below via FAX or MAIL by replying to this e-mail and indicating (a) which documents you want, and (b) whether they should be faxed or mailed.

1. Draft 1998 National Coastal Summit Agenda
2. Registration Form for the National Coastal Summit
3. Sample letter to be sent to Congress urging full funding for shore protection and other water projects in the Congressional Budget Resolution.

**Subject: Request for Your Help**

**Date:** Tue, 31 Mar 1998 01:44:41 -0500

**From:** "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>

**To:** ACC@mail.netlobby.com

If you have or know of a mailing list we can use to get the word out on the National Coastal Summit -- and you have not previously provided us with this list -- please call Andy Lacy at 202-775-1796. We need lists as soon as possible!!!

**Subject: NOAA Announces Ocean Conference**

**Date: Tue, 31 Mar 1998 15:29:20 -0500**

**From: NOAA Constituent Affairs <constaff@hulkhovis.rdc.noaa.gov> (by way of Howard Marlowe**

**To: ACC@mail.netlobby.com**

TO: Howard Marlowe

ACC

9,775-1796

Contact: Lori Arguelles, 202-482-5647

Constituent Contact: Robert Hansen, 202-482-4594, Robert.C.Hansen@NOAA.GOV

**COMMERCE AND NAVY SECRETARIES ANNOUNCE  
NATIONAL OCEAN CONFERENCE TO BE HELD THIS SUMMER**

Commerce Secretary William M. Daley today announced that the Department of Commerce and U.S. Navy will co-host a National Ocean Conference on June 11 and 12 in Monterey, Calif., home to the nation's largest national marine sanctuary. The conference will include other federal agencies, ocean scientists and researchers, Members of Congress, and representatives of state and local governments, industry, and interested ocean groups.

The conference, to be held at the Naval Postgraduate School in Monterey, was conceived as a way to underscore the importance of the oceans to a vast range of vital U.S. interests, and to enhance public awareness of our nation's dependence on the ocean.

"The Year of the Ocean provides us with an excellent opportunity to examine the essential role the ocean plays in all of our lives. The oceans provide food, medicines, recreation, transportation and other aspects of marine commerce that contribute to our high standard of living," Commerce Secretary Daley said. "This conference will be an important forum to discuss these contributions and stimulate the debate as to how to ensure the long-term health of the Earth's vital ocean resources."

"Despite the importance of the ocean to various sectors of the U.S. public," said Secretary of the Navy John H. Dalton, "the overall impact of ocean activities to the nation as a whole is rarely addressed. The ocean is the Navy's operating environment, and our national security, as well as our foreign trade, are dependent on preserving the high seas freedoms of navigation for military and commercial vessels worldwide. This conference," added Dalton, "reflects a growing awareness of the ocean's paramount importance to global peace and security, the world economy, and environmental well-being."

Ocean activities and concerns in the United States span a broad range of interests and are reflected in the four central themes of the conference: commerce, global security, environment, and exploration and education.

"In the United States, one of every six jobs is marine-related and one-third of the nation's gross domestic product is produced in coastal areas through fishing, transportation and recreation," said Daley. "All of these industries are dependent on healthy waters and marine habitats."

"As global communications increasingly link our economies and our lives, there is a tendency to believe the oceans that separate us are less relevant. In fact, the opposite is true," said Dalton. "The more linked we become, the more relevant the oceans become, as the great common denominator which links us all."

In recognition of the importance of the marine environment, the United Nations declared 1998 the International Year of the Ocean (YOTO). This designation provides individuals, organizations and governments with an important opportunity to raise public awareness and understanding of the

ocean and how it affects our lives. On  
Jan. 28, President Clinton officially proclaimed 1998 as Year of the Ocean.

# # #

Visit Year of the Ocean on the Web at [yoto.com](http://yoto.com) or call the toll-free number  
at 888-4YOTO98.

Please help us to better serve you by notifying the above named constituent  
contact of any change in your fax or e-mail delivery.



**Subject: Supreme Strikles Down Harbor Maintenance Trust Fund**

**Date:** Wed, 01 Apr 1998 11:20:55 -0500

**From:** Howard Marlowe <Howard.Marlowe@mail.netlobby.com>

**To:** ACC@mail.netlobby.com

March 31, 1998

HARBOR TAX STRUCK DOWN: The Supreme Court ruled unanimously today that the federal Harbor Maintenance Tax is unconstitutional. The tax, imposed on goods exported by ship from any U.S. port, was enacted in 1986 and is a source of hundreds of millions of dollars in government revenue. Clinton administration lawyers had tried to salvage the law by arguing that, despite the legislation's name, it really imposed a user fee -- not a tax. The argument flopped as the nation's highest court said the tax "does not qualify as a permissible user fee." The U.S. Court of International Trade had reached the same conclusion last year in U.S. v. United States Shoe Corp. The Constitution bans taxes on exports but does not rule out user fees.

# NEWSWAVE

**A Newsletter of COASTAL PLANNING & ENGINEERING, INC.**

**April 1998**

## **FLORIDA'S LARGEST BEACH NOURISHMENT APPROACHES CONSTRUCTION**

The soon to be constructed Panama City Beach project will place 7 million cubic yards of sand along 16.5 miles of Opal damaged beach. This will be the longest beach nourishment project in Florida's history and the second largest in volume and expense.

The project is a joint venture of Bay County, Panama City Beach Tourist Development Council and the State DEP. The joint venture will construct the \$30 million Federal Project with state and local funds and apply for a portion of the costs as Federal reimbursement.

Sand will come from offshore borrow areas which have been screened to locate the whitest beach quality sand available.

Steve Keehn, senior coastal engineer with CP&E is project engineer and designer of the project. Steve and Tom Campbell worked closely with Catherine Florko and Al Devereaux at the DEP to establish the project scope. Craig Kruempel (CPE) and Bob Brantly (DEP) processed the permits to establish controls on the construction and protection for the environment.

Doug Sale, the TDC attorney, has negotiated upland easement wording with the Corps that meets the new Federal requirements and addresses beachfront owner concerns. This easement can be used as a model for Florida projects in the future.

Jim Slonina and Jim Southall of Panhandle Engineering have developed plans to address all the drainage outfalls across the beach.

It's all coming together quickly. Permits, ECL's, easements and Federal agreement. As construction approaches Allan Bense, chairman of TDC is coordinating the final issues with Tom Campbell and Debbie Flack to make sure the pieces fall in place.

## **BOCA RATON BEACH RENOURISHMENT (Under construction)**

Boca Raton is conducting their first renourishment project after initial construction in 1988. Project manager and engineer, Rick Spadoni, working closely with Ron Laccheo, City of Boca Raton Municipal Services Director, obtained the permits and state and federal funding for the project. The design received Corps of Engineers approval which brought with it Federal funding.

More than 600,000 cy of sand are being placed along 1½ miles of Boca Raton's Northern Beaches to renourish the beach after 10 years. The renourished beach is being constructed at about 200' width, which is expected to equilibrate to 120 ft in one year. The renourishment replaces 280,000 cy of eroded sand and rebuilds the dry beach section. The dredge *Meridian*, of Bean Construction has been working since March '98 and expects to complete the job this month (April). The construction cost is \$2.1 million and is being funded with city, state and federal funds.

## **CAPTIVA FEEDER BEACHES SHOW EARLY SUCCESS**

Extra sand placed in two hot spot areas on Captiva Island in 1997 appear to be successfully dealing with high erosion rates based on 18 month monitoring surveys. Renourishment sand was concentrated into two high erosion areas, which will act as feeder beaches to the rest of the island. Surveys conducted by CPE surveyors led by Earl Soeder show that after 18 months, the feeder beaches are eroding as projected. Alison Hagerup, CEPD administrator reports that everyone is pleased with the performance of the beach.

## **DADE COUNTY ALTERNATE SAND SOURCE INVESTIGATION**

Prepared for: Jacksonville COE

Working closely with the Jacksonville District's geologist Doug Rosen an alternate sand source investigation was conducted for Dade County, Florida beach erosion control projects. The location of the sand sources varied from suppliers close to or in Dade County to Guyana, South America. Composition varied from aragonite ( $\text{CaCO}_3$ ) to pure quartz sand to a mixture of both. In this investigation it was determined that the sand suppliers manage details much differently than the dredge industry does. Therefore CPE's project engineer, Steve Keehn and geologist, Lori Dalessio developed a sand specification to help to ease the transition from traditional dredge and fill projects to using upland or alternate sand sources. Some of the differences addressed were the transportation of the material, the weight vs. volume of material and quality control issues. The final product was an industry ready sand specification and proposal bid form. A quality of sand factor was developed which enables consideration of erosion reductions, which can be achieved with coarser sands.

## **MANATEE COUNTY, FLORIDA (ANNA MARIA ISLAND) SHORE PROTECTION PROJECT**

Prepared for: Manatee County

In 1992-93 the U.S. Army Corps of Engineers widened the southern beaches of Anna Maria Island an average of 208 feet with 2.3 million cubic yards of sand. Monitoring surveys in 1997 were analyzed to evaluate performance of the fill.

Four years after construction, the average beach width remains 84 feet seaward of the pre-construction MHW line. Most of the shoreline change (~100') was due to equilibration of the profile as sand placed on the upper beach profile moved into offshore sand bars as expected. A total of 1,838,000 cubic yards of sand was measured within the project since post-construction survey. This indicated that approximately 79% of the fill placed in 1992/1993 is still located within the project area. The borrow area gained 54,000 cubic yards since 1994.

CPE was recently awarded the engineering contract for the renourishment project. Rick Spadoni and Craig Kruempel have begun engineering the renourishment effort, which is scheduled to occur in two years. The project may be expanded to include the entire island. A major sand search is planned to locate sand for the renourishment effort.

## **FIRE ISLAND PINES BEACH NOURISHMENT PROJECT**

The community of Fire Island Pines is happy to have a new beach this winter. The beach has protected the community against a few moderate storms that would have damaged houses last year. In October 1997, the dredge *Illinois* of Great Lakes Dredge and Dock constructed a 600,000 cy project along the community's 1.3-mile shoreline for a cost of \$2.28 million. The new beach included dunes with a top elevation of 17 ft. above mean sea level. The project was designed and construction supervised by CPE and funded by the Fire Island Pines Beach Erosion Control District represented by Myron Pavlon-Blum. Myron was instrumental in securing project approvals.

## **JUNO BEACH SHORE PROTECTION PROJECT**

Palm Beach County has requested that CPE design a shore protection project in Juno Beach in order to allow construction in November 1998. The 2.3 miles, 1.3 million cubic yard project is currently under review by the State and Federal agencies. The borrow source is located 3 miles from the north end of the fill area and is 1.5 miles offshore in 68 feet of water. The borrow area contains approximately 2 million cubic yards of coarse sand.

**ATLANTIC COAST OF NEW JERSEY BEACH  
EROSION CONTROL PROJECT: SEA  
BRIGHT TO MANASQUAN, NEW JERSEY,  
1996 POST-CONSTRUCTION BEACH  
MONITORING ANALYSIS  
Prepared for: New York District COE**

This report was the first in a series of annual monitoring studies to evaluate the condition of the beaches along the New Jersey coastline between Sandy Hook and Manasquan Inlet. When construction is completed, the Atlantic Coast of New Jersey, Section I and Section II Beach Erosion Control Project will be the largest fill project in the United States. Surveys were performed in the spring and fall of 1996 and compared to post construction surveys.

Due to the extensive length of the project, Norman Beumel and Tom Copps divided the project into reaches to better analyze the changes and for construction purposes. The average shoreline changes between April and October, 1996 over the whole project area based on profile surveys was an advancement of 40.6 feet. Reach 1B advanced 280.0 feet due to the 1996 construction project. Reach 1A, which was constructed in 1994/1995, exhibited a shoreline loss of only 3.2 feet.

**SOUTH LAKE WORTH INLET  
MANAGEMENT PLAN**

CPE is currently developing an inlet management plan for Palm Beach County at one of the State's most controversial inlets. The management plan is the result of a mediation settlement of legal action between the Towns of Ocean Ridge, and Manalapan, the State and Palm Beach County. Working closely with all governments, Tom Campbell helped identify plan elements that facilitated the agreement. The inlet management plan is being reviewed in phases by all parties and should be complete in 1998.

**EGMONT KEY EROSION CONTROL  
PROJECT**

CPE has been asked to provide assistance to the State Bureau of Design and Recreation Service and the Bureau of Beaches and Coastal Systems to evaluate the feasibility of protecting historic gun batteries on the northern end of Egmont Key. The Key is located at the mouth of Tampa Bay and is jointly managed by the State and Federal governments as a park and wildlife refuge. The Key which is accessible only by

boat is the home to nesting shore birds, gopher and box turtles and receives nesting sea turtles during the summer. The Key formerly housed Fort Dade which protected the Tampa Bay entrance during the Spanish American War. The remains of three gun batteries at the north end of the island are threatened by erosion. The State would like to protect these gun batteries before they are destroyed by erosion and settle into the Gulf like two similar gun batteries have done at the south end of the island. CPE has also been asked to evaluate the feasibility of placing sand back onto the island to protect the upland habitat over the long term.

**UPHAM BEACH GROIN FIELD**

Pinellas County has requested that CPE provide permitting services for the placement of sand filled geotextile groins in Upham Beach. The project is part of a Federal project, which has renourished the beach on several occasions. Due to the seaward projection of the beach, the fill life averages only 2 years. This project is Phase 2 of the implementation of the inlet management plan, also developed by CPE. The project will be designed and constructed by the Federal government.

**LONGBOAT KEY/NEW PASS TERMINAL  
GROIN**

The Town of Longboat Key has implemented the next phase of their beach comprehensive plan with the reconstruction and extension of the terminal groin at New Pass. The groin stabilizes the fluctuations of the shoreline in front of the Sands Point Condominium. Len Smalley, PE, Public Works Director and Cliff Truitt of Mote Marine Laboratories coordinated the groin construction to interface with the USACE placed (200,000 cubic yards) sand from the New Pass channel on Longboat Key. The structure holds a portion of this recently placed material. CPE provided final design services and construction engineering services to the Town.

Doug Mann, PE, Project Engineer and Jim White performed inspections of the construction. The construction was completed in January 1998.

**LIDO KEY BEACH NOURISHMENT  
PROJECT**

Lido Key is located within the City of Sarasota and is an important focal point for the City's thriving tourism economy. As project manager, Rick Spadoni designed a 300,000 cy yard project, which is

presently under construction with a hopper dredge. The project consists of the transfer of sand from a relic shoal some 6-1/2 miles seaward of the Key, discovered by the CPE geologist/ hydrographer brother team of Matt & Jeff Andrews. City Engineer, Dennis Daughters, PE was instrumental in securing funding for the badly needed project. Funding was obtained for the project from the State of Florida and the Sarasota County Tourist Development Council.

#### NORTH TREASURE ISLAND TERMINAL GROIN

Pinellas County has requested CPE to design a terminal groin on the north end of Treasure Island. The Project is part of the federal erosion control project and is being constructed by Pinellas County with reimbursement by the federal government. The project also includes a fishing platform, which will allow anglers access to the Johns Pass channel. CPE previously permitted this project for Pinellas county in 1996. Construction is expected this summer.

#### CPE HAPPENINGS

Several members of the CPE staff have recently completed of 10 years of service to the firm. They include Douglas Mann, PE, Earl Soeder, Judy Oyler, and Craig Kruempel.

Jim White and Michael Jenkins have joined the professional staff of CPE. Jim, a recent graduate of Florida Tech, will assist Doug Mann in our engineering department. Mike is a graduate of FAU and will be receiving his Ph.D. from Florida Tech in May.

Tom Copps, PE, recently received his Professional Engineers License. He has been with CPE for three years.

Doug Mann, PE and Steve Keehn, PE have been promoted to the position of Senior Coastal Engineer. Steve and Doug will direct major coastal projects for the firm.

Douglas Mann, senior coastal engineer was recently invited to speak at the 2<sup>nd</sup> Texas Coastal Issues Conference. Doug presented an overview of Florida's Inlet Management program and cited several examples of its success.

|||||

33149X1597

*James Soeder*

SANDRA GOLDSTEIN  
VILLAGE RESOURCE VOLUNTEER  
VILLAGE OF KEY BISCAYNE  
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Boca Raton, FL 33431

## MONA ISLAND, PUERTO RICO REEF RESTORATION

In July of 1997 the 326-foot freighter, *M/V Fortuna Reefer*, was grounded for 8 days on a reef off the coast of Mona Island, Puerto Rico. Extensive reef damage occurred as a result of the grounding, ship stabilization techniques and departure.

The National Oceanic and Atmospheric Administration (NOAA) Damage Assessment Center (DAC) determined that an emergency repair of the damaged corals was warranted. Beginning in August, under the direction of NOAA-DAC, Rick Spadoni and Craig Kruempel of CPE developed a plan for the restoration of the damaged corals. The plan was developed in cooperation with John Iliff of National Marine Fisheries and Harold Hudson and Bill Goodwin of NOAA. The plan involved reattaching coral fragments to the reef substrates with stainless steel wire.



*Diver re-attaching the coral*

Rick Spadoni, Craig Kruempel and Jeff Andrews of CPE developed and coordinated the restoration program, organized the dive team and supervised the project. Frank and Liz Schmidt were the advance team organizing the boat and equipment and mobilizing the equipment and vessels to Mona Island.

Nineteen divers participated in the project. They completed 537 dives and 597 hours of bottom time in a period of 21 days. A total of 1,857 corals were

reattached during this project. CPE divers included Frank Schmidt, Rick Spadoni, Craig Kruempel, Lori Dalessio, Jeff Andrews, and Miles Loesel. Thanks to our safety officers, Andrew Graham and Liz (mom) Schmidt, there were no diving accidents or serious injuries on the project.

Thirty monitoring stations were established to check on progress of the coral reef restoration



*Re-attached coral in foreground  
Undamaged coral in background*

Rick Spadoni provided an in depth presentation in November of this unique project at a reef conference in Puerto Rico, at the request of Puerto Rican officials.

*"I would like to thank NOAA for the opportunity to participate in this project as well as our partners from Tetra Tech and Industrial Divers for their hard work and dedication to making this job happen. I give special thanks to the divers and support teams that spent many days away from home and long hours above and beyond the call of duty to help restore this precious environment" – Tom Campbell*

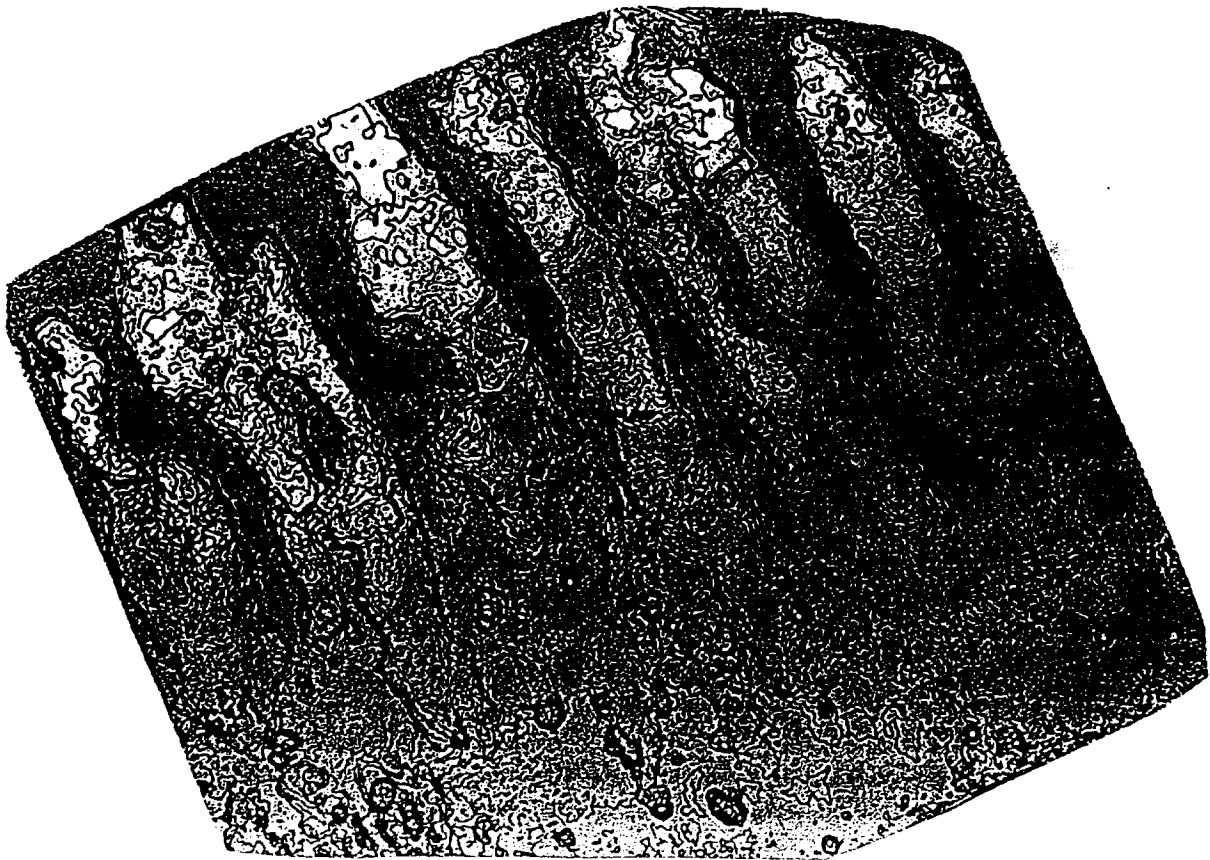
## LOOE KEY REEF RESTORATION PROJECT

In August 1994, the 155 foot research vessel *R/V Columbus Iselin* ran hard aground and lodged on the coral reef in the Looe Key National Marine Sanctuary (LKNMS) off Big Pine Key in the Florida Keys. Site surveys conducted by FKNMS biologists immediately after the grounding revealed that the grounding destroyed reef flora and fauna and deeply scarred major structural elements of the reef framework.

At the request of NOAA Sanctuaries and Reserves Division, Rick Spadoni conducted a site investigation with NOAA officials to determine the optimum design approach for the project. Rick dove with Harold Hudson and Bill Goodwin of NOAA to examine the site, explore repair options and plan a multibeam bathymetric survey of the site.

CPE was contracted by NOAA in September of 1997 to execute a multibeam hydrographic survey of the Looe Key damage site. CPE surveyors utilized ECHOSCAN Multibeam Echosounder, which provided superior bottom definition and optimum performance on both hard bottom and steep slopes typical of the Looe Key Site.

The multibeam bathymetric maps show damaged area across four of the eight spurs surveyed. The damage site is approximately 170 feet in length and 35 to 40 feet at its widest point.



*Looe Key Damage Site*

CPE is presently working on a design to repair the four reef spurs. Rick Spadoni is developing a design, which will employ a special concrete mixture, in combination with limestone boulders; to re-create the reef spurs to as close to natural condition as possible.



# *The 1998 National Coastal Summit*

## **Achieving Sustainable Coastal Communities**

**June 24 - 26, 1998  
Hyatt Regency - Capitol Hill  
Washington, DC**

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### **Registration Form**

**Registration Fee Includes All Summit Functions, Meals, and Receptions**

**Received Prior to May 1, 1998: \$250**

**Thereafter: \$295**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

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*Make Checks Payable to the American Coastal Coalition*

**American Express, Mastercard, and Visa Payments: (CIRCLE ONE)**

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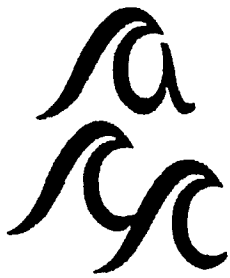
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Refunds in full will be made for cancellations received by May 30<sup>th</sup>. After that date, there will be no refunds.





# American Coastal Coalition

1667 K Street NW/Suite 480

Washington, DC 20006

Tel: 202-775-1796

Fax: 202-775-0214

E-mail: [ACC.monitor@mail.netlobby.com](mailto:ACC.monitor@mail.netlobby.com)

URL: <http://www.coastalcoalition.org>

## MEMORANDUM

TO: ACC Members

April 13, 1998

FROM: Howard Marlowe

**SUBJECT: Update on Washington Developments**

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PLEASE REGISTER NOW for the

### NATIONAL COASTAL SUMMIT

June 24<sup>th</sup> - 26<sup>th</sup>

Washington, DC

A flier is enclosed with registration, hotel, and airline information.

A brochure describing the Summit Agenda will be sent to you within two weeks. If you would like a copy of the draft Agenda mailed or faxed to you, please call 1-800-627-5693.

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You should have received a copy of the *ACC NewsWatch* recently. It's the second issue of our periodic newsletter that has been printed this year.

We have been very active in starting a dialogue with the Administration over its shore protection policy. I believe that we will see specific proposals from the Administration included in legislation that it will send to Congress within a month. While we may or may not like their proposals, at least they will finally put something on the table.

Expect the House and Senate Appropriations committees to meet at the end of this month to divide up the amount which each subcommittee has to work with. The Energy and Water Development Subcommittees need to get a favorable allocation from their parent committees to make up for the \$1 billion-plus shortfall in the Administration's request for the Corps. You can use the newly-redesigned ACC Webpage to get e-mails to your Senators and Representative urging them to support an allocation which permits the(over)

Energy and Water Development Appropriations Subcommittees to adequately fund all types of water projects. Shore protection gets about one-tenth of the Corps' civil works construction budget.

Several shore protection projects that are ready for construction (or nearing readiness) are having difficulties with the Corps. We are working to try to smooth out these wrinkles while we continue to pressure the Administration to change its policy.

ACC has testified on the Shore Protection Act on the House side (you can request a copy of our testimony) and I expect we will get a chance to testify next month before a Senate committee. We have held meetings with key congressional staffers on disaster relief and hazard mitigation policies that affect coastal communities, but have a long way to go before we can report any tangible progress. The good news is that I do not expect Congress to act on disaster relief program changes this year, so we do have time to educate and persuade.

The U.S. Department of Commerce and the Navy have called a Conference on the Year of the Ocean in June. If you have been invited to participate in this California event, please let me know.

If you know of an organization that has a website, please ask them to link to the ACC webpage. We have already linked our site to most coastal-related webpages in the nation.

The enclosed information is a sample of some of the material that has come out recently that you may find interesting.

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WE WANT YOUR E-MAIL ADDRESS. To save money, most of our communications to members go via e-mail; a few go by fax; and only occasional mailings go to the full membership. As the year goes on, we will develop lists of those members we can reach via e-mail, those who have no e-mail address but can be reached by fax, and those to whom we must mail. Until that time, you will get overlapping communications using all three forms of contact.

*If you have any already done so, please send us your e-mail address by writing:*  
*ACC.Monitor@mail.netlobby.com*

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### REMINDERS:

ACC Summit Planning Committee + ACC Board meets April 30<sup>th</sup> at 2pm (EDT).

All Summit registrants will receive an invitation to participate in one of 4 Working Groups that will develop our proposals for a New National Coastal Policy.

The ACC Board will meet to elect new directors and officers on June 24<sup>th</sup> at 8:30 am in Washington, DC. If you would like to serve on the Board, please contact me.



summit3a.agenda

## NATIONAL COASTAL SUMMIT

### ACHIEVING SUSTAINABLE COASTAL COMMUNITIES

June 24-26, 1998  
Hyatt Regency Capitol Hill  
Washington, DC

Draft Program and Agenda  
(Discussion Draft: 04/15/98)

#### WEDNESDAY, June 24th

7:30 am to 5:00 pm: Registration Desk Open

9:00 am to 11:30 am: ACC Board Meeting; Election of Directors

12:30 pm to 1:30 pm: Opening Remarks:

Opening Remarks: Allen Ten Broek, ACC Board Chairman  
Welcoming Remarks by Sen. Robert Torricelli (D-NJ) (confirmed)  
Summit Opening Remarks: House Coastal Caucus Co-Chairs  
Rep. Clay Shaw (R-FL) (confirmed)  
Summit Overview: Stephen Higgins, Summit Program Committee Chair

1:30 pm to 3:00 pm: Plenary Session: Taking Stock of America's Coastal Resources

*[NOTE: The purpose of this session is to establish the critical importance of coastal communities from an economic, environmental, and societal standpoint. This will be the session that sets the tone for the rest of the Summit. The goal is to motivate attendees about the importance of this first-time-ever gathering of the people who live or do business in coastal communities.]*

Keynote Speaker: Martin J. Maddaloni, President  
United Association of Plumbers and Pipefitters (confirmed)  
Moderator: William D. Talbert, Acting President  
Greater Miami Convention & Visitors Bureau (confirmed)  
Dr. William Stronge, Economist, Florida Int'l Univ. (confirmed)  
*(panel cont'd on next page)*

Corps of Engineers: Charles Chesnutt (confirmed)  
The Honorable James Murley, Secretary, Fla Dept of Community Affairs  
(confirmed)

3:00 pm to 3:30 pm: Break ( refreshments served)

3:30 pm to 4:00 pm: Plenary Session: Sustainable Coastal Development Policies: Where  
Are We Coming From and Where Are We Going?\  
Rep. Sam Farr (D-CA) (confirmed)  
T.J. Glauthier, Deputy Director of OMB (confirmed)

4:00 pm to 5:30 pm: Concurrent Sessions

**Session A**

**The Current Approach to Federal Coastal Management - Who Does What?**

Bernard J. Moore (confirmed), Engineering and Construction Administrator,  
New Jersey Department of Environmental Protection  
Jeff Benoit (confirmed), Director, Office of Ocean and Coastal Resource  
Management, NOAA  
Robert Wayland (invited), Director, Office of Wetlands, Oceans and Waterways,  
EPA  
Major General Russell Fuhrman (invited), Director and Assistant Commander,  
Army Corps of Engineers

**Session B**

**Legislative Tools to Forge a New National Coastal Policy**

Larry Liebesman (confirmed), Attorney at Law, Linowes and Blocher  
Benjamin Grumbles (confirmed), Senior Counsel, House Subcommittee on Water  
Resources and Environment  
Jennifer Newton (invited), Congressional Fellow, Office of Representative Sam  
Farr (D-CA)

5:30 pm to 7:00 pm: Informal Reception/Networking (refreshments served)

(continued on next page)

7:00 pm to 10:00 pm: Working Groups Meet

*[NOTE: The evening is open. However, at the time of registration, we will request that volunteers sign up for two to four working groups who will put together the fundamental aspects — bullet points — for the New National Coastal Policy. Most of that work will be done prior to the Summit, with each Working Group directed by an ACC Board member. However, those volunteering will also be able to meet during this period to finalize their work product for presentation to the plenary session on Thursday morning.]*

THURSDAY, JUNE 25th

8:00 am to 5:00 pm: Registration Desk Open

8:30 am to 10:00 am: Plenary Session: Mobilizing Community Support for the New Coastal Policy

Keynote: Senator Frank Lautenberg (D-NJ) (confirmed)

Participants: Mayor Bob Frederick, Dewey Beach (DE) (confirmed)

Mayor Martin Pagliughi, Avalon (NJ) (confirmed)

Council Member Ann Kulchin, Carlsbad (CA) (invited)

Vice Mayor Terry Johnson, Oceanside (CA) (invited)

Mayor Pro Tem Peter Green, Huntington Beach (CA) (confirmed)

Mayor Leon Atkinson, Treasure Island (FL) (invited)

The Honorable A.R. "Babe" Schwartz, Galveston (TX) (confirmed)

10:00 am to 10:30 am Break (refreshments will be served)

10:30 am to 12 noon: Plenary Session: The New National Coastal Policy

Possible Keynote Speaker: Senator Bob Graham (D-FL) (invited)

Moderator: Howard Marlowe, ACC President

Panelists: ACC Working Group Chairs

[This session will include the following components:

Discuss Key Elements of New National Coastal Policy

Make Lobbying Assignments and Distribute

Information Packets

Lobbying Tips and Techniques]

12 noon to 12:30 pm: Summit Participants Go to Capitol Hill

12:30 pm to 2:00 pm: Hill Luncheon

Keynote Speaker: Senator Connie Mack of Florida (R-FL) (confirmed)

2:00 pm to 5:00 pm: Hill Visits

5:00 pm to 5:30 pm COASTAL RALLY ON CAPITOL STEPS - Lower West Front of Capitol  
Addressed by Members of Congress

5:30 pm to 6:00 pm: Summit Participants Return to Hotel

6:30 pm to 9:00 pm: ACC Congressional Reception (at hotel)  
Sen. Ernest Hollings (D) of South Carolina will be the featured speaker  
(confirmed)

**FRIDAY, JUNE 26th**

7:30 am to 8:30 am: Coffee and Donuts

8:30 am to 10 am: Plenary Session: Where Do We Go From Here?

**Keynote Speaker:** Representative Frank LoBiondo (R-NJ) (invited)  
**Moderator:** Tony MacDonald, Executive Director, Coastal States Organization (invited)  
Dr. Kumar Mahadevan, Executive Director, Mote Marine Laboratory (confirmed)  
Chuck Raysbrook, Director, California Boating and Waterways Department (invited)  
Tony Pratt, Environmental Program Manager, Delaware Natural Resources and Environmental  
Control Department (invited)  
Terry McGean, City Engineer, Town of Ocean City (MD) (invited)  
Laurence W. Saunders, Principal Investigator, Horizon Planning Group (invited)  
Sally Davenport, Associate Deputy Commissioner, Texas General Land Office (invited)

10:00 am to 10:30: Travel to Old Executive Office Building

10:30 am to 11:15: Clear Through Security

11:15 am to 12:30 pm: White House Briefing on Federal Coastal Policy  
Katie McGinty, White House Council on Environmental Quality (invited)

12:30 pm: Summit Adjourns

Afternoon: Capitol or White House Tours/Sightseeing  
Other ACC-sponsored event(s)

**VILLAGE BEACH RESOURCES AND MANAGEMENT (BRM) TASK FORCE  
VILLAGE OF KEY BISCAYNE, FLORIDA**

**SUBCOMMITTEE MEETING ON SAND QUALITY**

**WEDNESDAY, JUNE 9, 1998**

**KEY BISCAYNE POLICE CONFERENCE ROOM  
85 WEST ENID DRIVE**

1. **CALL TO ORDER/ROLL CALL OF MEMBERS:** The meeting was called to order by Chair Hal Wanless at 1:30 p.m. Present were Assistant to the Village Manager James D. DeCocq, Miami-Dade County Department of Environmental Resources Management (DERM) Coastal Programs Administrator Brian Flynn, National Oceanic and Atmospheric Administration (NOAA) Meteorologist Sam Houston, RSMAS - Village Beach Preservation Intern Kris McFadden, and University of Miami Rosentiel School of Marine and Atmospheric Sciences Marine Geologist Henny Groschel-Becker.

2. **AGENDA**

A. **Discussion of Subcommittee's Research and Recommendations** - Hal Wanless explained that the sand on the beaches of Key Biscayne comes from a finger of sand from the north. This sand is all quartz, while the sand offshore is pure carbonate sand, like the sand used for the Miami Beach nourishment project. Once offshore of Key Biscayne, the sand is different from the sand found on the beach. When examining diagrams provided by Dr. Wanless, he explained that when sand settles, quartz overlays the carbonate, suggesting that this represents hydrodynamic behavior. Key Biscayne does not get coarser quartz because it settles out to the North. He stated that natural Key Biscayne sand is a mixture of 50% quartz and 50% carbonate. Dr. Wanless also mentioned that *Halimeda*, which is not found North of Key Biscayne, is the major sand producer.

Brian Flynn stated that the engineering standards for beach nourishment projects is to place onto the beach what is on the beach. For this reason, there is not a specific number referencing the grain size allowed for nourishment projects, and each project is examined on a case-by-case basis. Mr. Flynn commented that DERM is working with the Army Corps of Engineers in developing an acceptable range for beach quality sand. They have also contracted a firm in Boca Raton (Coastal Planning and Engineering) to help with this. They concluded that there was no sand source in Florida, and an article mentioning this appeared in the *Miami Herald*. After this, they received many calls for potential sand sources. Mr. Flynn also mentioned that the Army Corps of Engineers has developed a bidding process that gives credit based on grain size (called a "credit factor").

Brian Flynn then spoke on manufactured screen sand from Central Florida. DERM is presently performing a small project (10,000 cubic yards) in Sunny Isles. This sand type is unique because

it has a uniform distribution, therefore it is essentially made to order, and does not produce any turbidity. Mr. Flynn suggested that the Village bid the sand out to the private sector because they are better with cost reduction, and also stated that there is presently more interest on regional projects because there is now a dedicated funding source.

Hal Wanless then produced a rough sketch of what type of sand the Village should use for future nourishment projects. Brian Flynn thought this was a good idea, but also stated that he would have to run the subcommittee's recommendations by the Department of Environmental Protection. James DeCocq suggested that instead of having only parameters for ideal sand, the Village should derive two standards: what is ideal and what is acceptable. Mr. DeCocq reasoned that this would not eliminate as many potential sources for beach quality sand. Brian Flynn agreed, and stated that bidders could give quotes based on ideal versus acceptable sand. Mr. DeCocq raised a major concern regarding the percentage of calcium carbonate. He stated that this is important because some dune species won't grow if the percentage of calcium carbonate is not correct. Mr. DeCocq then asked if the sand for future nourishment projects could be mixed to give us the desired percentage of calcium carbonate. Mr. DeCocq proposed adopting a "sliding scale" for carbonate since the Village would not want to adopt standards that would result in a "pigeon hole" effect. Brian Flynn answered yes by saying that the contractors will give you what you want. Sam Houston stated that the Village will need an outside lab to check the sand to be sure the sand is the quality asked for by the Village. Regarding the transportation issue, Brian Flynn stated that 90% of the cost of sand is transportation. He also recommended that the Village permit several options as this will keep our options open. He suggested that a barge could be used to deliver the sand onto the beach, resulting in a cleaner operation. Mr. Flynn also said that he believes the County will match State funds.

**B. Recommendations by the Committee** - James DeCocq stressed the importance of having the final recommendations ready for the council meeting on July 23. It was decided by general consensus that the new parameters for sand selection would be adopted as a resolution, and will include numbers for the percentage of calcium carbonate as well as size ranges. It was decided that Henny Groschel-Becker will present the lay explanation to the council, with Hal Wanless offering the specifics. Sam Houston added that there should be a caveat included stating that these parameters are for planned projects, and do not necessarily apply to emergency situations.

James DeCocq commented that the Village needs to determine the sand type first, and then deal with the methodology. Additionally, the aspect of timing will soon need to be addressed. Brian Flynn suggested the Village start the nourishment in the summer, and utilize a turtle spotter that will relocate any nests. Sam Houston suggested performing the nourishment during the Fall as this is the time of lowest beach usage. Mr. DeCocq suggested November as a good time because this would result in a good mix. Mr. Houston agreed with Mr. DeCocq by saying that mixing is an advantage.

At the end of the meeting it was agreed by general consensus that Hal Wanless would prepare a Resolution that would be presented to the Village Beach Resources and Management Task Force Meeting on June 17.



**Agenda for the June 17, 1998 Meeting of the  
Village Beach Resources and Management Task Force**

“To provide short-term and long-term monitoring and management strategies to sustain Key Biscayne’s beaches as the preeminent natural asset for our community.”

**Sandra Goldstein, Chairwoman**

**Betty Sime, Councilwoman**

**C. Samuel Kissinger, Village Manager**

**James D. DeCocq, Assistant to the Village Manager**

**Debby Castillo, Marketing Director, Sonesta Beach Hotel**

**Brian Flynn, Coastal Programs Administrator, DERM**

**Chilton Harper, President and Chief Operating Officer, Vestec International Corp.**

**John A. Hinson, President, Ocean Club Development Company**

**Sam Houston, Meteorologist, NOAA**

**Paul Lin, Coastal Engineer, CSI, Inc.**

**Kris McFadden, Village Beach Preservation Intern - RSMAS**

**Hal Wanless, Geologist, University of Miami**

- 1. CALL TO ORDER/ROLL CALL OF MEMBERS**
- 2. APPROVAL OF MINUTES**
- 3. AGENDA**
  - A. Discussion of Results from Subcommittee on Sand Quality**
    - i. Sand Quality**
    - ii. Sand Source**
  - B. Determination of Voting Members of Task Force**
  - C. Grain Size Analyses (Key Biscayne Samples) - Ardaman & Assoc., Enclosures.**
  - D. Florida Department of Environmental Protection - Enclosures.**
  - E. Letter from Jack Peeples - Enclosure.**
  - F. HB 3427 and SB 882 - Enclosure.**
  - G. Islander News Articles - Enclosures.**
  - H. American Coastal Coalition - Enclosures.**

**4. New Business**

- i. Participation in American Coastal Coalition's June 25 Summit
- ii. Implementation of Community Awareness Projects - Enclosure.

**5. Schedule of Next Meeting**

**6. Adjournment**

**VILLAGE BEACH RESOURCES AND MANAGEMENT (BRM) TASK FORCE  
VILLAGE OF KEY BISCAIYNE, FLORIDA**

**WEDNESDAY, MAY 20, 1998**

**KEY BISCAIYNE POLICE CONFERENCE ROOM  
85 WEST ENID DRIVE**

1. **CALL TO ORDER/ROLL CALL OF MEMBERS:** The meeting was called to order by Chair Sandra Goldstein at 1:30 p.m. Present were Village Manager C. Samuel Kissinger, Assistant to the Village Manager James D. DeCocq, Miami-Dade County Department of Environmental Resources Management (DERM) Coastal Programs Administrator Brian Flynn, Vestec International Corporation President and Chief Operating Officer Chilton Harper, Ocean Club Development Company President John Hinson, National Oceanic and Atmospheric Administration (NOAA) Meteorologist Sam Houston, RSMAS - Village Beach Preservation Intern Kris McFadden, University of Miami Geologist Hal Wanless, Cape Florida State Recreation Area Park Manager Lee Niblock, University of Miami Rosentiel School of Marine and Atmospheric Sciences Marine Geologist Henny Groschel-Becker, and MAST Academy student Sylvia Oleck.

2. **APPROVAL OF MINUTES:** The minutes were adopted without change.

3. **AGENDA**

**A. Status of Short-Term Beach Nourishment**

i. **Sand Quality** - Brian Flynn reported that DERM compared the sand on Virginia Key and Key Biscayne, and how it differed using the dry and wet sieve methods. Mr. Flynn commented that wet sieve methods showed there are more fines (over 10%) on Key Biscayne. Qualitatively, Virginia Key sand is better and this material could benefit the beach. Mr. Flynn commented that there is presently no significant problem with the nourished sand regarding sea turtles or sea grass. He also ruled out the removal of the nourished sand due to the fact that it is sea turtle nesting season. In addition, if this sand is removed in the future, then it will be necessary to find a replacement source before it is removed due to the beach's important role in storm protection.

Henny Groschel-Becker commented that the beach nourishment may have been good, but the timing was bad due to the El Niño weather systems. Dr. Groschel-Becker commented that some of the sand has entered the system, it is moving in both directions, and becoming incorporated into the system.

Sandra Goldstein asked what percentage of fines were expected. Brian Flynn stated that according to the dry sieve method, the sand used for the project contained on average between 5 and 8% fines. He also stressed that the data was presented to the Florida Department of Environmental Protection (DEP), along with physical sand samples, and the State determined that the sand met their standards. Mr. Flynn agreed with Hal Wanless regarding the amount of fine materials, and commented that this

will be considered in the future. Mr. Flynn commented that the sand does not need to be removed, and he feels that over time the Village will have a stable beach slope due to mixing and sorting. He also did not believe that the Village would be allowed to remove the sand from the beach until after sea turtle nesting season. The State most likely views this as a small, expendable project, expecting that the sand will be gone in a few years.

John Hinson questioned if the project was "legal" by DEP standards, to which Mr. Flynn stated that it is legal because the State was supplied with the data and sand. He emphasized that both Coastal Systems International, Village Consultant, and the State have declared the sand to be "beach quality." Hal Wanless disagreed.

Sandra Goldstein suggested that a recommendation be made concerning the Cape Florida Sand. She then asked what it would cost to remove the sand. John Hinson mentioned that if removed, this will create a deficit, with Sam Kissinger stating that this simply cannot be done. Chilton Harper stated three options: removal, relocation, and replacement.

ii. **Wanless Letters** - The concern of the wet sieve vs. dry sieve method was discussed. Hal Wanless stressed the importance of performing wet sieve methods for sand used for beach nourishment projects. James DeCocq stated that if anyone would have informed the Village that there should be a wet sieve analysis performed, then the Village would have acted appropriately and would not have placed sand with greater than 10% fines on the beach. Brian Flynn reiterated that the State standard for determining the suitability of sand for beach nourishment projects is the dry sieve method, and the Village is not in violation of the permit because the sand used in this project met State standards. He also commented that 80% of the material is performing as beach quality sand.

Dr. Wanless stated that the material has not improved over time as originally expected. Mr. DeCocq then commented that he felt the new material is sorting and readjusting while stabilizing the beach, although with some compaction. Mr. DeCocq then commented that the sand should remain, but asked what others thought should be done with the nourishment sand. Sam Houston stated that it cannot be removed now because it is sea turtle nesting season, but further commented that he sees the sand working into the system, forming sand bars, and the silt dissipating. Mr. Houston emphasized that the nourished sand must absolutely remain at least until after hurricane season.

Hal Wanless was asked what would happen if the new beach sand was spread out and capped with higher quality sand. Dr. Wanless responded that because it is in a highly erosive area, the sand that was used to cap the old material will be washed away, thereby exposing the sand that was covered.

Hal Wanless stated that the nourished sand is too fine, and is not good for the system. He explained that what needs to be known about sand for nourishment projects is the size of the grains as well as the behavior of the sand using sediment tubes designed by the Army Corps of Engineers. Dr. Wanless disagreed with the statement that the mud is working its way out of the system. He instead, offered that as the beach erodes, more mud is released creating a persistent turbidity release, and every storm adds more stress. Brian Flynn stated that this sand will eventually equilibrate, while

James DeCocq contended that mixing and spreading the Cape Florida sand would reduce any future chance of large turbidity. James DeCocq suggested that the Village mix the sand in the upper beach zones and move it out of the intertidal zone to allow it to naturally sort and enter the dune system. Hal Wanless stated that this was a dilution to pollution, however that he would not be opposed to actually creating dunes with the sand as they are made up of sand that is smaller than 200 microns. Mr. DeCocq said that he was opposed to "artificially building" dunes as they do not function or protect the beach as well as those planted on the flat beach and allowed to form naturally. Furthermore, such a high concentration of calcium carbonate can be detrimental to some very important dune species. Lee Niblock then stated that he has seen no worse cloudiness in the nourished areas compared to other areas on Key Biscayne.

Hal Wanless commented on the sediment dynamic size boundaries. Particles less than 40 microns stay in suspension and are not good for beach nourishment projects. Such projects should use sand with a minimum size of 200 microns, as this is the real determination of beach sand. A nourishment project at John U. Lloyd State Park in Broward County used a sand size of 125 microns, and it was continuously washed away. Dr. Wanless questioned why keep the sand on the beach if the sand used in the nourishment project was not beach sand. In addition Dr. Wanless commented that it is important for the Village to not set a precedent of illegal beach sand and that this nourishment project was the worst thing to happen to the Village of Key Biscayne since 1952. James DeCocq commented that this in no way sets a precedent and stressed that establishing grain size criterion as strict as suggested in the original "Wanless letters" of no greater than 1000 microns and no less than 200 was setting a bad precedent. Mr. DeCocq suggested a criteria of "at least the quality of the 1987 project." Furthermore, Mr. DeCocq commented that Dr. Wanless is arguing against years of Federal, State, and County standards, and that it is not fair to chastise Key Biscayne for using accepted standards.

For future beach nourishment projects, Hal Wanless asked to be provided with samples of the sand to which members responded that everyone had access to samples. He also stated that a subcommittee should evaluate a minimum quality sand standard for the Village of Key Biscayne, and that this subcommittee should advise Council that the Cape Florida material be removed as soon as possible, which would be no sooner than November 1. By general consent, the Task Force agreed to revisit the idea of sand removal closer to the end of the hurricane and sea turtle seasons, with Sam Houston, Brian Flynn, James DeCocq, and others being very much opposed to this concept.

**iii. Permit Requirements - See Ai and Aii.**

**B. Implementation of Long-Term Beach Nourishment**

**i. Status of Key Biscayne Regarding State and Dade County Funding -**

Brian Flynn mentioned that two things need to be established before funding discussions: a new sand source and the methodology for collection and transport. Mr. Flynn added that Sam Kissinger should meet with the Dade County Manager to discuss cost sharing. Governor Chiles has not yet signed House Bill 3427, which phases in over three years an allocation of \$30 million annually to fully fund the State share of Florida's Beach Management Plan. State money has been appropriated for the village project while County money has not. The local share of the Village nourishment

project is \$1.4 million.

ii. **Status Reimbursement Agreement for State and County** - Brian Flynn stated that the County probably would not commit to a reimbursement agreement. If the County does not fund the project then this will affect the mode of sand transportation. He stressed the importance of having one full beach nourishment project, as opposed to multiple minor projects. Mr. Flynn stated that the present nourishment sand should not be used for the full-out beach nourishment project, but instead the Village should spend more money in order to get the optimum sand available.

iii. **Sand Source Selection** - At the suggestion of Mr. Hinson, Mr. Kissinger made a motion to create a subcommittee that would develop an acceptable grain size standard for beach nourishment projects for the Village of Key Biscayne. Sandra Goldstein appointed members to this subcommittee: Hal Wanless (Chair), James DeCocq, Brian Flynn, Sam Houston, and Henny Groschel-Becker. This committee will meet Tuesday, June 9, 1998 at 1:30 p.m. to discuss the recommended grain size, and source of this sand.

iv. **Status of Permitting** - Brian Flynn commented that the permit is on hold until the Village determines the sand source and placement method, as these affect environmental permits differently.

v. **Field Investigations** - See item Biv.

vi. **Preliminary Designs** - Not discussed.

C. **Progress Report on Lobbyist** - Not discussed.

D. **RSMAS - Village Beach Preservation (Fall) Intern** - Enclosure; Not discussed.

E. **Sonesta Beach Improvements** - Not discussed.

F. **Waterfronts Florida** - Enclosures.

G. **Florida Shore and Beach Preservation Association** - Enclosures.

H. **American Coastal Coalition** - Enclosures.

4. **New Business**

i. **Participation in American Coastal Coalition's June 25 Summit** - Enclosures.

ii. **Implementation of Community Awareness Projects** - Not discussed.

5. **Schedule of Next Meeting** - Wednesday, June 17, 1:30 p.m.

6. **Adjournment** - 4:05 p.m.

Submitted by,



Kris McFadden



**Ardaman & Associates, Inc.**

Geotechnical, Environmental and  
Materials Consultants

File No. 98-2576

May 4, 1998

Coastal Systems International, Inc.  
464 South Dixie Highway  
Coral Gables, Florida 33146

Attention: Dr. Paul C. P. Lin, P.E.

**GRAIN SIZE ANALYSES  
KEY BISCAYNE SAMPLES**

Ardaman & Associates, Inc. has performed a series of Grain Size Analyses on samples delivered to our laboratory by representatives of Coastal Systems International, Inc. The work was requested and authorized by Dr. Paul C. P. Lin, P.E.

We performed a total of twelve analyses on six separate samples. Each sample was sieved through the series of screens twice, once after drying the received sample and once after washing the received sample through the No. 200 size screen. The sieve operations were performed in substantial accordance with methods outlined in ASTM D-422.

Results of the analyses are graphically illustrated in the attached Grain Size Distribution Curves. Note that samples KBOC-1 and KBOC-2 contained distinct clumps of silt within the otherwise sandy soil matrix.

If you have any questions concerning this report, please do not hesitate to contact us.

**ARDAMAN & ASSOCIATES, INC.**

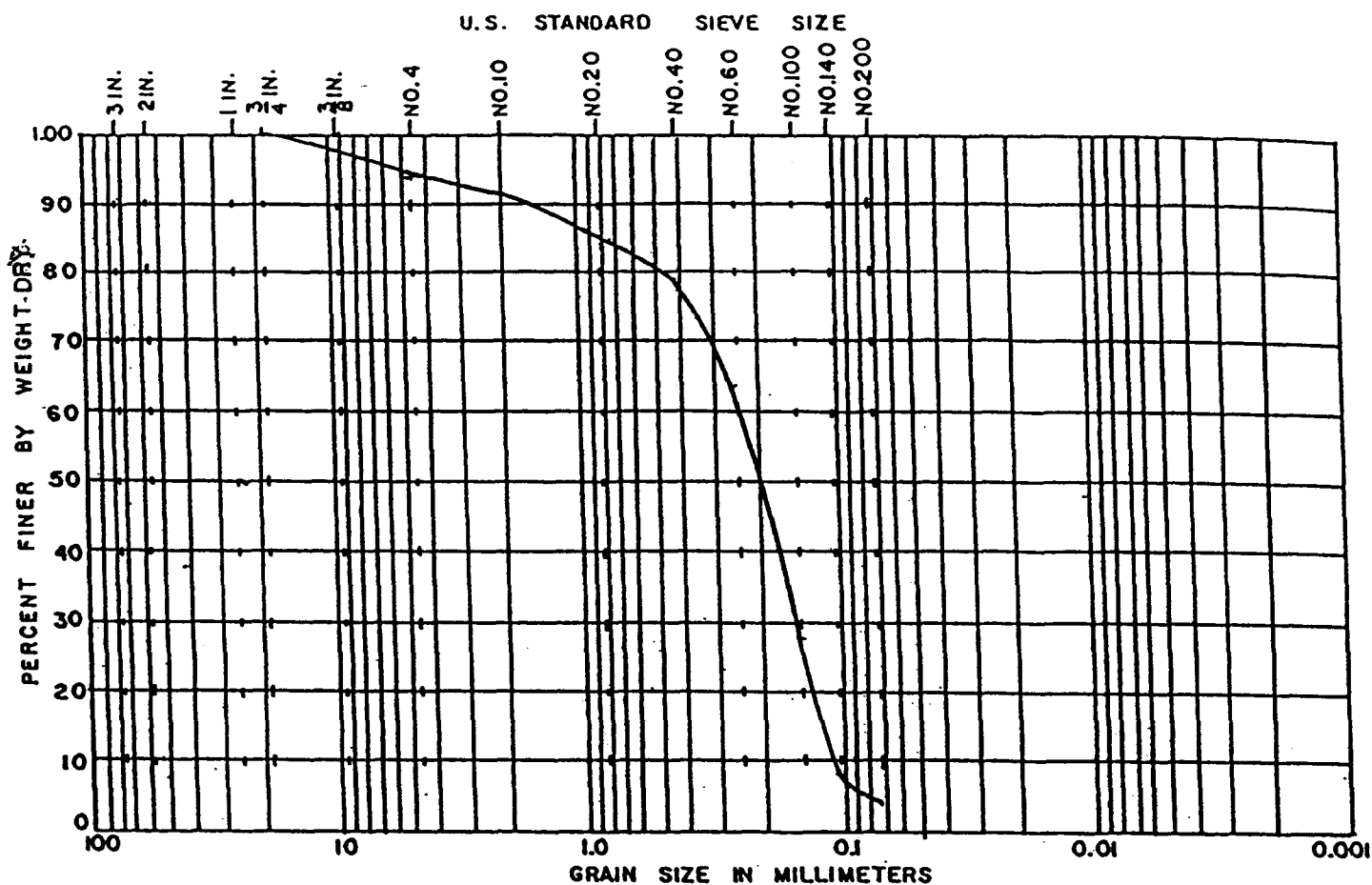
Steven J. Sarley, E.I.  
Staff Engineer

Roberto E. Balbis, P.E.  
Principal  
FL Reg. No. 15832

SJS/REB:gr

Attachment

# GRAIN SIZE DISTRIBUTION CURVE



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
BSS11-1			LIGHT GRAY FS W/SHELL FRAGMENTS	SP

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Consulting Engineers in Soil Mech.  
Foundations, and Material Test.

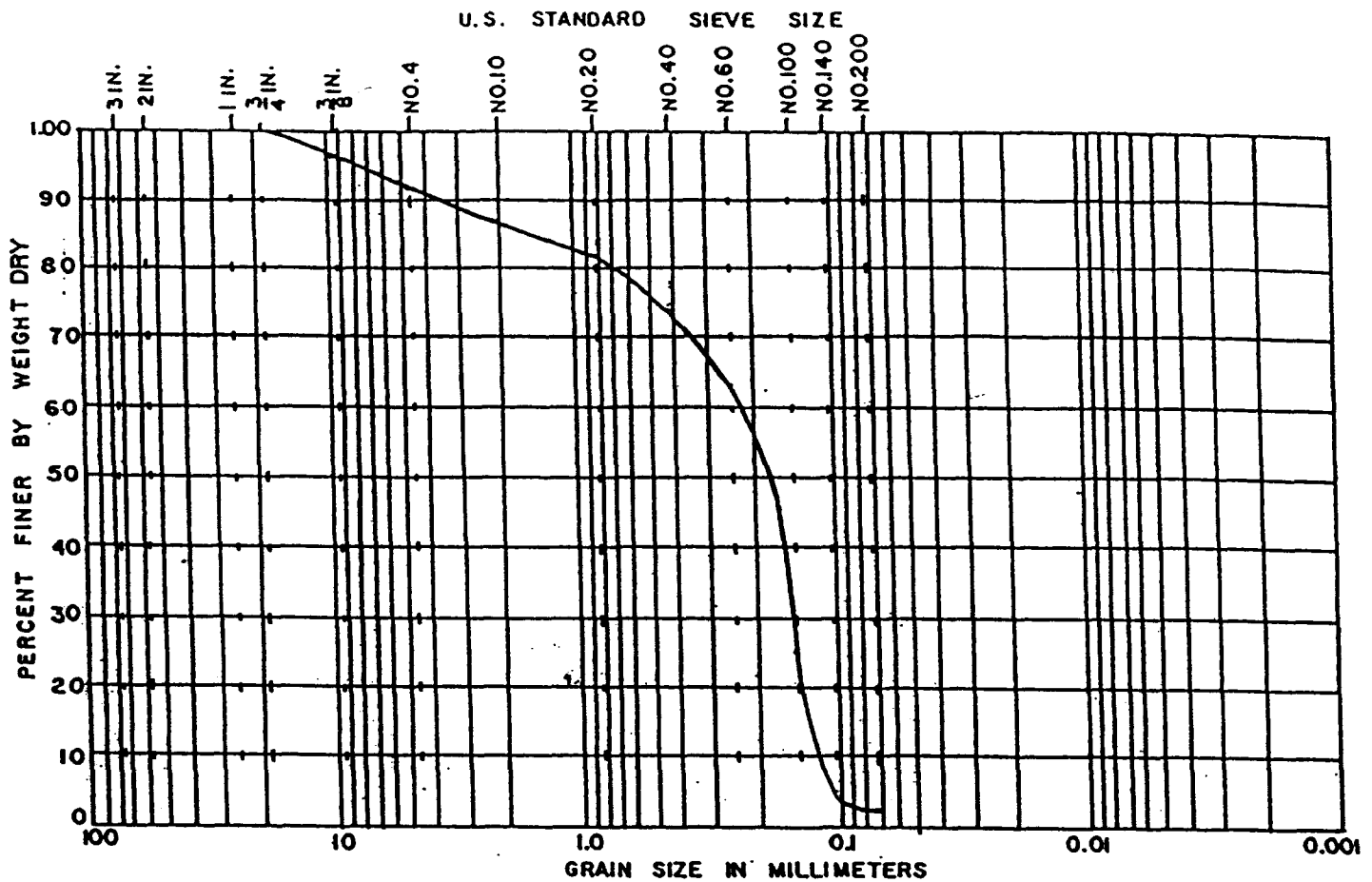
COASTAL SYSTEMS

DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_ DATE: 04  
FILE NO. 98-2576 APPROVED BY: *[Signature]*





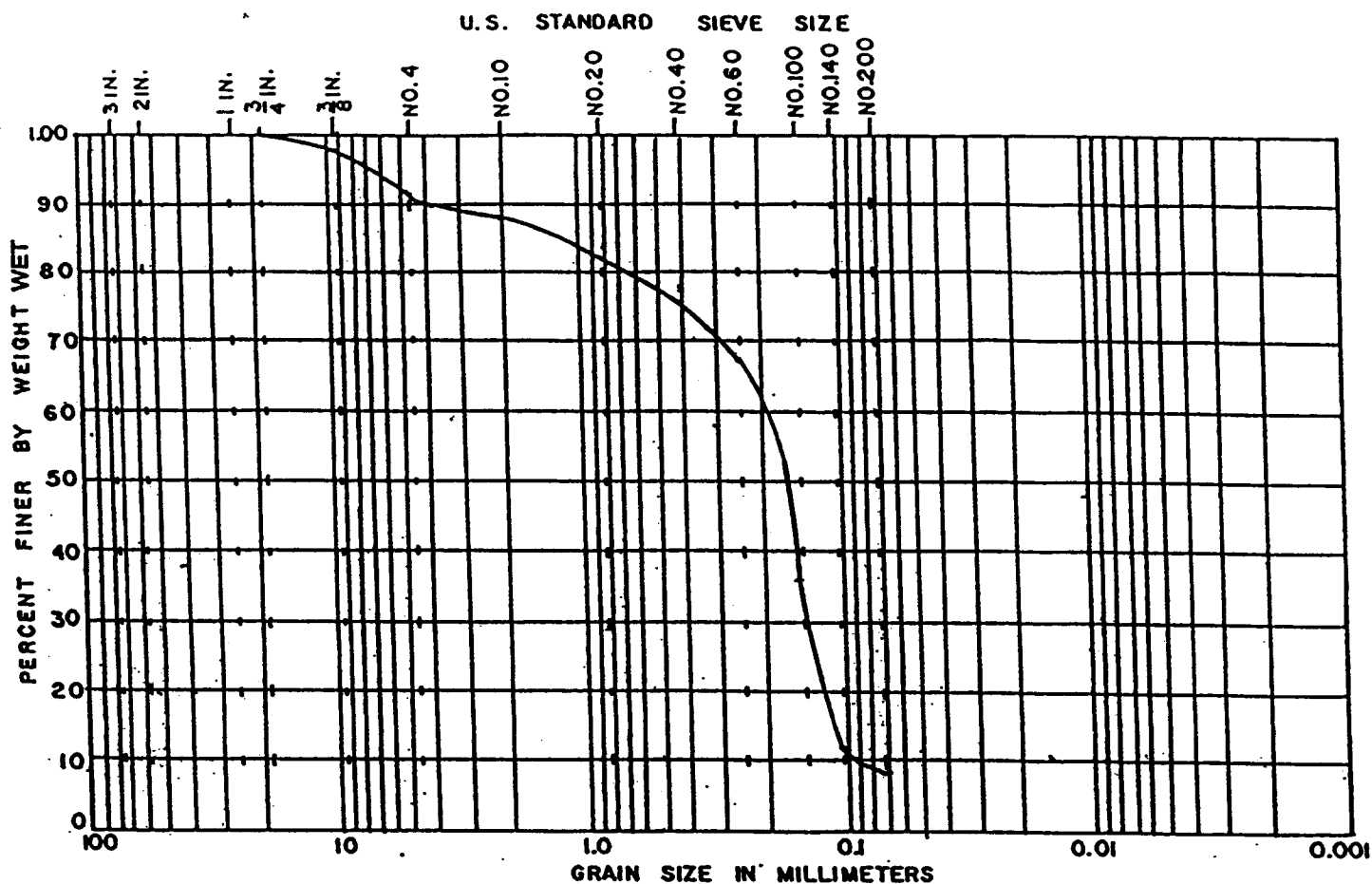
## GRAIN SIZE DISTRIBUTION CURVE



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		



[illegible]

### GRAIN SIZE DISTRIBUTION CURVE

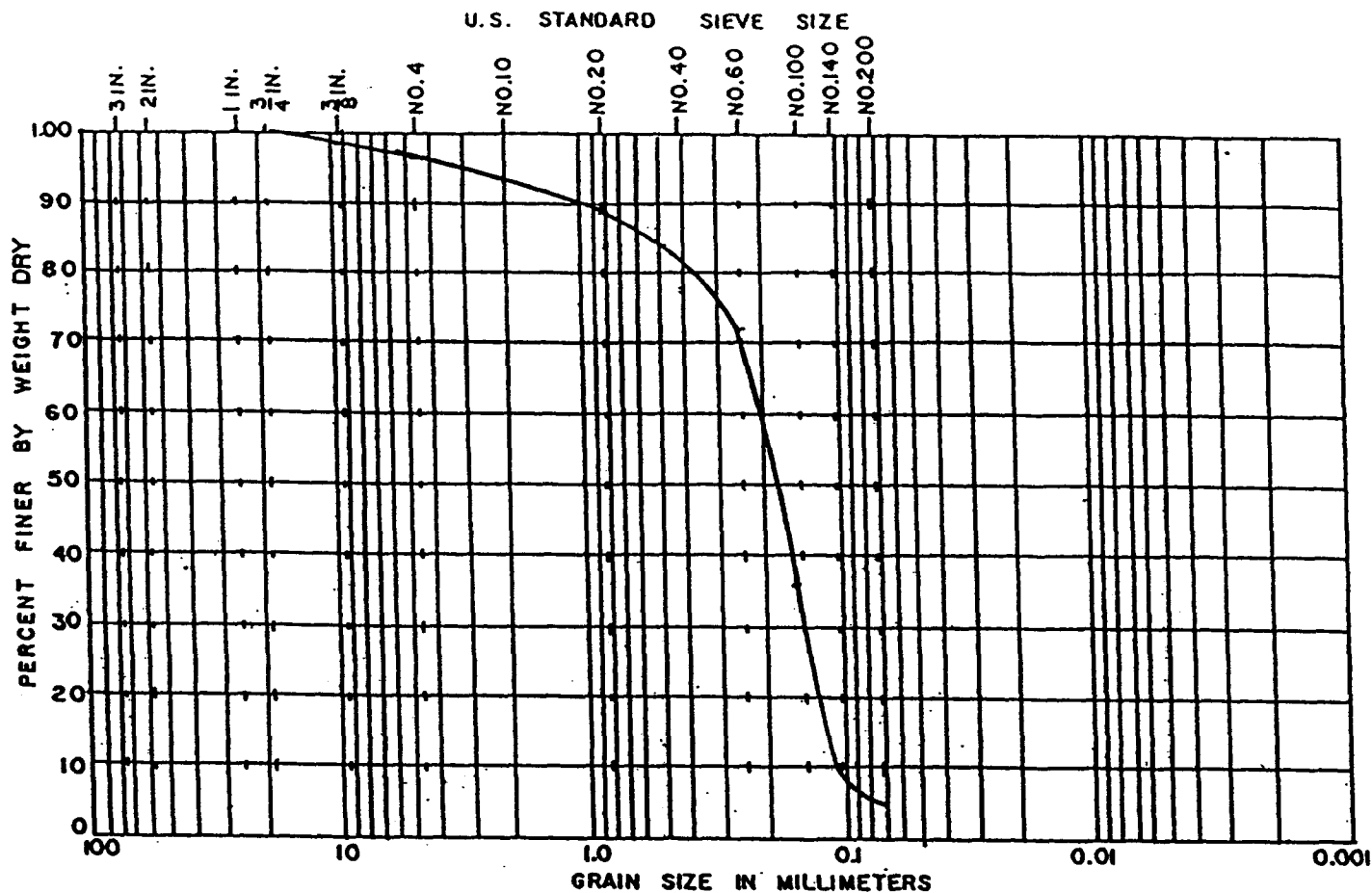


GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
BSSI-3			LIGHT GRAY FS W/SHELL FRAGMENTS	SP

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# GRAIN SIZE DISTRIBUTION CURVE



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

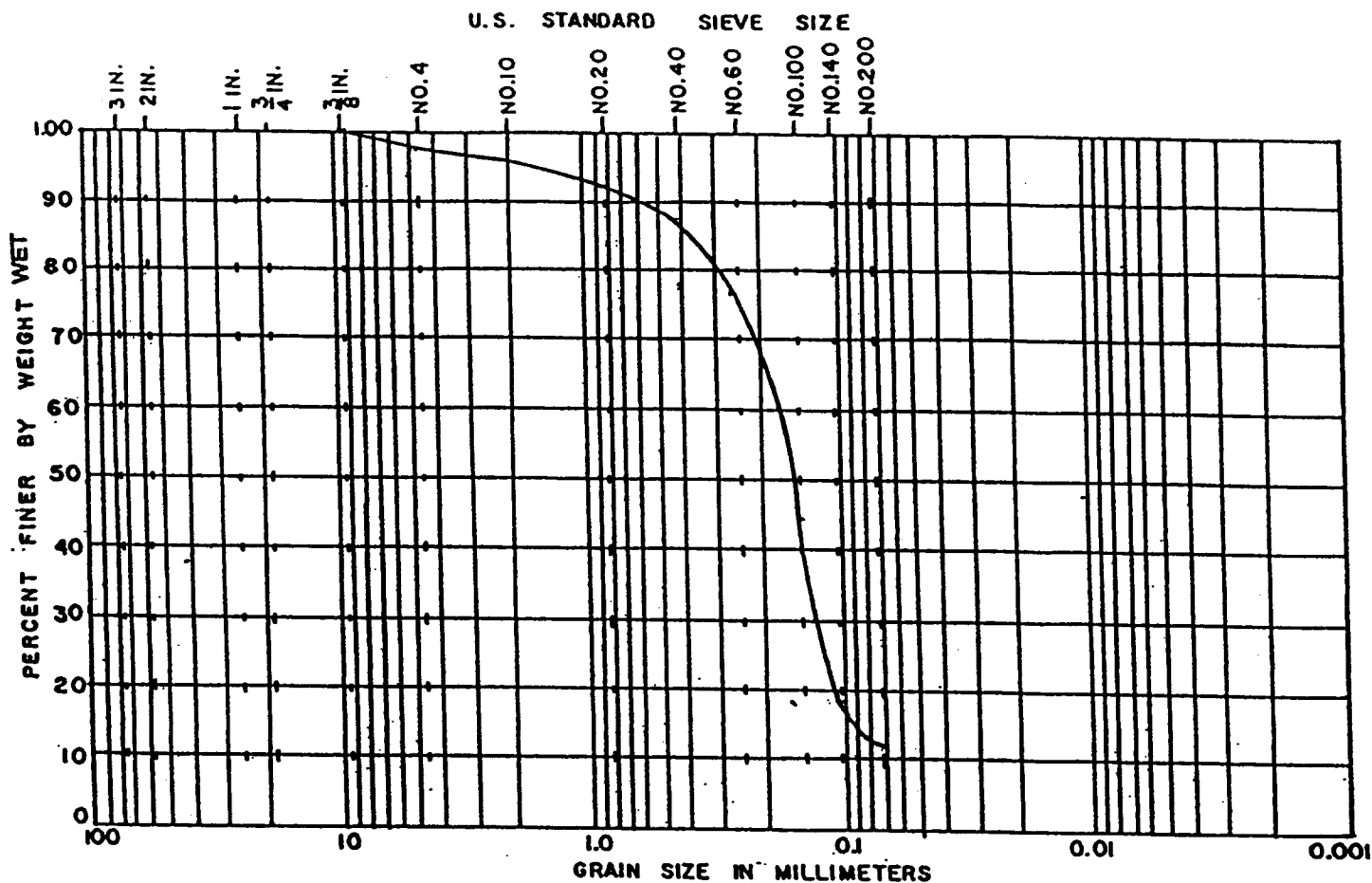
TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
BSSI-7			LIGHT GRAY FS W/SHELL FRAGMENTS	SP

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**COASTAL SYSTEMS**

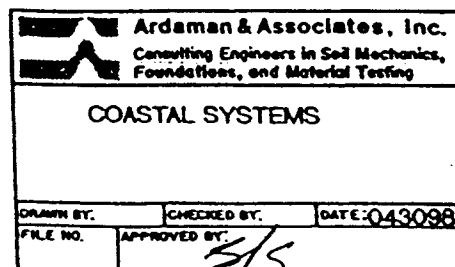
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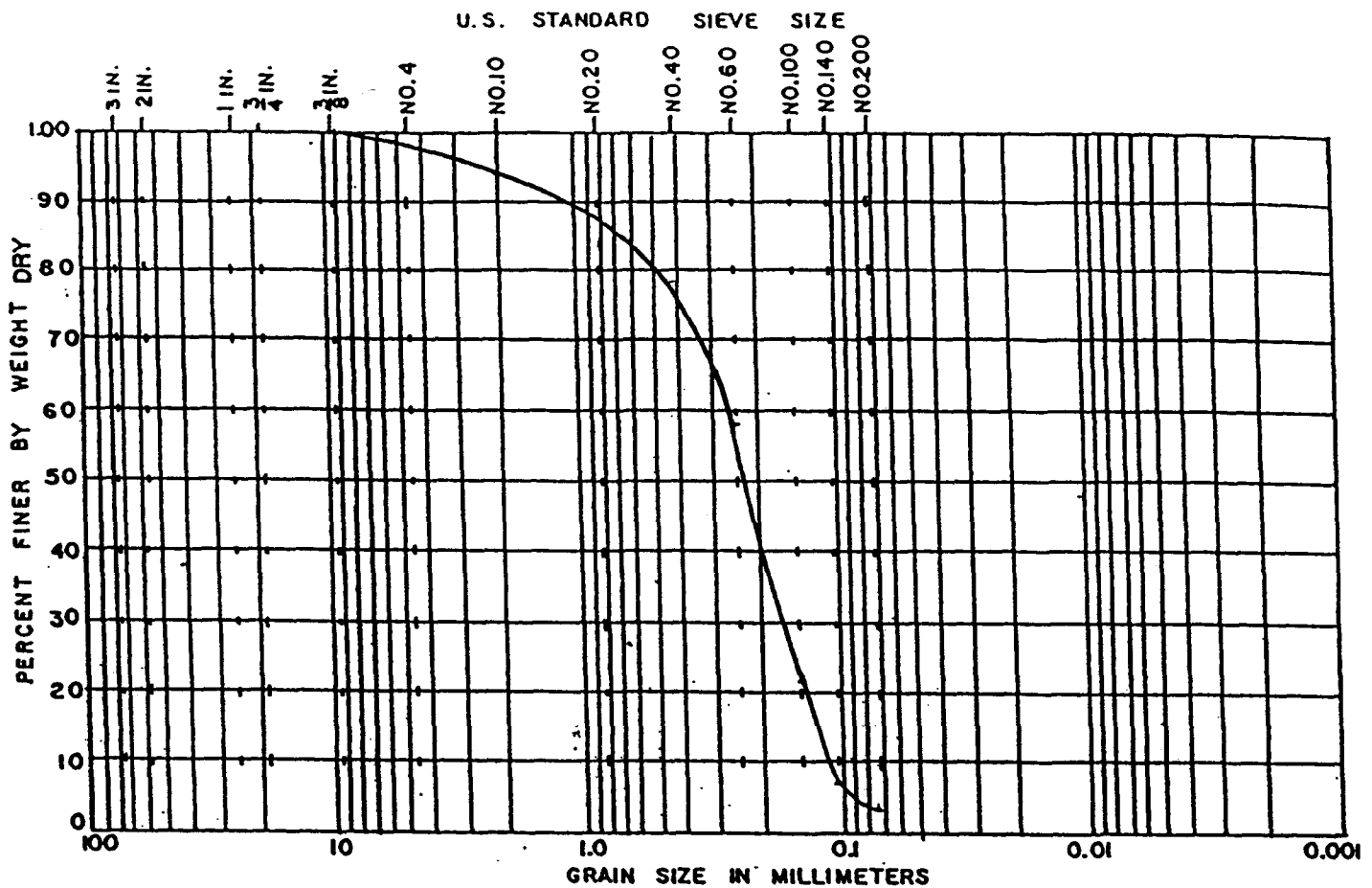


GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
BSSI-7			LIGHT GRAY FS W/SHELL FRAGMENTS	SP



# GRAIN SIZE DISTRIBUTION CURVE



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

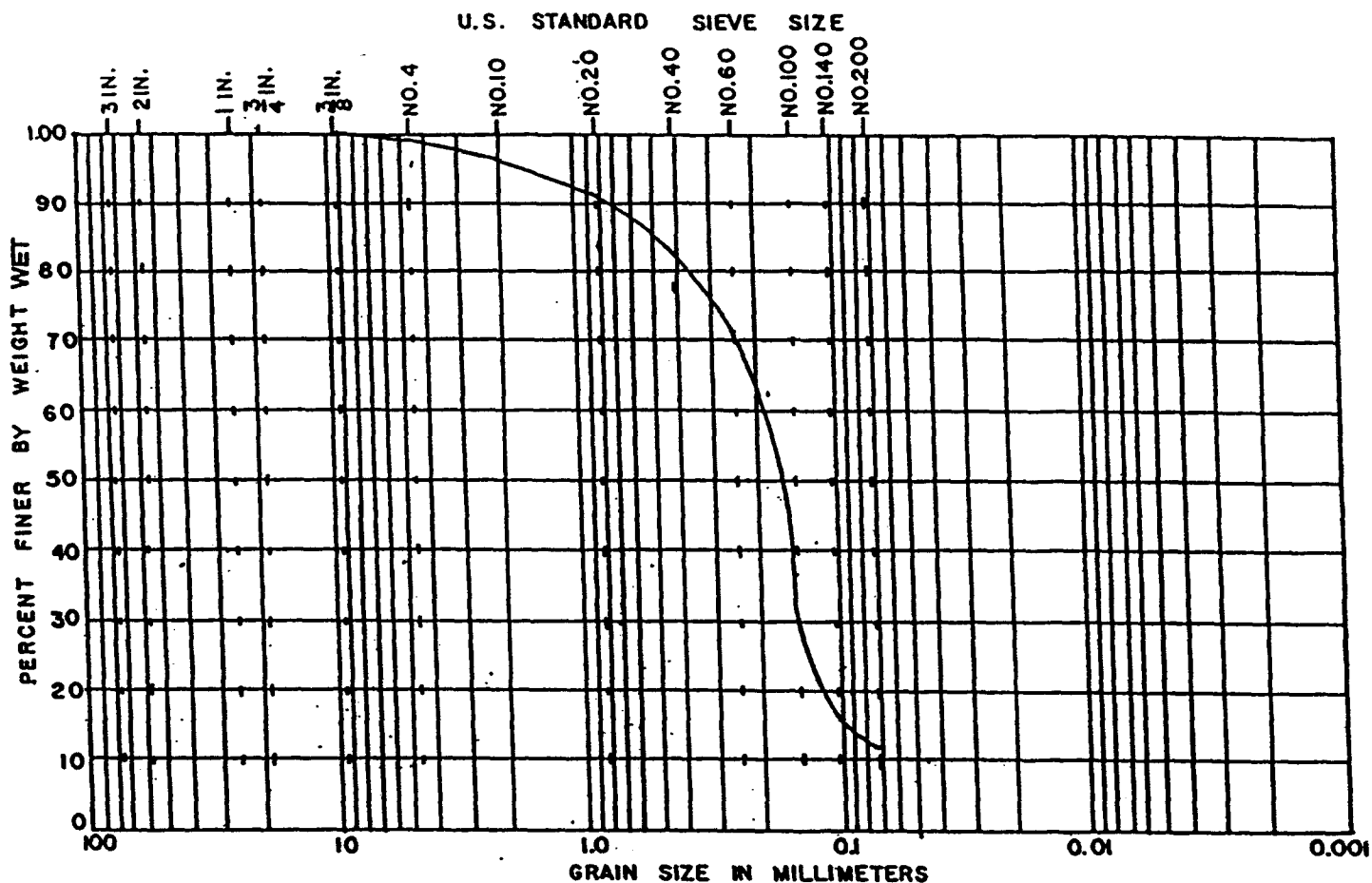
TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
KBOC-1			LIGHT GRAY FS W/SHELL FRAGMENTS	SP

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**COASTAL SYSTEMS**



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FILE NO. 98-2576 APPROVED BY: *S/S*

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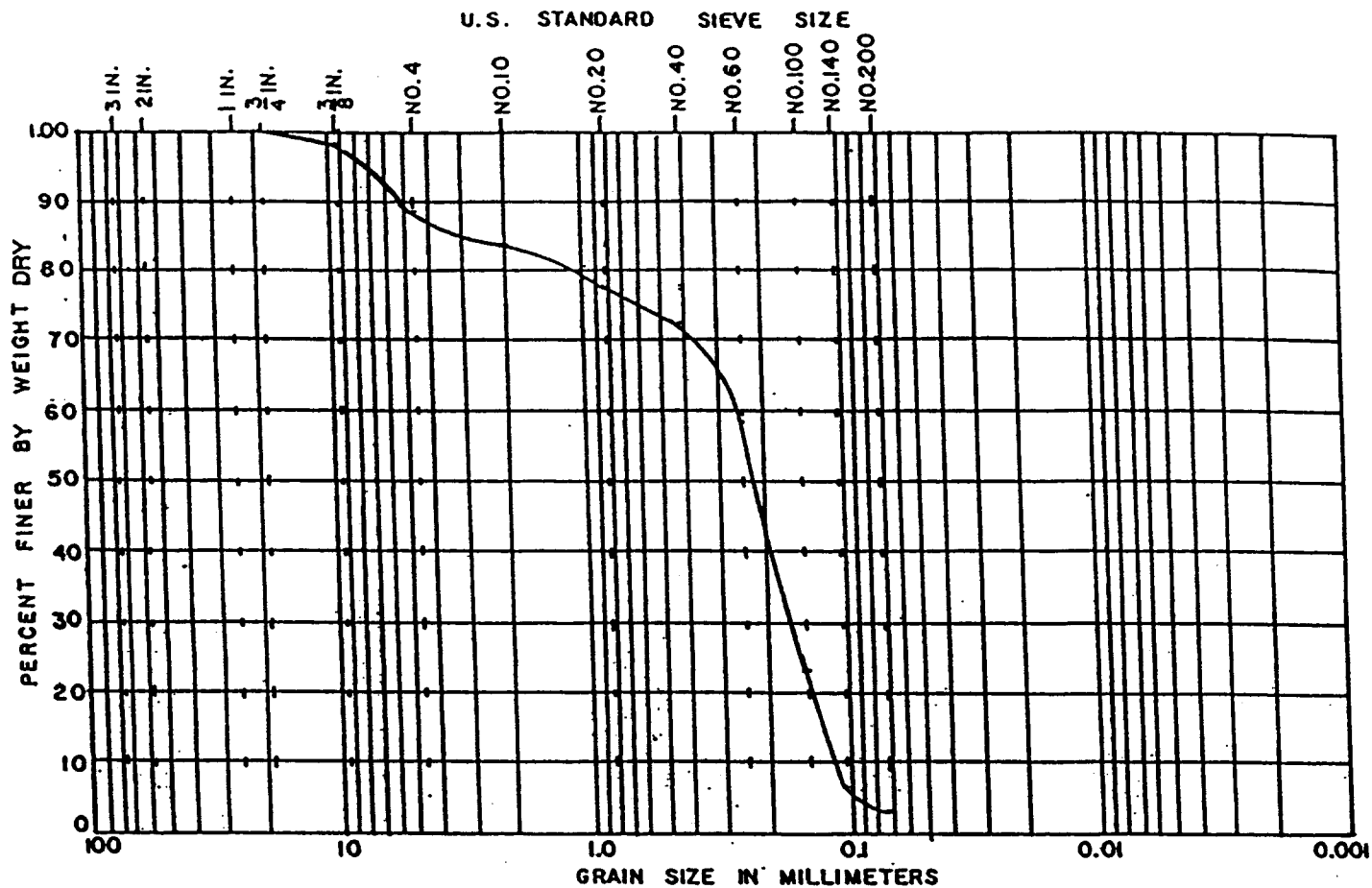


GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
KBOC-1			LIGHT GRAY FS W/ SHELL FRAGMENTS	SP

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	<b>Consulting Engineers in Soil Mechanics Foundations, and Material Testing</b>		
<b>COASTAL SYSTEMS</b>			
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FILE NO. 98-2576	APPROVED BY: 		

# GRAIN SIZE DISTRIBUTION CURVE



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS.
KBOC-2			LIGHT GRAY FS W/SHELL FRAGMENTS	SP

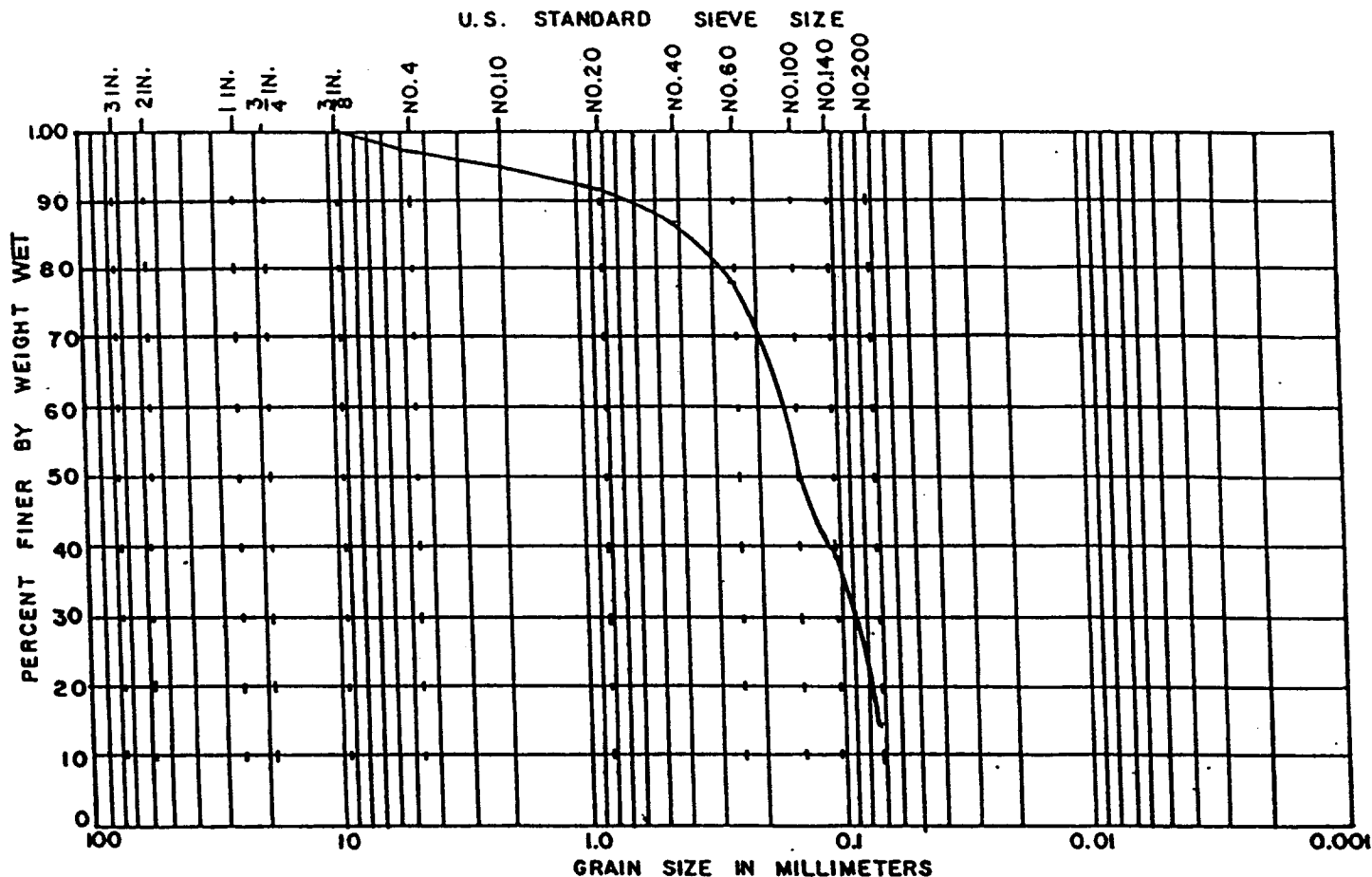
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Foundations, and Material Test

**COASTAL SYSTEMS**

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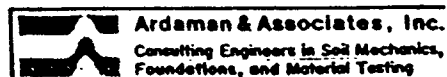


## GRAIN SIZE DISTRIBUTION CURVE




GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

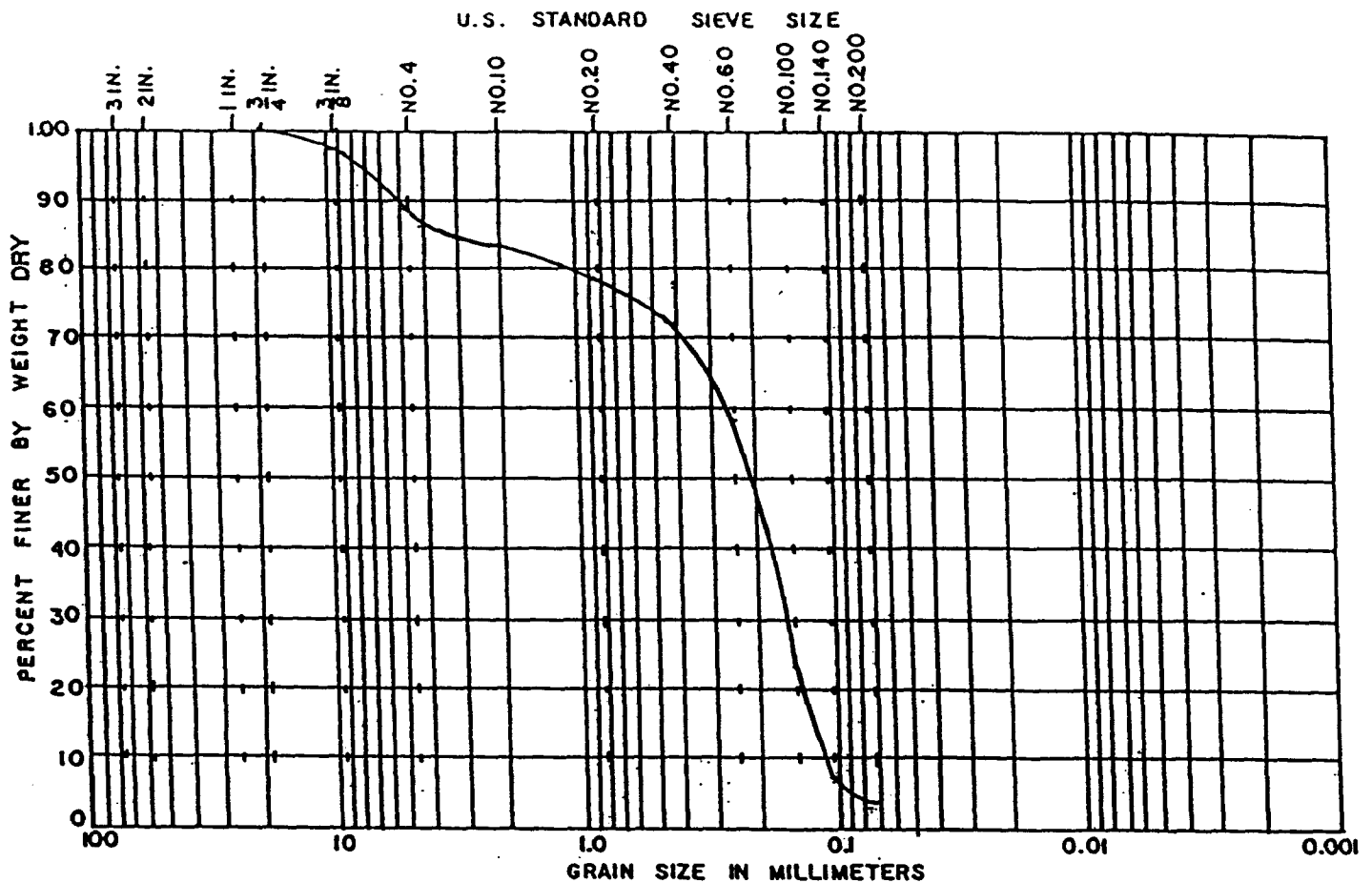
TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
KB0C-2			LIGHT GRAY FS W/SHELL FRAGMENTS	SP



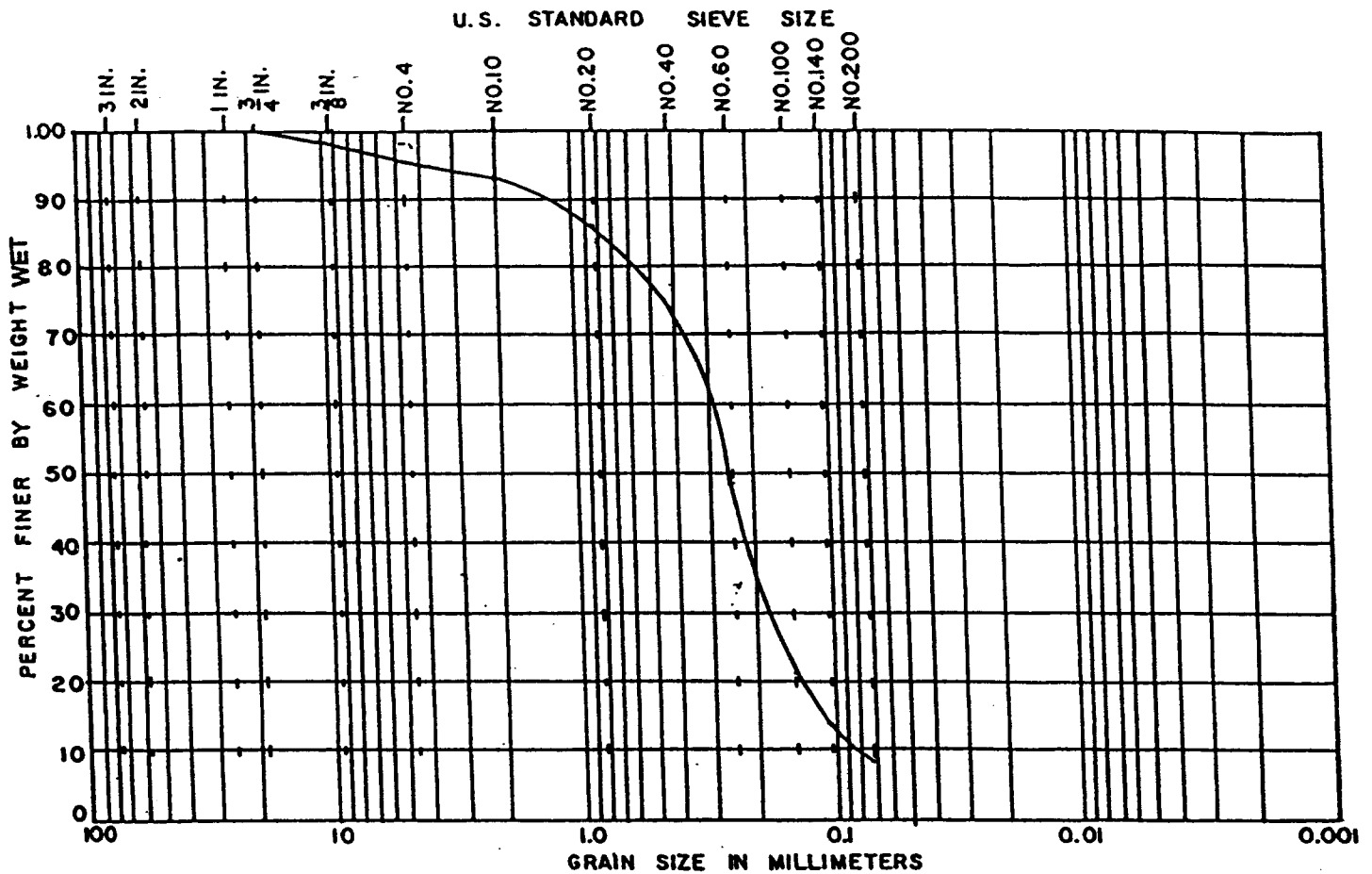
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FILE NO. 98-2576	APPROVED BY: 	

# GRAIN SIZE DISTRIBUTION CURVE



# GRAIN SIZE DISTRIBUTION CURVE



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

TEST HOLE	DEPTH	SYMBOL	CLASSIFICATION	UNIFIED CLASS
KBOC-3			LIGHT GRAY FS, W/SHELL FRAGMENTS	SP

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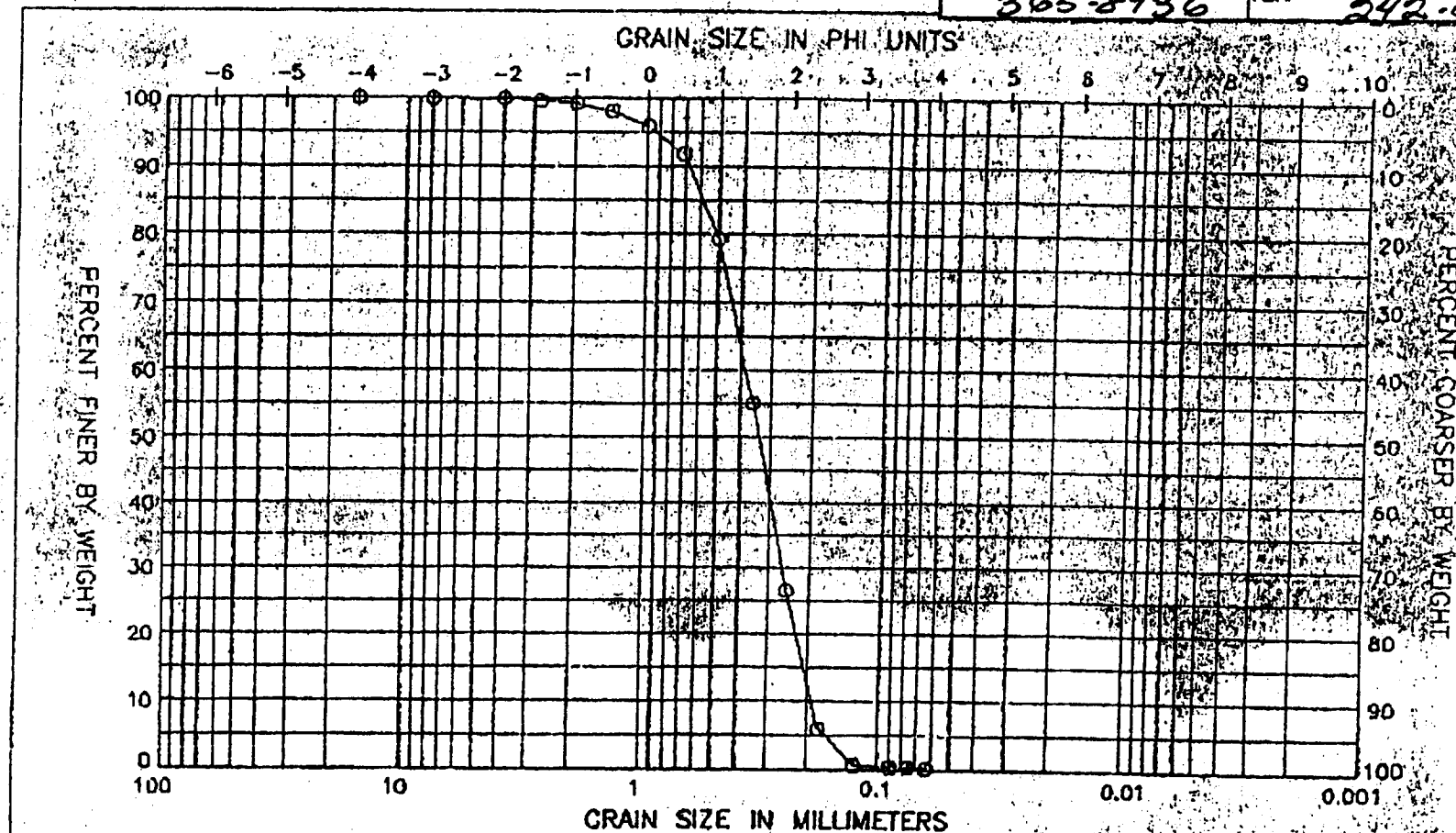
COASTAL SYSTEMS

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GRAIN SIZE DISTRIBUTION CURVE  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98

Post-It® Fax Note	7871	Date	5/22/98	Page #	13
To	Gim De. Coge	From	Gim Krakoski		
Co./Dept.		Co.	B.K.G. SVCS.		
Phone #		Phone #	305-242-0018		
Fax #	365-8936	Fax #	242-0017		



GRADATION ANALYSIS REPORT  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98  
TESTED BY: FGR ON: 5/20/98

SAMPLE NO.: T-2 #3  
SAMPLE ELEV. (FT. NGVD): N/A  
SAMPLE DEPTH (FT.): 2.2 BLS  
SAMPLE TYPE: COMPOSITE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 676.40  
SAMPLE WEIGHT AFTER WASH (GRAMS): 674.49

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	.00	.00	100.00
5/16	-3.00	8.000	.00	.00	100.00
5	-2.00	4.000	.45	.07	99.93
7	-1.50	2.800	2.09	.31	99.69
10	-1.00	2.000	4.96	.73	99.27
14	-0.50	1.400	12.79	1.89	98.11
18	0.00	1.000	27.48	4.06	95.94
25	0.50	.710	54.79	8.10	91.90
35	1.00	.500	139.94	20.69	79.31
45	1.50	.355	303.67	44.90	55.10
60	2.00	.250	497.01	73.48	26.52
80	2.50	.180	636.20	94.06	5.94
120	3.00	.125	672.08	99.36	.64
170	3.50	.090	673.66	99.59	.41
200	3.75	.075	673.80	99.62	.38
230	4.00	.063	674.85	99.77	.23
PAN			675.86	99.92	.08

PHI(5): .12 PHI(16): .81 PHI(25): 1.09  
PHI(30): 1.59 PHI(75): 2.04 PHI(84): 2.26  
PHI(95): 2.59

SIEVE LOSS(g): .54 SILT/CLAY: .388  
SKEWNESS: -.328 KURTOSIS: 1.069

GRAPHIC METHOD

MEAN (PHI): 1.55 SORTING: .72  
MEAN (mm): .34 MEDIAN (mm): .33

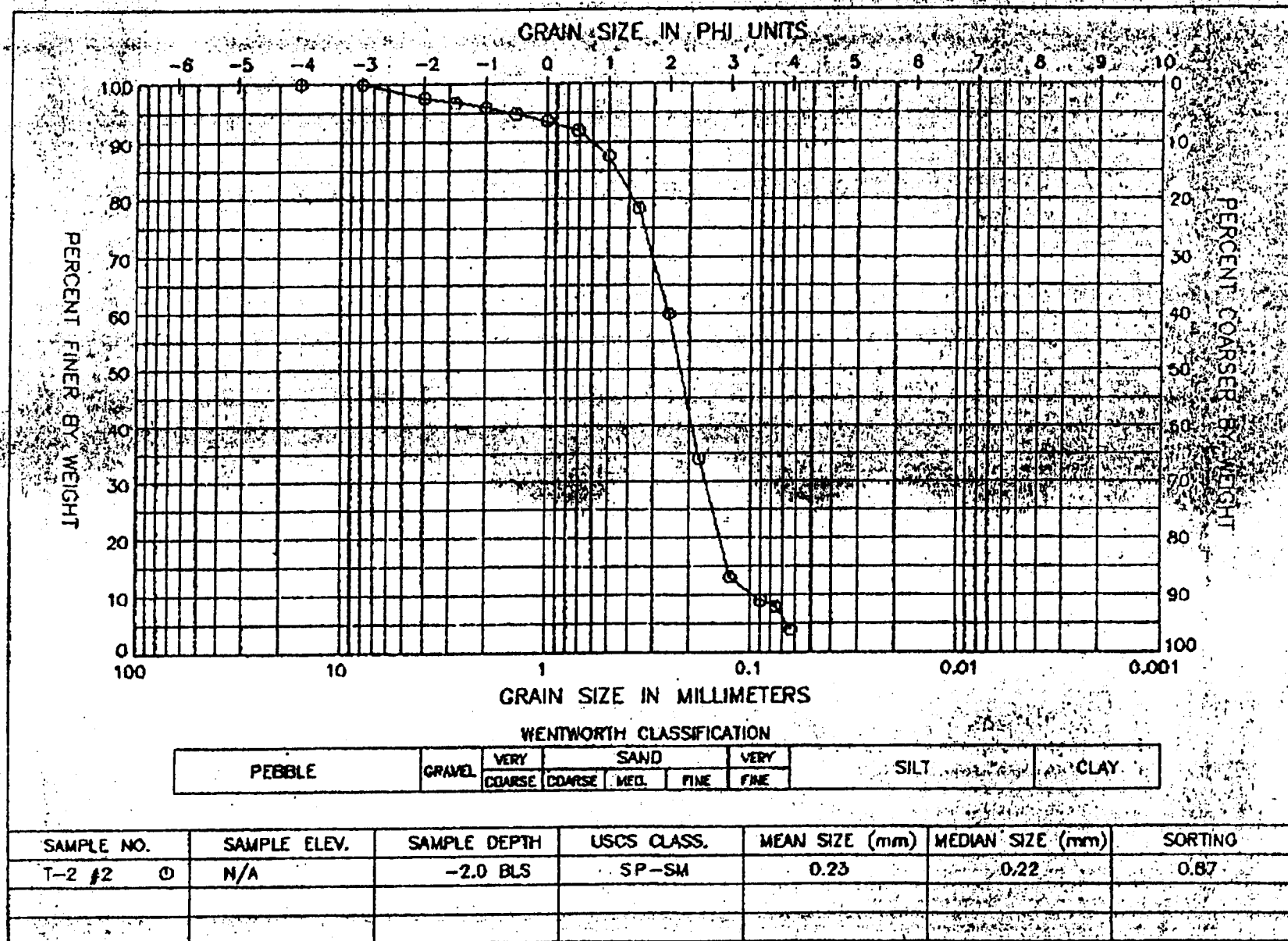
NOTE: MEAN WAS CALCULATED USING 3 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.51 SORTING: .76  
MEAN (mm): .35

DATA FILE NAME: A:T23

GRAIN SIZE DISTRIBUTION CURVE  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98



RAYMOND L. 11:39

# GRADATION ANALYSIS REPORT

OCEAN CLUB BEACH KEY BISCAYNE 5/5/98  
TESTED BY: FGK ON: 5/20/98

SAMPLE NO.: T-2 #2  
SAMPLE ELEV. (FT. NGVD): N/A  
SAMPLE DEPTH (FT.): -2.0 BLS  
SAMPLE TYPE: COMPOSITE SAMPLE

USCS DESCRIPTION: SP-SM

DRY SAMPLE WEIGHT (GRAMS): 661.11  
SAMPLE WEIGHT AFTER WASH (GRAMS): 611.88

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	.00	100.00
3/16	-3.00	8.000	0.00	.00	100.00
5	-2.00	4.000	15.89	2.40	97.60
7	-1.50	2.800	21.10	3.19	96.81
10	-1.00	2.000	26.41	3.99	96.01
14	-0.50	1.400	33.70	5.10	94.90
18	0.00	1.000	42.25	6.39	93.61
25	0.50	.710	52.69	7.97	92.03
35	1.00	.500	82.15	12.43	87.57
45	1.50	.355	142.82	21.60	78.40
60	2.00	.250	265.08	40.10	59.90
80	2.50	.180	436.22	65.98	34.02
120	3.00	.125	574.80	86.94	13.06
170	3.50	.090	601.72	91.02	8.98
200	3.75	.075	608.78	92.08	7.92
230	4.00	.063	635.16	96.08	3.92
PAN			660.70	99.94	.06

PHI(5): -.54      PHI(16): 1.19      PHI(25): 1.59  
PHI(50): 2.19      PHI(75): 2.72      PHI(84): 2.93  
PHI(95): 3.93

SIEVE LOSS(g): .41      SILT/CLAY: 7.92%  
SKEWNESS: -.573      KURTOSIS: 1.633

## GRAPHIC METHOD

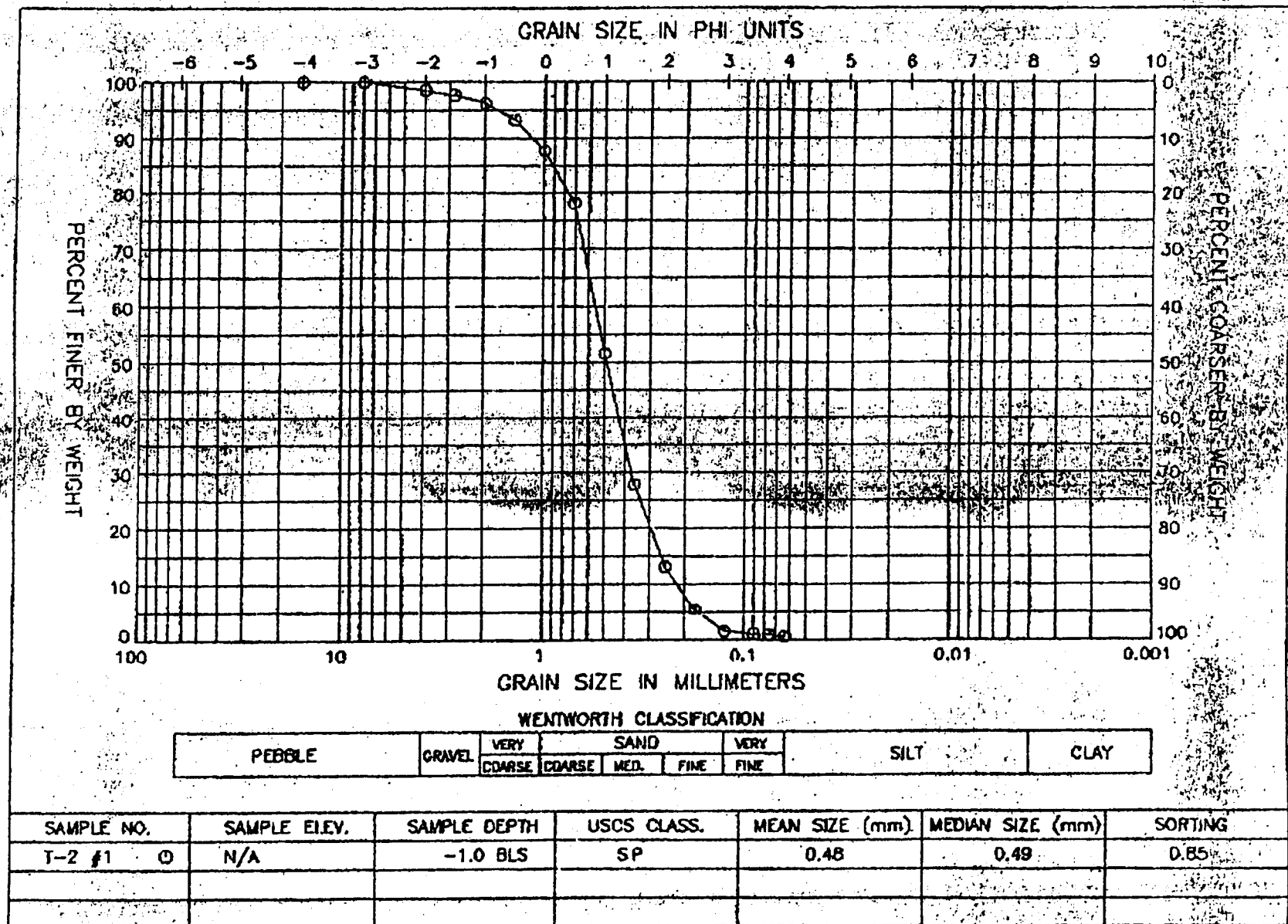
MEAN (PHI): 2.11      SORTING: .87  
MEAN (mm): .23      MEDIAN (mm): .22  
NOTE: MEAN WAS CALCULATED USING 3 POINT METHOD

## MOMENT METHOD

MEAN (PHI): 1.94      SORTING: 1.20  
MEAN (mm): .26

DATA FILE NAME: A:T22

GRAIN SIZE DISTRIBUTION CURVE  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98





GRADATION ANALYSIS REPORT  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98  
TESTED BY: FGK ON: 5/20/98

SAMPLE NO.: T-2 #1  
SAMPLE ELEV. (FT. NGVD): N/A  
SAMPLE DEPTH (FT.): -1.0 BLS  
SAMPLE TYPE: COMPOSITE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 836.26  
SAMPLE WEIGHT AFTER WASH (GRAMS): 829.22

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	.00	.00	100.00
5/16	-3.00	8.000	.00	.00	100.00
5	-2.00	4.000	11.81	1.41	98.59
7	-1.50	2.800	18.90	2.26	97.74
10	-1.00	2.000	30.74	3.68	96.32
14	-0.50	1.400	55.67	6.66	93.34
18	0.00	1.000	102.31	12.23	87.77
25	0.50	.710	182.50	21.82	78.18
35	1.00	.500	404.63	48.39	51.61
45	1.50	.355	604.37	72.27	27.73
60	2.00	.250	726.31	86.85	13.15
80	2.50	.180	791.45	94.64	5.36
120	3.00	.125	823.21	98.44	1.56
170	3.50	.090	827.90	99.00	1.00
200	3.75	.075	828.40	99.06	.94
230	4.00	.063	831.99	99.49	.51
PAN			835.55	99.92	.08

PHI(5): -.78 PHI(16): .20 PHI(25): .56  
PHI(50): 1.03 PHI(75): 1.59 PHI(84): 1.90  
PHI(95): 2.55

SIEVE LOSS(g): .71 SILT/CLAY: .94%  
SKEWNESS: -.175 KURTOSIS: 1.318

GRAPHIC METHOD

MEAN (PHI): 1.04 SORTING: .85  
MEAN (mm): .48 MEDIAN (mm): .49

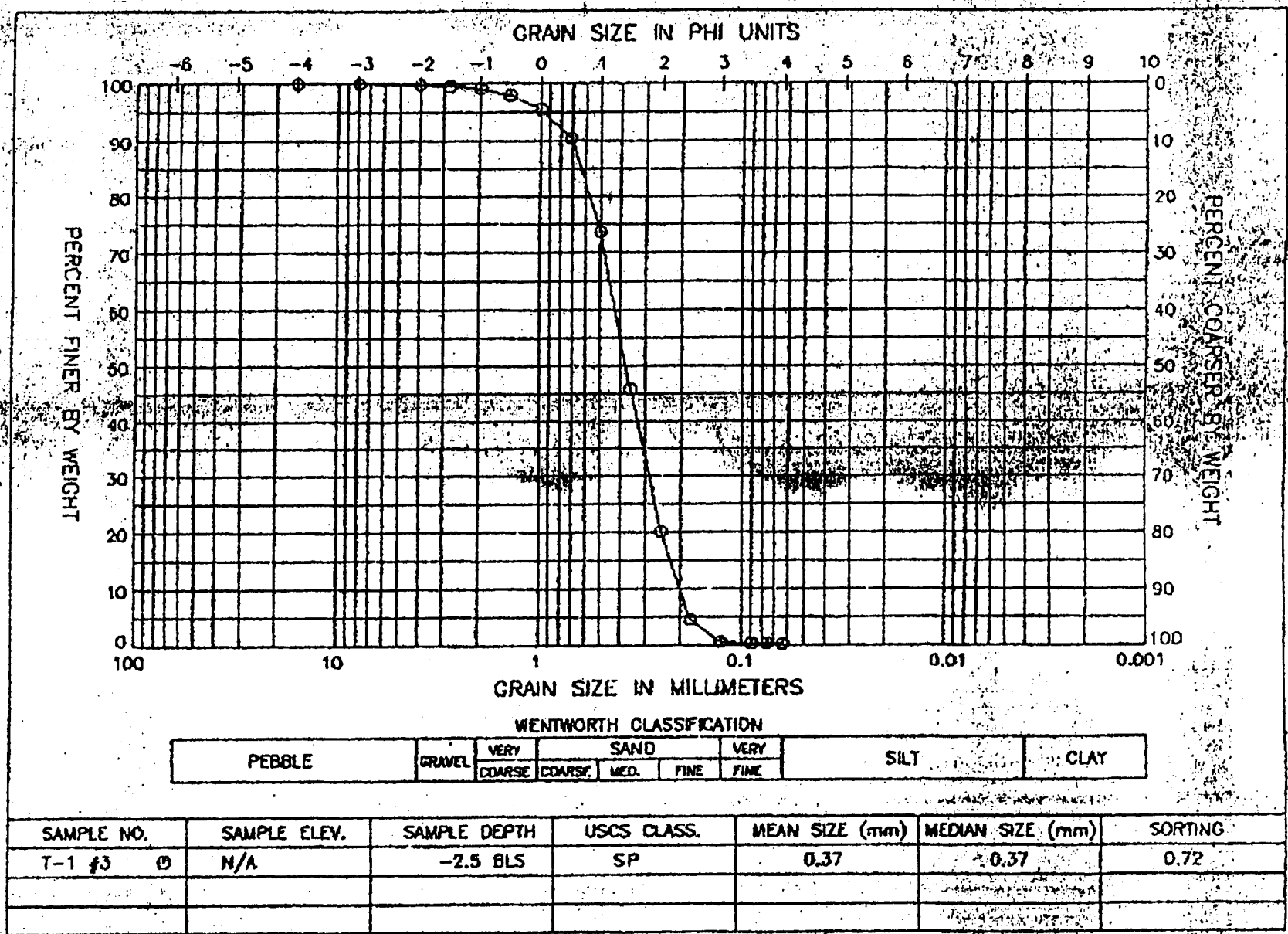
NOTE: MEAN WAS CALCULATED USING 3 POINT METHOD

MOMENT METHOD

MEAN (PHI): .99 SORTING: .98  
MEAN (mm): .50

DATA FILE NAME: A:T21

GRAIN SIZE DISTRIBUTION CURVE  
 OCEAN CLUB BEACH KEY BISCAYNE 5/5/98



GRADATION ANALYSIS REPORT  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98  
TESTED BY: FGR ON: 5/20/98

SAMPLE NO.: T-1 #3  
SAMPLE ELEV. (FT. NGVD): N/A  
SAMPLE DEPTH (FT.): -2.5 BLS  
SAMPLE TYPE: COMPOSITE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 698.53  
SAMPLE WEIGHT AFTER WASH (GRAMS): 697.21

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	0.00	.00	100.00
5/16	-3.00	8.000	0.00	.00	100.00
5	-2.00	4.000	1.51	.22	99.78
7	-1.50	2.800	3.02	.43	99.57
10	-1.00	2.000	6.29	.90	99.10
14	-0.50	1.400	14.60	2.09	97.91
18	0.00	1.000	30.93	4.43	95.57
25	0.50	.710	66.38	9.50	90.50
35	1.00	.500	183.88	26.32	73.68
45	1.50	.355	378.28	54.15	45.85
60	2.00	.250	558.06	79.89	20.11
80	2.50	.180	666.96	95.48	4.52
120	3.00	.125	694.97	99.49	.51
170	3.50	.090	696.06	99.65	.35
200	3.75	.075	696.19	99.67	.33
230	4.00	.063	696.90	99.77	.23
PAN			697.57	99.86	.14

PHI(5): .06      PHI(16): .69      PHI(25): .96  
PHI(50): 1.43      PHI(75): 1.90      PHI(84): 2.13  
PHI(95): 2.48

SIEVE LOSS(g): .96      SILT/CLAY: .33%  
SKEWNESS: -.215      KURTOSIS: 1.054

GRAPHIC METHOD

MEAN (PHI): 1.42      SORTING: .72  
MEAN (mm): .37      MEDIAN (mm): .37

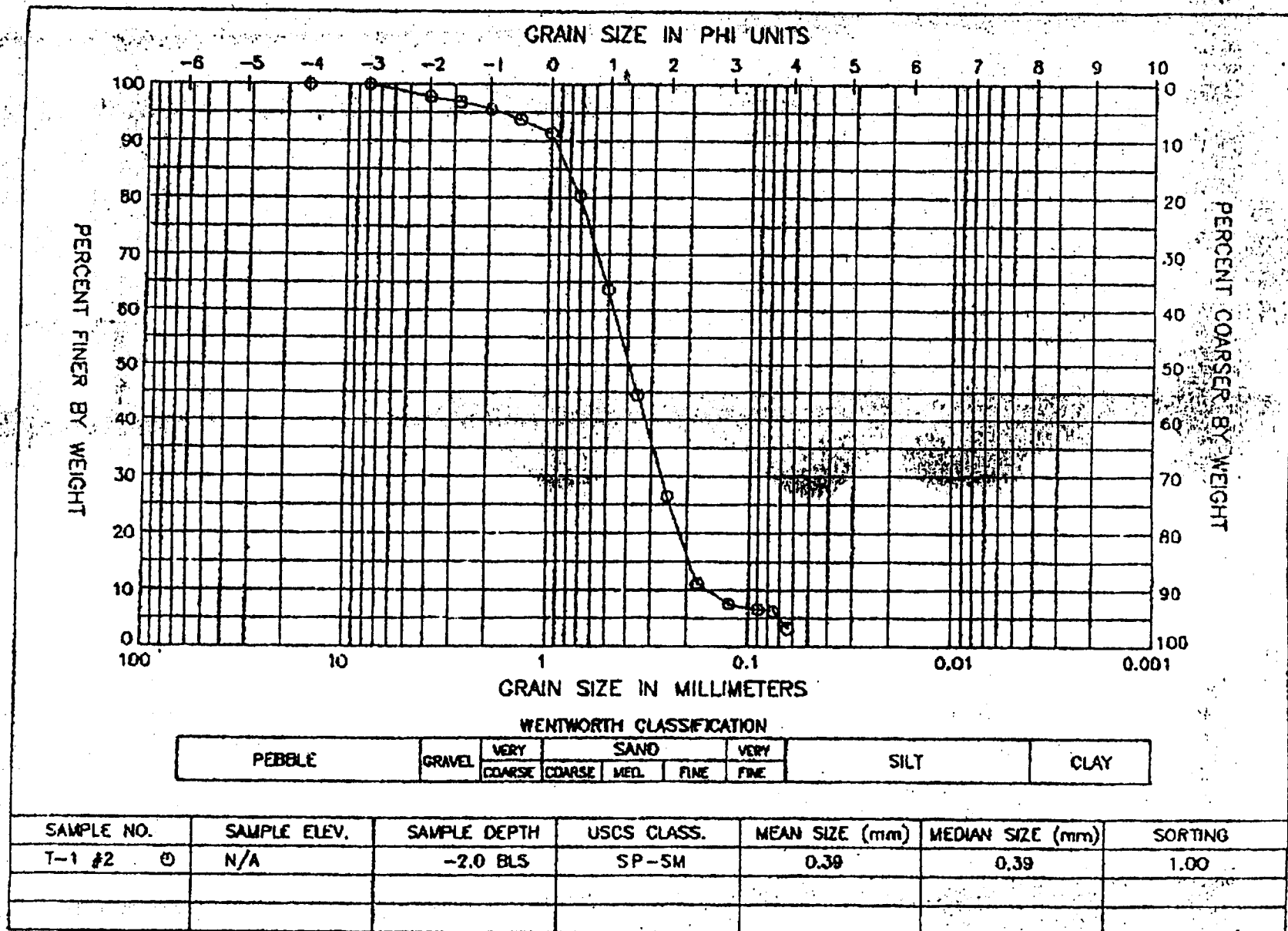
NOTE: MEAN WAS CALCULATED USING 3 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.38      SORTING: .76  
MEAN (mm): .38

DATA FILE NAME: A:T13

GRAIN SIZE DISTRIBUTION CURVE  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98



GRADATION ANALYSIS REPORT  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98  
TESTED BY: FGK ON: 5/20/98

SAMPLE NO.: T-1 #2  
SAMPLE ELEV. (FT. NGVD): N/A  
SAMPLE DEPTH (FT.): -2.0 BLS  
SAMPLE TYPE: COMPOSITE SAMPLE

USCS DESCRIPTION: SP-SM

DRY SAMPLE WEIGHT (GRAMS): 629.49  
SAMPLE WEIGHT AFTER WASH (GRAMS): 591.66

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	.00	.00	100.00
5/16	-3.00	8.000	.00	.00	100.00
5	-2.00	4.000	14.03	2.23	97.77
7	-1.50	2.800	19.67	3.12	96.88
10	-1.00	2.000	27.40	4.35	95.65
14	-0.50	1.400	39.38	6.26	93.74
18	0.00	1.000	54.00	8.58	91.42
25	0.50	.710	123.14	19.56	80.44
35	1.00	.500	228.35	36.28	63.72
45	1.50	.355	349.25	55.48	44.52
60	2.00	.250	463.03	73.56	26.44
80	2.50	.180	559.10	88.82	11.18
120	3.00	.125	582.22	92.49	7.51
170	3.50	.090	588.40	93.47	6.53
200	3.75	.075	590.17	93.75	6.25
230	4.00	.063	609.81	96.87	3.13
PAN			629.25	99.96	.04

PHI(5): -.83 PHI(16): .34 PHI(25): .66  
PHI(50): 1.36 PHI(75): 2.05 PHI(84): 2.34  
PHI(95): 3.85

SIEVE LOSS(g): .24 SILT/CLAY: 6.25%  
SKEWNESS: .152 KURTOSIS: 1.385

GRAPHIC METHOD

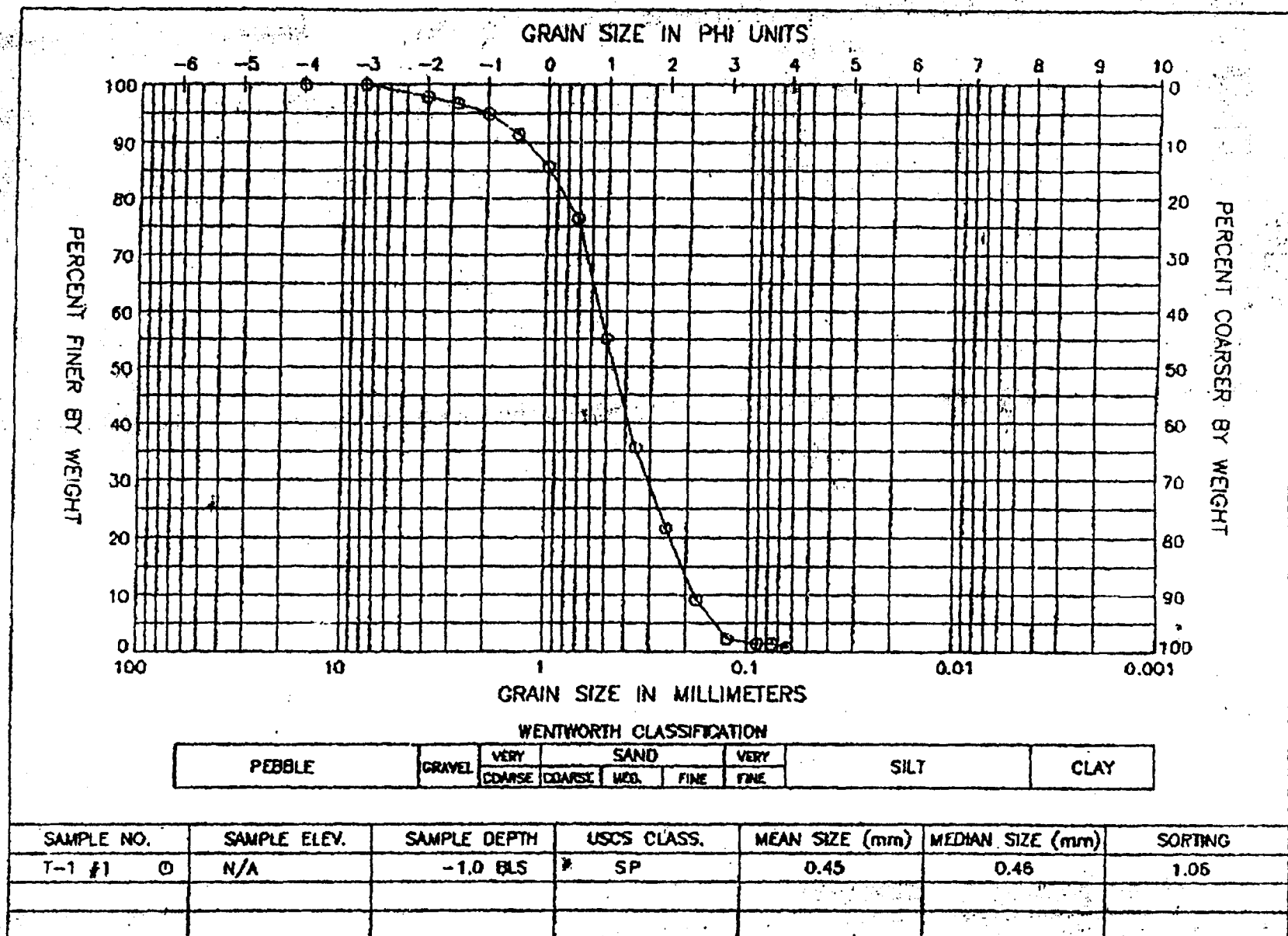
MEAN (PHI): 1.35 SORTING: 1.00  
MEAN (mm): .39 MEDIAN (mm): .39  
NOTE: MEAN WAS CALCULATED USING 3 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.25 SORTING: 1.16  
MEAN (mm): .42

DATA FILE NAME: A:T12

GRAIN SIZE DISTRIBUTION CURVE  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98



GRADATION ANALYSIS REPORT  
OCEAN CLUB BEACH KEY BISCAYNE 5/5/98  
TESTED BY: FGK ON: 5/20/98

SAMPLE NO.: T-1 #1  
SAMPLE ELEV. (FT. NGVD): N/A  
SAMPLE DEPTH (FT.): -1.0 BLS  
SAMPLE TYPE: COMPOSITE SAMPLE

USCS DESCRIPTION: SP

DRY SAMPLE WEIGHT (GRAMS): 783.36  
SAMPLE WEIGHT AFTER WASH (GRAMS): 774.90

SIEVE SIZE	PHI SIZE	MESH SIZE (mm)	RETAINED (GRAMS)	RETAINED (%)	PASSED (%)
5/8	-4.00	16.000	.00	.00	100.00
5/16	-3.00	8.000	.00	.00	100.00
5	-2.00	4.000	16.71	2.13	97.87
7	-1.50	2.800	25.38	3.24	96.76
10	-1.00	2.000	39.11	4.99	95.01
14	-0.50	1.400	66.83	8.53	91.47
18	0.00	1.000	110.91	14.16	85.84
25	0.50	.710	184.56	23.56	76.44
35	1.00	.500	351.59	44.88	55.12
45	1.50	.355	504.86	64.45	35.55
60	2.00	.250	614.22	78.41	21.59
80	2.50	.180	711.68	90.85	9.15
120	3.00	.125	765.75	97.75	2.25
170	3.50	.090	772.55	98.62	1.38
200	3.75	.075	773.12	98.69	1.31
230	4.00	.063	777.41	99.24	.76
PAN			781.66	99.78	.22

PHI(5): -1.00      PHI(16): .10      PHI(25): .53  
PHI(50): 1.13      PHI(75): 1.88      PHI(84): 2.22  
PHI(95): 2.80

SIEVE LOSS(g): 1.70      SILT/CLAY: 1.31%  
SKEWNESS: -.216      KURTOSIS: 1.159

GRAPHIC METHOD

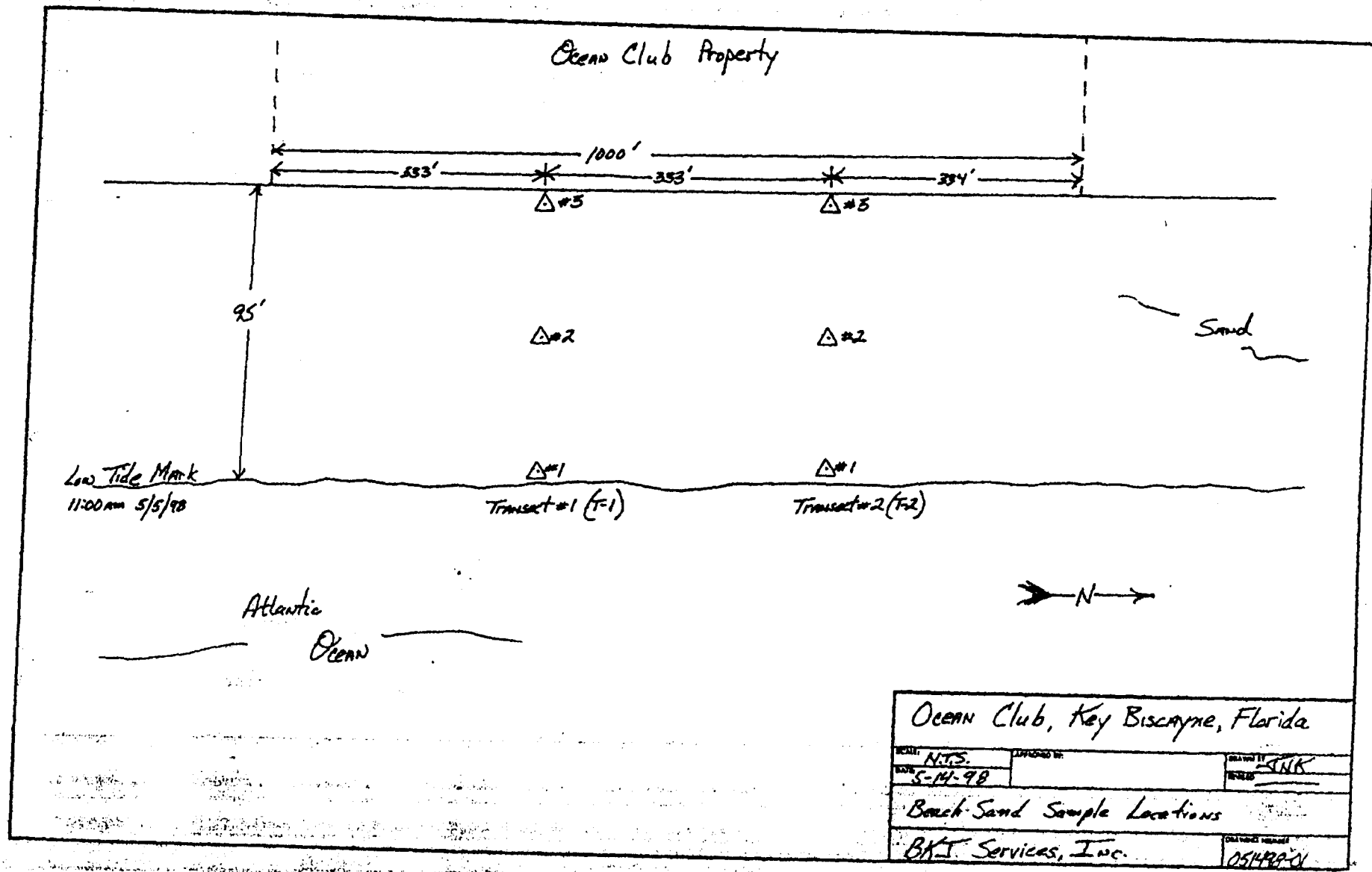
MEAN (PHI): 1.15      SORTING: 1.06  
MEAN (mm): .45      MEDIAN (mm): .46  
NOTE: MEAN WAS CALCULATED USING 3 POINT METHOD

MOMENT METHOD

MEAN (PHI): 1.07      SORTING: 1.14  
MEAN (mm): .48

DATA FILE NAME: a:T11

MAY-22-98 FRI 12:10 P.13







# Appendix D5

## FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

### NOTICE TO PROCEED

Permit Number: DA-372

Permittee:

Permit Expires: January 7, 2000

Metro Dade Environmental Resources Management  
c/o Attn: Brian Flynn  
Coastal Programs Administrator  
33 Southwest 2nd Avenue, Suite 400  
Miami, Florida 33130-1540

You are hereby granted final authorization to proceed with the construction or activities authorized by the permit number referenced above. Authorized work must conform with the detailed project description, approved plans, and all conditions including preconstruction requirements included in the final order. A brief description of the authorized work follows.

**Project Description:** The applicant/permittee is authorized to place a maximum of 36,000 cubic yards of beach-compatible sand on the beach above the mean high water contour. The elevation of the construction berm is to be a maximum of +7.5 feet NGVD.

**Project Location:** Between approximately 600 feet south of Department of Environmental Protection's reference monument R-101 and 150 feet north of reference monument R-108, Village of Key Biscayne, in Dade County.

**Special Instructions:** A pre-work conference (a telephone conference will suffice) shall be held.

Questions regarding the permit or this notice should be directed to the undersigned at:

1-7-98 *Robert M. Brantly, Jr.*  
Date of Notice Robert M. Brantly, Jr., P.E.

Bureau of Beaches and Coastal Systems  
3900 Commonwealth Blvd. - M.S. 310  
Tallahassee, Florida 32399-3000  
Telephone (850) 488-3180

RMB/jg

cc: Permit File  
Permit Information Center  
Red Taylor, Field Engineer  
Metro Dade Environmental Resources Management, Property Owner  
Marwan Fakhoury, DEP District Office  
Village of Key Biscayne Building Official



# Appendix D5

## Department of Environmental Protection

Lawton Chiles  
Governor

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000  
January 7, 1998

Virginia B. Wetherell  
Secretary

Attn: Brian Flynn  
Coastal Programs Administrator  
33 Southwest 2nd Avenue, Suite 400  
Miami, Florida 33130-1540

Dear Mr. Flynn:

### NOTICE TO PROCEED

PERMIT NUMBER: DA-372

PERMITTEE NAME: Metro Dade Environmental Resources Management

Your request for a permit pursuant to Section 161.053, Florida Statutes, for construction or other activities seaward of the coastal construction control line, has been approved by the Department of Environmental Protection. A pre-work conference (a telephone conference will suffice) shall be held between the representatives of the contractor (initial construction year only), the permittee, the marine turtle permit holder, and the Department prior to commencement of work or surveys.

Please read the permit and permit conditions including both the Standard Permit Conditions and any Special Permit Conditions closely before starting construction. Standard Permit Conditions 1(q), and 1(s), pertain to written reports which must be submitted to the Department of Environmental Protection under the signature and seal of a professional engineer, architect, or land surveyor (as appropriate) at specified times. Forms for use in preparation of these reports are enclosed. Make sufficient copies of the periodic report form to provide the required reports. The periodic reports are due in the office of the Bureau of Beaches and Coastal Systems on a monthly basis on the last working day of each month. No progress reports are required until such time as construction activities have started.

The permit will expire two years after the date of issuance of the final order. Upon receipt of a written request signed by the permittee or authorized agent, the Department will consider extending the permit for up to but no more than one additional year. You must apply for a new permit for completion of any work not accomplished under the original permit. Although you may apply for a new permit, there is no assurance that such new permit for the same construction or activities would be approved.

Any party to this proceeding has the right to request review of this order by the Governor and Cabinet, sitting as the Florida Land and Water Adjudicatory Commission, in accordance with section 20.255 of the Florida Statutes. To initiate such a review, you must file a request for it, and the request must be received by a member of the Commission or the Secretary of the Commission at The Capitol, Tallahassee, Florida 32399, within twenty days after this order is clerked. You must also serve both the Department of Environmental Protection, Department Clerk, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399, and any other person named in this order with a copy of the request within twenty days after rendering of this order.

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

# Appendix D5

Attn: Brian Flynn  
January 7, 1998  
Page 2

Additionally, any person whose substantial interests are affected by any decision of the Department on the application has the right to request an administrative hearing in accordance with the provisions of sections 120.569 and 120.57 of the Florida Statutes. Should you desire an administrative hearing, your request must comply with the provisions of rule 62-103.155(2) of the Florida Administrative Code, as indicated below. Send requests for hearings to the Department of Environmental Protection, Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399. The Department must receive the request within fourteen days after your receipt of this notice.

When the Department receives an adequate and timely filed request for hearing, the Department will request the assignment of a hearing officer. Likewise, when the Florida Land and Adjudicatory Commission receives an adequate and timely petition, the Commission will request the assignment of a hearing officer. Once a hearing officer is requested, the referring agency will take no further action with respect to the proceeding except as a party litigant, as long as the Division of Administrative Hearings has jurisdiction over the formal proceeding.

Rule 62-103.155(2) of the Florida Administrative Code requires that a petition or request for hearing contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department file number, and the county in which the proposed project would be located;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by the petitioner, if any;
- (e) A statement of facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

A person may request an extension of time to petition for an administrative hearing. The person filing the request for extension must do so within the time limits for filing a petition described above and serve all parties with the request. The request must state why an extension is needed. The Department will grant an extension only when good cause is shown.

If a petition or request for extension of time is filed, further order of the Department becomes necessary to effectuate this notice. Accordingly, the Department's final action may be different from the position taken by it in this notice. Actions undertaken by you under this permit, pending the lapse of time allowed for the filing of such a request for hearing, may be subject to modification, removal, or restoration.

# Appendix D5

Attn: Brian Flynn  
January 7, 1998  
Page 3

Failure to petition within the allowed time frame constitutes waiver of any right that such a person has to request a hearing under section 120.57 of the Florida Statutes and to participate as a party to the proceeding. If a legally sufficient petition for hearing is not timely received this notice constitutes final agency action. When this order becomes final, any party to the order has the right to seek judicial review under section 120.68 of the Florida Statutes and rule 9.030(b)(1) and 9.110 of the Florida Rules of Appellate Procedure by filing a notice of appeal with the Department of Environmental Protection, Office of General Counsel, Department Clerk, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399, and with the appropriate district court of appeal within thirty days after rendition of this order. The notice filed with the district court must be accompanied by the filing fee specified in subsection 35.22(3) of the Florida Statutes. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed under Rule 60Q-2.010, Florida Administrative Code.

A person whose substantial interests are affected by the Department's proposed agency action may choose to pursue mediation as an alternative remedy under section 120.573 before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for pursuing mediation are set forth below.

A person may pursue mediation by reaching a mediation agreement with all parties to the proceeding (which include the applicant, the Department, and any person who has filed a timely and sufficient petition for a hearing) and by showing how the substantial interests of each mediating party are affected by the Department's action or proposed action. The agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

The agreement to mediate must include the following:

- (a) The names, addresses, and telephone numbers of any persons who may attend the mediation;
- (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time;
- (c) The agreed allocation of the costs and fees associated with the mediation;
- (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation;
- (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen;
- (f) The name of each party's representative who shall have the authority to settle or recommend settlement, and
- (g) Either an explanation of how the substantial interests of each mediating party will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that each party has already filed, and incorporating it by reference.
- (h) The signatures of all parties or their authorized representatives.

# Appendix D5

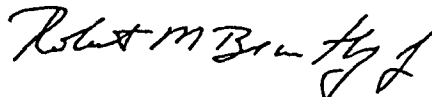
Attn: Brian Flynn  
January 7, 1998  
Page 4

As provided in section 120.573 of the Florida Statutes, the timely agreement of all parties to mediate will toll the time limitations imposed by sections 120.569 and 120.57 for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interest will be affected by such a modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such set forth above, and must therefore file their petitions within fourteen days of receipt of this notice. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under sections 120.569 and 120.57 remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

You are advised that notice of this agency's final action on this permit has been given to other interested parties. They have fourteen days from receipt of the notice to exercise any rights they may have under Chapter 120, Florida Statutes. Actions undertaken by you under this permit, during this period may be subject to modification, removal or restoration.

The authorized work is strictly limited to that described on the enclosed final order. Please direct any questions pertaining to this permit to me by letter at the above address, or by telephone at 850/487-4475.

Sincerely,



Robert M. Brantly, Jr., P.E.  
Bureau of Beaches and Coastal Systems

RMB/jg  
Enclosures

cc: Permit Information Center  
Red Taylor, Field Engineer  
Marwan Fakhoury, DEP District Office  
Village of Key Biscayne Building Official  
Metro Dade Environmental Resources Management, Property Owner

# Appendix D5



STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Division of Water Facilities  
Bureau of Beaches and Coastal Systems  
3900 Commonwealth Blvd. - Mall Station 300  
Tallahassee, Florida 32399-3000  
(850) 488-3180

PERMIT NUMBER: DA-372

## PERMITTEE

Metro Dade Environmental Resources Management  
Attn: Brian Flynn  
Coastal Programs Administrator  
33 Southwest 2nd Avenue, Suite 400  
Miami, Florida 33130-1540

## PERMIT FOR CONSTRUCTION OR OTHER ACTIVITIES PURSUANT TO SECTION 161.053, FLORIDA STATUTES

### FINAL ORDER

**FINDINGS OF FACT:** An application for authorization to conduct the activities seaward of the coastal construction control line which are indicated in the project description, was filed by the applicant/permittee named herein on December 30, 1997, and was determined to be complete pursuant to rule on December 30, 1997. The application was considered by the Chief of the Bureau of Beaches and Coastal Systems on behalf of the Department of Environmental Protection.

**CONCLUSIONS OF LAW:** After considering the merits of the proposal and any written objections from affected persons, the Department finds that upon compliance with the permit conditions, the activities indicated in the project description are of such a nature that they will result in no significant adverse impacts to the beach/dune areas or to adjacent properties; that the work is not expected to adversely impact nesting sea turtles, their hatchlings, or their habitat; that the work is expendable in nature and/or is appropriately designed in accordance with Rule 62B-33.007, Florida Administrative Code; and that it is an activity or type of construction which the Bureau Chief has authority to approve or deny pursuant to Administrative Directive DEP 140, effective July 1, 1993. Based on the foregoing considerations, the Bureau Chief approves the application; authorizes construction and/or activities at the location indicated below in strict accordance with the project description, the approved plans (if any) and the Standard Permit Conditions which are attached and are by this reference incorporated herein, and any additional conditions shown below, pursuant to Subsection 161.053(5), Florida Statutes.

**EXPIRATION DATE:** January 7, 2000

**LOCATION:** Between approximately 600 feet south of Department of Environmental Protection's reference monument R-101 and 150 feet north of reference monument R-108, Village of Key Biscayne, in Dade County.

**PROJECT DESCRIPTION:** The applicant/permittee is authorized to place a maximum of 36,000 cubic yards of beach-compatible sand on the beach above the mean high water contour. The elevation of the construction berm is to be a maximum of +7.5 feet NGVD. The sand is to be

# Appendix D5

PERMITTEE: Metro Dade Environmental Resources Management

PERMIT NUMBER: DA-372

Page 2

to be obtained from a wetlands restoration project being constructed in Bill Baggs Cape Florida State Recreation Area, on Key Biscayne, under Wetland Resources Permit 13-2704259. The applicant/permittee will selectively excavate the restoration project area to obtain the beach-compatible sand and transport this material by truck to the beach fill area. Silt and organic matter are to be disposed of in an appropriate upland site in accordance with the wetland resource permit.

## SPECIAL PERMIT CONDITIONS:

1. Within 30 days of issuance of this permit, the permittee shall remit an application processing fee to the department in the amount of \$500, pursuant to Rule 62B-33.0085, Florida Administrative Code.
2. Prior to the placement of any sand on the beaches of the Village of Key Biscayne landward of the Erosion Control Line, the permittee shall obtain written authorization from the appropriate upland property owner to conduct the activities.
3. This permit is not a waiver of any of the requirements of Wetland Resource Permit 13-2704259 or other Department permits or authorizations that may be required for other aspects of the total project which are not addressed in this permit.
4. Fill material placed on the beach shall be sand that is similar to that already existing at the beach site in both coloration and grain size. All such fill material shall be free of construction debris, rocks, other foreign matter and shall not contain, on average, greater than 10 percent fines (i.e. silt and clay) passing a No. 200 sieve and shall not contain, on average, greater than 5 percent coarse gravel or cobbles, exclusive of shell material retained by a No.4 sieve.
5. No construction is authorized during the marine turtle nesting season (May 1 through October 31).
6. Reports on all nesting activity and marine turtle protection measures shall be provided for the initial nesting season following the completion of construction, and for a minimum of two additional nesting seasons. Monitoring shall include daily surveys and any additional measures for turtle protection authorized by the Department. Nest surveys shall be conducted daily between sunrise and 9 a.m. Reports shall be submitted to the Department no later than 30 days after the completion of all monitoring activities, and shall include daily report sheets noting all activity, nesting success rates, hatching success of all relocated nests, hatching success of a statistically valid sample of nests left in place, information on scarp formation and removal, dates of construction, and names of all personnel involved in nest surveys and relocation activities. All nesting surveys and nest relocations shall be conducted only by persons with prior experience and training in these activities and duly authorized to conduct such activities through a valid permit issued by the Department, Division of Marine Resources, pursuant to Florida Administrative Code Rule 62R-1.

# Appendix D5

PERMITTEE: Metro Dade Environmental Resources Management

PERMIT NUMBER: DA-372

Page 3

7. Immediately after completion of the sand placement and prior to May 1 for three subsequent years, sand compaction shall be monitored in the area of restoration. At a minimum, the protocol provided under 4 a&b below shall be followed. If required, the area shall be tilled to a depth of 36 inches. All tilling activity must be completed prior to May 1. A report on the results of compaction monitoring shall be faxed to the Bureau of Protected Species Management, (904) 921-4369, prior to any tilling actions being taken. An annual summary of compaction surveys and the actions taken shall be submitted to the FDEP. This condition shall be evaluated annually and may be modified, if necessary, to address sand compaction problems identified during the previous year.

a. Compaction sampling stations shall be located at 500-foot intervals along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area); one station shall be midway between the dune line and the high water line (normal wrack line); and one station shall be located just landward of the high water line. At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material could cover less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole and/or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports shall include all 27 values for each transect line, and the final nine averaged compaction values.

b. If the final averaged compaction value for any depth (as defined above) exceeds 500 psi for any two or more adjacent stations, then that area shall be tilled to a depth of 36 inches prior to May 1. If the final averaged compaction value for any depth (as defined above) exceeds 500 psi for any two or more non-adjacent stations, then consultation with FDEP, Bureau of Protected Species Management, shall be required to determine if tilling is required.

8. Visual surveys for escarpments along the project area shall be made immediately after completion of the project and prior to May 1 for three subsequent years. Results of the surveys shall be faxed to the Bureau of Protected Species Management, (904) 921-4369, prior to any action being taken. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled to the natural beach contour by May 1. The Department shall be contacted immediately if subsequent reformation of escarpments that can interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate action to be taken. An annual summary of escarpment surveys and actions taken shall be submitted to the Department.

9. A pre-work conference (a telephone conference will suffice) shall be held between the representatives of the contractor (initial construction year only), the permittee, the marine turtle permit holder, and the Department prior to commencement of work or surveys. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures.



# Appendix D5

PERMITTEE: Metro Dade Environmental Resources Management

PERMIT NUMBER: DA-372

Page 4

10. In the event an unmarked marine turtle nest or a dead, injured, or sick marine turtle is discovered during construction activities, the marine turtle permit holder and the Bureau of Protected Species Management shall be notified immediately such that appropriate conservation measures can be taken.

Approved plans are incorporated into this permit by reference.

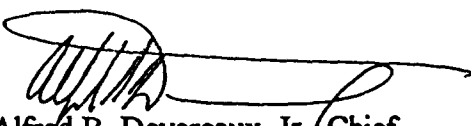
Done and ordered this 7<sup>th</sup> day of January 1998, in Tallahassee, Florida.

Attachment: Standard Permit Conditions

FILING AND ACKNOWLEDGMENT  
FILED, on this date, pursuant to S120.52  
Florida Statutes, with the designated  
Department Clerk, receipt of which  
is hereby acknowledged.

Della Warner 1/7/98  
Deputy Clerk Date

State of Florida  
Department of Environmental Protection

  
Alfred B. Devereaux, Jr. Chief  
Bureau of Beaches and Coastal Systems

# WHITE & CASE

UNITED STATES  
LOS ANGELES  
MIAMI  
NEW YORK  
WASHINGTON, D.C.

EUROPE  
BRUSSELS  
BUDAPEST  
HELSINKI  
ISTANBUL  
LONDON  
MOSCOW  
PARIS  
PRAGUE  
STOCKHOLM  
WARSAW

AFRICA  
JOHANNESBURG

FIRST UNION FINANCIAL CENTER  
200 SOUTH BISCAYNE BOULEVARD  
MIAMI, FLORIDA 33131-2352

TELEPHONE: (1 - 305) 371-2700  
FACSIMILE: (1 - 305) 358-5744

March 12, 1998

ASIA  
ALMATY  
ANKARA  
BANGKOK  
BOMBAY  
HANOI  
HONG KONG  
JAKARTA  
SINGAPORE  
TASHKENT  
TOKYO

MIDDLE EAST  
JEDDAH  
RIYADH

LATIN AMERICA  
MEXICO CITY

Senator W.D. Childers, Chairman,  
General Government Committee  
c/o Minnie Bush  
The Capitol  
Tallahassee, Florida 32399

Dear Senator:

Following our recent discussion regarding the appropriation request for beach restoration and nourishment for the severely eroded shoreline along the Village of Key Biscayne, I am submitting this brief report on the background and status of this request.

The Department of Environmental Protection included the Key Biscayne Project in its budget request as reflected in the Project Explanation table that I have enclosed as Attachment A.

The House of Representatives, Committee on General Government Appropriations, has adopted a PCB GG 98-01 and I have enclosed as Attachment B, Item 1358 of the Act showing a funding level of \$34,519,802, and the Village is requesting that your General Government Committee include the same, or a higher level of state support in your appropriation.

Beach nourishment issues are technical and complicated and there are vast underlying scientific studies for the Village of Key Biscayne Project. With brevity in mind, I would like to highlight the unique historical and scientific bases for the Village Project.

Please note Attachments C and D, which clearly show the culprit for the dramatic and cataclysmic shoreline contour changes to the beaches of Key Biscayne. When the United States Government dredged Government cut and placed jetties almost a half a mile seaward of the shoreline, the United States Government created a complete littoral barrier

to the southward moving sand. This resulted in a shoreline recession of up to 500 feet on Key Biscayne and continues to this day to deprive Key Biscayne of natural beach nourishment.

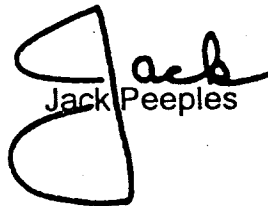
Another unique aspect of the Key Biscayne Project is revealed by Attachment E. The Village of Key Biscayne lies between Crandon Park to the North and Bill Baggs State Park to the South. Crandon Park has two miles of public park shoreline and Bill Baggs has 1.2 miles of public park shoreline.

Through no fault of the Village of Key Biscayne, the most severe erosion on the island of Key Biscayne is along the Village shoreline in the center of the island. Prior to a previous restoration project, the beach had eroded to the point that the public could not walk along the beach from Crandon Park to Bill Baggs Park.

The beach restoration project will protect the Village of Key Biscayne from the total loss of its beach and provide protection to the public parks adjacent to the Village.

Thank you for reviewing this brief report, ~~Senator Childers~~, and I will be available to discuss any questions that you, your staff, or Members of your Committee may have.

Warm kind personal regards,



Jack Peebles

## CIP-3 SHORT-TERM PROJECT EXPLANATION

AGENCY: Department of Environmental Protection  
 BUDGET ENTITY: Division of Water Facilities  
 PROJECT TITLE: Beach Management

LAS/PBS BUDGET ENTITY CODE: 3735000  
 APPROPRIATION CATEGORY CODE: 088061

AGENCY PRIORITY: 1

PROJECT CATEGORY: ERBE

ASP CODE: 11.B.12

STATE COMP PLAN CODE: s187.201(g)F.S.

FORCE ACCT: \_\_\_\_\_

TO BE CONSTRUCTED BY: CONTRACT \_\_\_\_\_

## PURPOSE, NEED, SCOPE, RELATIONSHIP OF PROJECT TO AGENCY OBJECTIVES:

Requested funds are for state sponsored erosion control projects and are matched with the U.S. Army Corps of Engineers and/or local governments funds for beach nourishment projects. Specific projects are identified as follows:

PROJECT TYPE	SPONSOR	FEDERAL	STATE	LOCAL	TOTAL
Statewide Inlet/Beach Mgmt.	DEP/COE/Local Gov	\$ 3,000,000	\$ 2,000,000	\$ 2,000,000	\$ 7,000,000
Ft. Pierce Inlet Management Plan Implementation	St. Lucie County	\$ 187,000	\$ 255,000	\$ 255,000	\$ 697,000
Lido Key Beach Restoration	City of Sarasota	\$ 0	\$ 77,602	\$ 94,848	\$ 172,450
Brevard County Beach Restoration	Brevard County	\$10,000,000	\$ 4,850,000	\$ 4,850,000	\$ 19,700,000
Ocean Ridge Beach Restoration	Palm Beach County	\$ 119,200	\$ 98,400	\$ 98,400	\$ 316,000
Lake Worth Inlet Management Plan Implementation	Town of Palm Beach	\$ 1,500,000	\$ 1,130,000	\$ 1,130,000	\$ 3,760,000
St. Lucie Inlet Management Plan Implementation	Martin County	\$ 280,000	\$ 775,000	\$ 775,000	\$ 1,830,000
Sand Key Beach Restoration (N. Redington Beach Breakwater)	Pinellas County	\$ 1,400,000	\$ 513,541	\$ 441,569	\$ 2,355,110
Broward County Beach Nourishment (Segments II & III)	Broward County	\$ 1,275,200	\$ 279,307	\$ 345,611	\$ 1,900,118
Dade County Beach Erosion Control Project	Dade County	\$17,819,000	\$10,508,550	\$12,632,450	\$ 40,960,000
Delray Beach Nourishment	City of Delray Beach	\$ 177,126	\$ 67,039	\$ 70,279	\$ 314,444
Port Canaveral Inlet Management Plan Implementation	Canaveral Port Authority	\$ 500,000	\$ 615,000	\$ 615,000	\$ 1,730,000
Boca Raton Beach Nourishment	City of Boca Raton	\$ 315,934	\$ 343,290	\$ 343,290	\$ 1,002,514
Jupiter/Carlin Beach Nourishment	Palm Beach County	\$ 218,800	\$ 90,600	\$ 90,600	\$ 400,000
Treasure Island (Sunset Beach) Nourishment	Pinellas County	\$ 1,000,000	\$ 386,873	\$ 663,127	\$ 2,050,000
Venice Beach Nourishment	City of Venice	\$ 134,900	\$ 22,392	\$ 38,208	\$ 195,500
Venice Inlet Management Plan Implementation	City of Venice	\$ 661,200	\$ 109,400	\$ 109,400	\$ 880,000
Martin County Beach Restoration	Martin County	\$ 434,872	\$ 419,985	\$ 506,827	\$ 1,361,684
Nassau County Beach Restoration	City of Fernandina Beach	\$ 371,000	\$ 54,500	\$ 54,500	\$ 480,000
Ft. Clinch Shore Protection Project	DEP/DRP	\$ 0	\$ 2,000,000	\$ 0	\$ 2,000,000
Capiva Island Beach Nourishment	Capiva Erosion Prevention District	\$ 0	\$ 51,811	\$ 205,698	\$ 257,509

Fid - State Local

Estero Island Beach Erosion Control	Lee County	\$ 0	\$ 292,000	\$ 438,000	\$ 730,000
Boca Raton Inlet Management Plan Implementation	City of Boca Raton	\$ 0	\$ 421,529	\$ 421,529	\$ 843,058
Jupiter Island Beach Nourishment	Town of Jupiter Island	\$ 0	\$ 132,922	\$ 687,078	\$ 820,000
Bonita Beach Renourishment Project	Lee County	\$ 0	\$ 25,798	\$ 56,702	\$ 82,500
Hillsboro Inlet Management Plan Implementation	Hillsboro Inlet District	\$ 0	\$ 1,666,680	\$ 1,733,320	\$ 3,400,000
Gasparilla Island Beach Erosion Control	Lee County	\$ 0	\$ 410,466	\$ 615,698	\$ 1,026,164
Key Biscayne Beach Erosion Control Project	Dade County	\$ 0	\$ 1,189,218	\$ 1,480,782	\$ 2,670,000
Deerfield / Hillsboro Beach Restoration	Town of Hillsboro Beach	\$ 0	\$ 1,431,500	\$ 1,431,500	\$ 2,863,000
Jupiter Inlet Management Plan Implementation	Jupiter Inlet District	\$ 0	\$ 1,149,300	\$ 1,149,300	\$ 2,298,600
Juno Beach Restoration	Palm Beach County	\$ 0	\$ 1,999,920	\$ 2,800,080	\$ 4,800,000
Ponce De Leon Inlet Management Plan Implementation	Ponce De Leon Port Authority	\$ 750,000	\$ 582,600	\$ 582,600	\$ 1,915,200
South Ameila Island Beach Nourishment	Nassau Soil and Water Conservation District	\$ 0	\$ 75,752	\$ 264,248	\$ 340,000
South Palm Beach Dune Restoration	Palm Beach County	\$ 0	\$ 166,000	\$ 166,000	\$ 332,000
Manasota Key Beach Nourishment	Sarasota County / WCIND	\$ 0	\$ 470,000	\$ 470,000	\$ 940,000
Casey Key Beach Nourishment	Sarasota County	\$ 0	\$ 100,000	\$ 100,000	\$ 200,000
Palm Beach South Shore Protection	Palm Beach County	\$	\$ 354,000	\$ 354,000	\$ 708,000
Little Gasparilla Island Beach Restoration	WCIND	\$ 0	\$ 100,000	\$ 100,000	\$ 200,000
Sebastian Inlet Management	Sebastian Inlet Taxing District	\$ 0	\$ 704,500	\$ 704,500	\$ 1,409,000
Derelict Shore Protection Structure Removal	Sarasota County	\$ 0	\$ 10,000	\$ 10,000	\$ 20,000
North County Shore Protection	Indian River County	\$	\$ 57,300	\$ 142,700	\$ 200,000
Singer Island Shore Protection	Palm Beach County	\$ 0	\$ 569,581	\$ 1,448,419	\$ 2,018,000
Ocean Avenue Revetment Rehabilitation	City of Fernandina Beach	\$ 0	\$ 568,625	\$ 568,625	\$ 1,137,250
Hudson Beach Feasibility Study	Pasco County	\$ 0	\$ 50,000	\$ 50,000	\$ 100,000
TOTALS		\$40,144,232	\$37,175,981	\$41,094,888	\$118,415,101

37,175,979

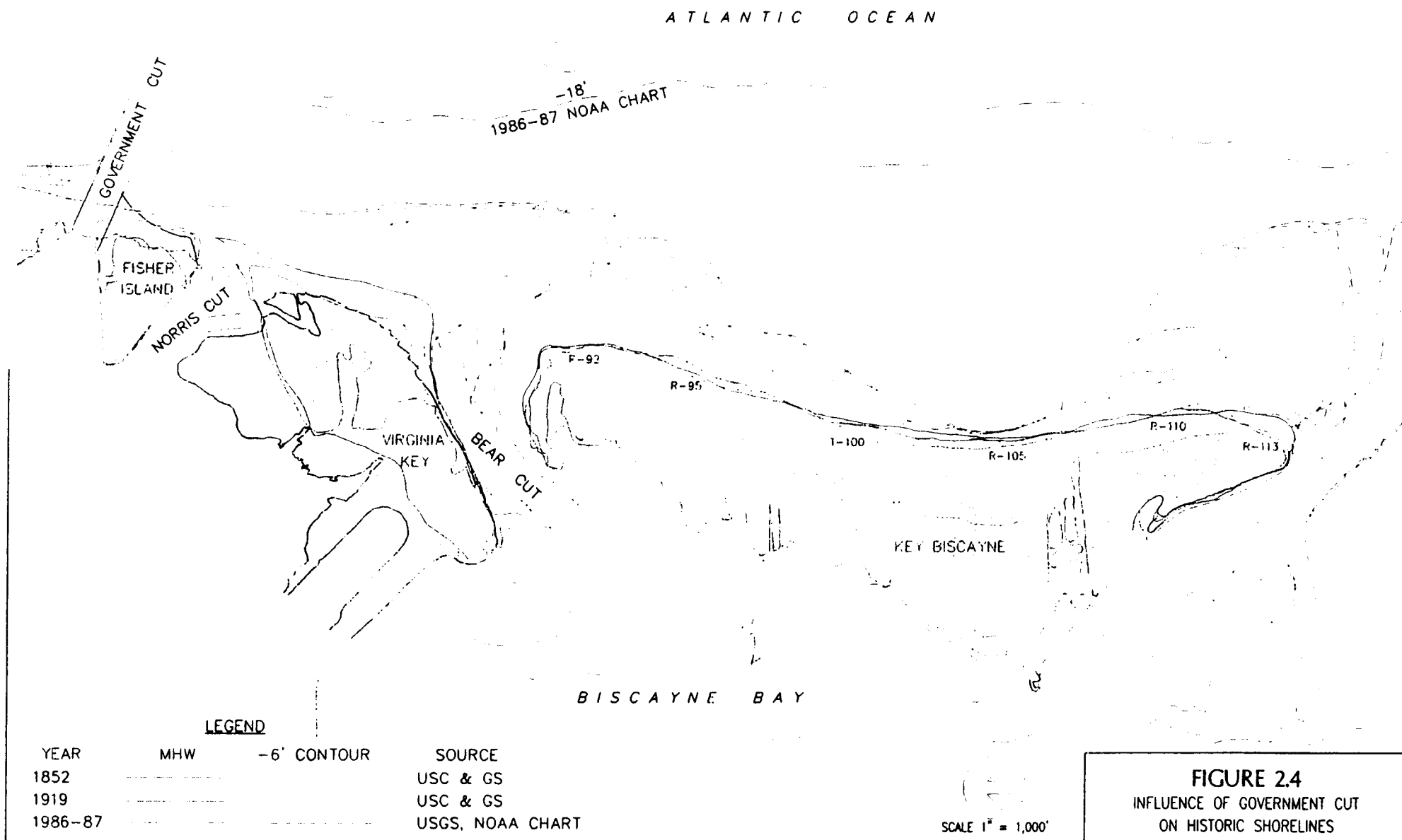
STATISTICAL JUSTIFICATION

FACILITY SERVICE PLANNED USE			NEW USER		NET	
USER STATIONS			EXISTING	STATIONS	SPACE	AREA
TYPE	LOAD	FACTOR	REQUIRED	STATIONS	REQUIRED	FACTOR REQ

SECTION 5 - NATURAL RESOURCES, ENVIRONMENT, GROWTH MANAGEMENT, AND  
TRANSPORTATIONSPECIFIC  
APPROPRIATION

	FROM ECOSYSTEM MANAGEMENT AND RESTORATION TRUST FUND . . . . .	2,143
	FROM GRANTS AND DONATIONS TRUST FUND . . . .	38,027
	FROM INTERNAL IMPROVEMENT TRUST FUND . . . .	3,740
	FROM NON-MANDATORY LAND RECLAMATION TRUST FUND . . . . .	15,957
	FROM PERMIT FEE TRUST FUND . . . . .	5,560
	FROM WATER QUALITY ASSURANCE TRUST FUND . .	19,684
1348	SPECIAL CATEGORIES TRANSFER TO DEPARTMENT OF HEALTH FOR STATE UNDERGROUND PETROLEUM ENVIRONMENTAL RESPONSE ACT FROM INLAND PROTECTION TRUST FUND . . . . .	1,285,197
1349	SPECIAL CATEGORIES U.S. GEOLOGIC SURVEY COOPERATIVE AGREEMENT FROM GRANTS AND DONATIONS TRUST FUND . . . .	78,500
	FROM WATER QUALITY ASSURANCE TRUST FUND . .	214,897
1350	SPECIAL CATEGORIES UNDERGROUND STORAGE TANK CLEANUP FROM INLAND PROTECTION TRUST FUND . . . . .	700,000
1351	SPECIAL CATEGORIES WATER WELL CLEANUP FROM WATER QUALITY ASSURANCE TRUST FUND . .	1,889,202
1352	SPECIAL CATEGORIES TRANSFER TO INSTITUTE OF FOOD AND AGRICULTURE SCIENCES (IFAS) - LAKEWATCH FROM WATER QUALITY ASSURANCE TRUST FUND . .	310,000
1353	SPECIAL CATEGORIES WETLANDS PROTECTION FROM GRANTS AND DONATIONS TRUST FUND . . . .	534,582
1354	DATA PROCESSING SERVICES ENVIRONMENTAL PROTECTION MANAGEMENT INFORMATION CENTER FROM GENERAL REVENUE FUND . . . . .	80,716
	FROM GRANTS AND DONATIONS TRUST FUND . . . .	107,234
	FROM PERMIT FEE TRUST FUND . . . . .	528,658
	FROM WATER QUALITY ASSURANCE TRUST FUND . .	612,392
1355	FIXED CAPITAL OUTLAY NON-MANDATORY LAND RECLAMATION PROJECTS FROM NON-MANDATORY LAND RECLAMATION TRUST FUND . . . . .	10,000,000
1358	FIXED CAPITAL OUTLAY BEACH PROJECTS - STATEWIDE FROM GENERAL REVENUE FUND . . . . .	17,569,581
	FROM COASTAL PROTECTION TRUST FUND . . . . .	14,450,221
	FROM GRANTS AND DONATIONS TRUST FUND . . . .	2,500,000

From the funds in Specific Appropriation 1358,



**FIGURE 2.4**  
INFLUENCE OF GOVERNMENT CUT  
ON HISTORIC SHORELINES

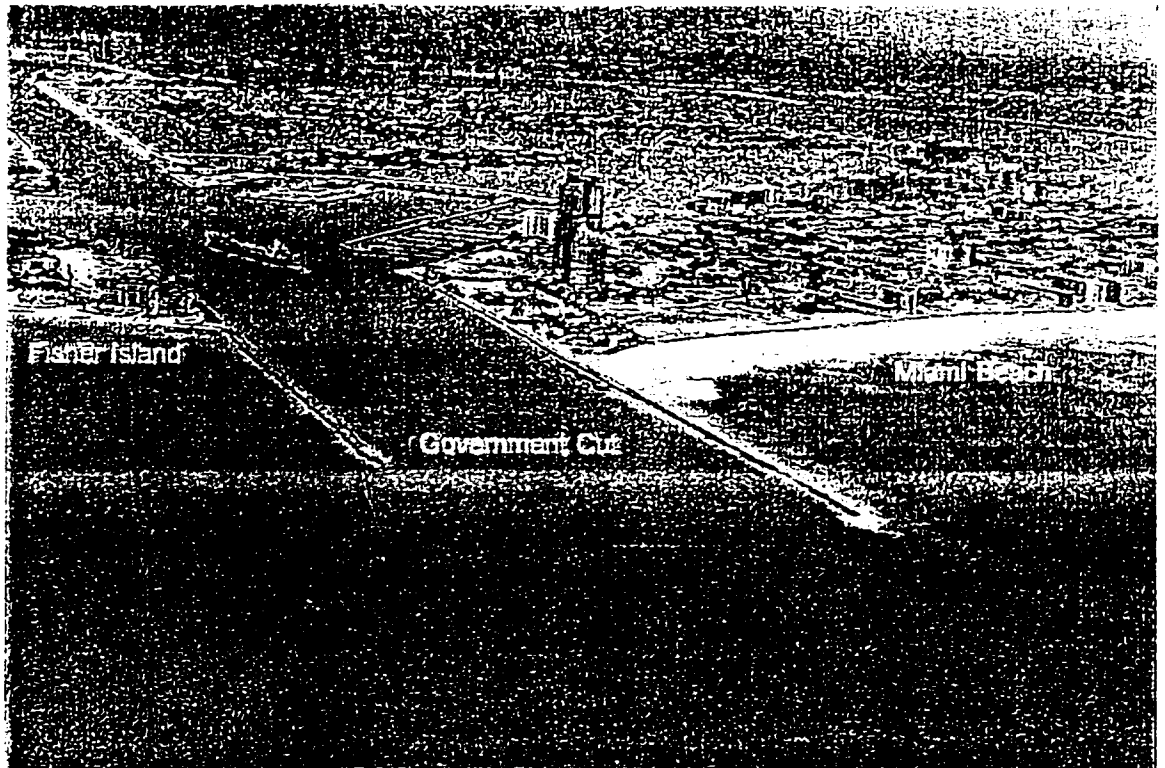


Photo A.1 - View looking westerly into Government Cut and north Biscayne Bay. The Cut separates Miami Beach and Fisher Island.

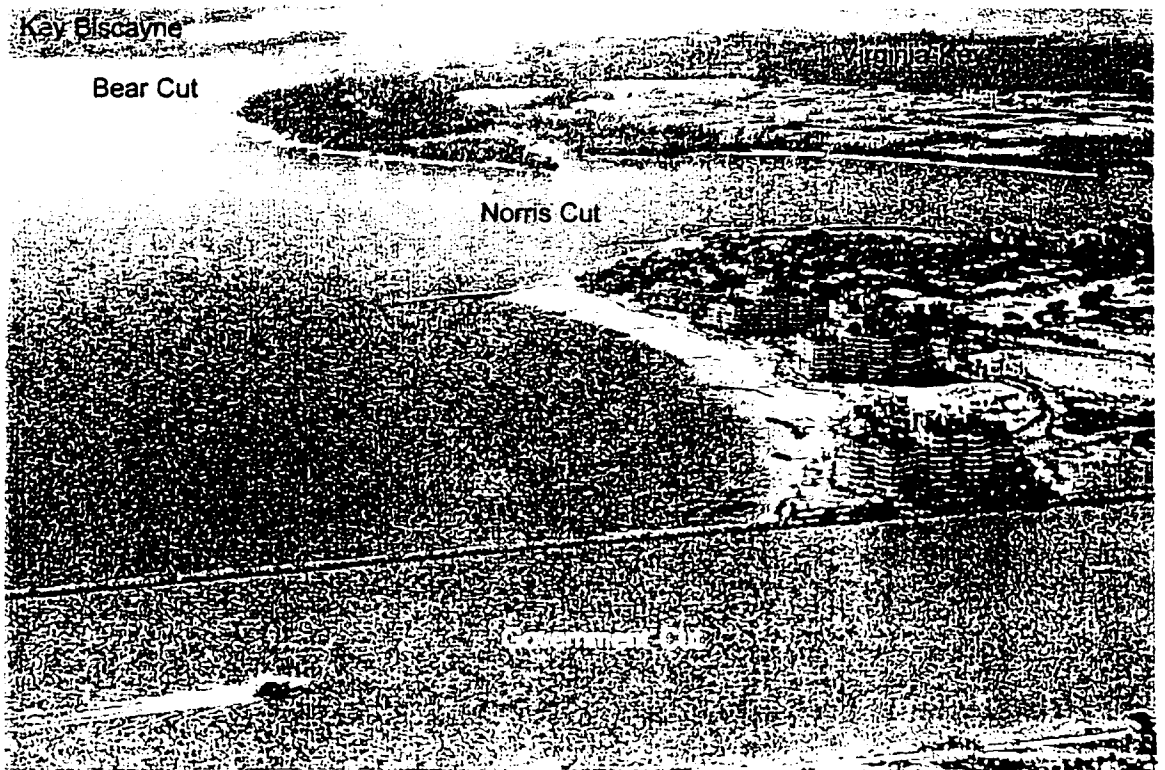
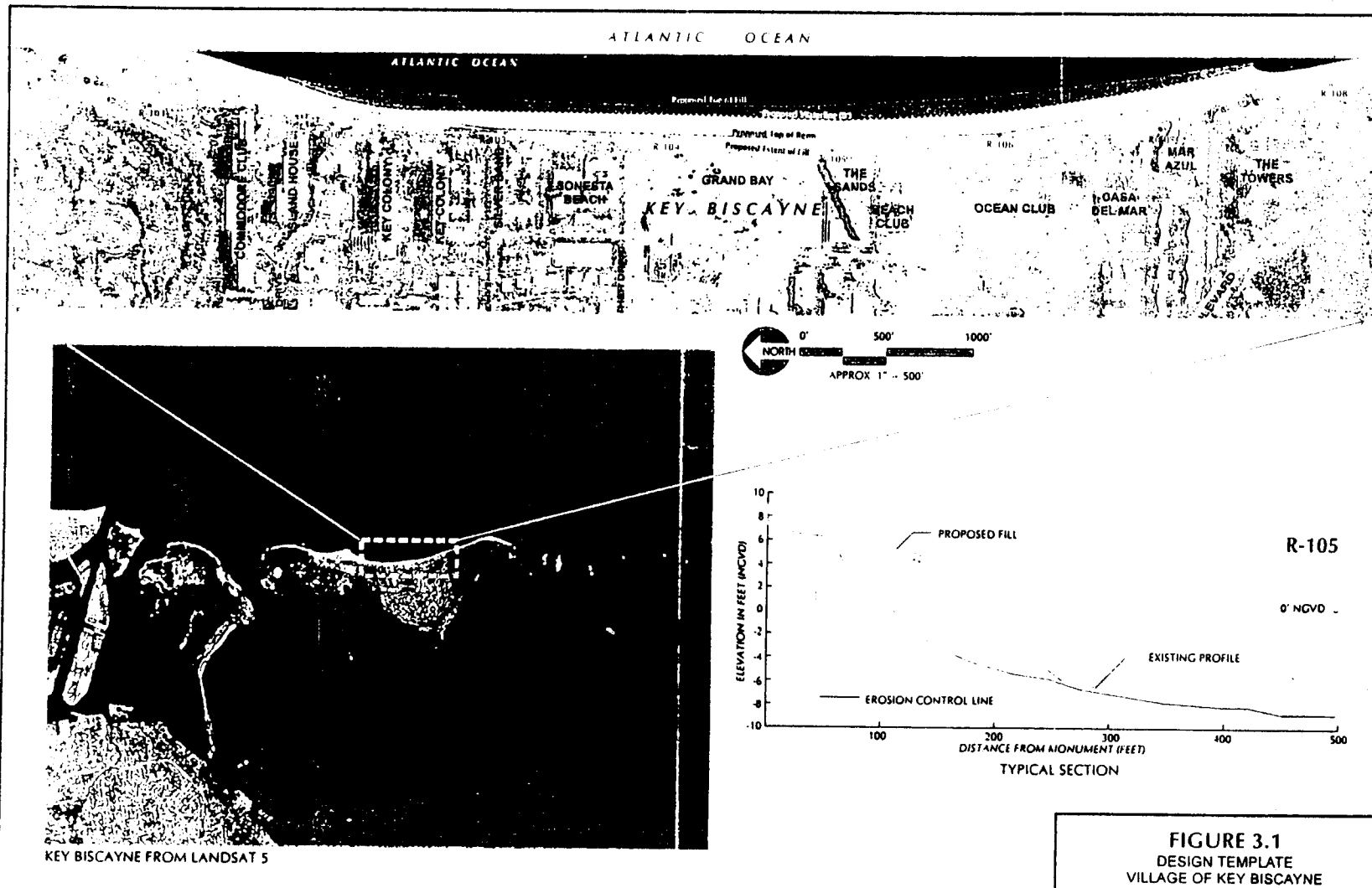


Photo A.2 - Another view of Government Cut looking south-southwesterly with Norris and Bear Cuts beyond separating Fisher Island, Virginia Key, and Key Biscayne.





# **HB 3427 and SB 882**

## **Dedicated Funding for Beach Management**

### **What the Bill Does:**

1. Phases in over three years an allocation of \$30 million annually to fully fund the state share of Florida's Beach Management Plan.
2. The funding would come from an unallocated portion of the documentary stamp tax on real estate transactions that currently goes to general revenue. Thus, no new taxes are required.
3. The money would be transferred to DEP's Ecosystem Management and Restoration Trust Fund.
4. The bill provides that allocations to the trust fund be phased in as follows:
  - \$10 million in FY 1998-99
  - \$20 million in FY 1999-2000
  - \$30 million in FY 2000-01 and each fiscal year thereafter

(Note: This phase-in approach does not preclude the Legislature from appropriating from other sources money for the beach management program in FY 1998-99 and FY 2000-01.)

5. The bill also includes important language of a legislative "finding" that "erosion of the beaches of this state is detrimental to tourism, that state's major industry, further exposes the state's highly developed coastline to severe storm damage, and threatens beach-related jobs, which if not stopped, could significantly reduce state sales tax revenues..."

HOUSE AMENDMENT FOR COMMITTEE PURPOSES

Bill No. HB 3427

Amendment No. 001 (for drafter's use only)

COMMITTEE ACTION

1	ADOPTED	<u>    </u>	<u>    </u>	<u>    </u>	Y	N	:	FAILED TO ADOPT	<u>    </u>	<u>    </u>	<u>    </u>	Y	N
2	ADOPTED AS AMENDED	<u>    </u>	<u>    </u>	<u>    </u>	Y	N	:	WITHDRAWN	<u>    </u>	<u>    </u>	<u>    </u>		
3	ADOPTED w/o OBJECTION	<u>    </u>	<u>    </u>	<u>    </u>			:	OTHER	<u>                    </u>	<u>                    </u>	<u>                    </u>		

4  
5  
6

7 Committee hearing bill: Environmental Protection  
8 Representative(s) Jones and Sembler offered the following:

9

10 Amendment (with title amendment)

11 Remove from the bill: Everything after the enacting clause

12

13 and insert in lieu thereof:

14 WHEREAS, Florida's number one tourist  
15 attraction is its beaches, and

16 WHEREAS, according to the Office of Tourism, Trade, and  
17 Economic Development, some 43 million tourists visited Florida  
18 in 1996, spending \$37.9 billion in taxable sales and creating  
19 781,400 travel-related jobs, and

20 WHEREAS, more than half of all tourists coming to  
21 Florida spend at least part of their vacation on its beaches,  
22 and

23 WHEREAS, in a recent study over 60 percent of the beach  
24 tourists in Broward County said they would not return if there  
25 were no beaches, and

26 WHEREAS, Florida's beaches produce additional state  
27 sales and use tax revenues in excess of \$500 million in 1996,  
28 and

29 WHEREAS, Florida's beaches and dunes provide  
30 environmentally compatible storm protection to both developed  
31 and undeveloped upland property, protecting more than \$150

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1 billion in taxable property values in the state, and

2 WHEREAS, the Legislature in 1986, pursuant to s.  
3 161.088, Florida Statutes, recognized that uncontrolled beach  
4 erosion is a serious threat to the economic and general  
5 welfare of the state and its people and that in many areas  
6 beach erosion had already advanced to emergency proportions,  
7 and

8 WHEREAS, since this declaration over a decade ago, the  
9 health of Florida's beaches has further deteriorated and  
10 continues to deteriorate to such an extent that over one-third  
11 of the state's beaches are now critically eroded or eroding,  
12 are no longer providing effective upland storm protection, and  
13 as a result have lost much of their value to tourism, and

14 WHEREAS, the Legislature recognizes the urgency of the  
15 problem and declares its intent to fund a comprehensive,  
16 long-range beach management plan for erosion control; beach  
17 preservation, restoration, and renourishment; and storm and  
18 hurricane protection, and

19 WHEREAS, the Legislature has already allocated a  
20 portion of the excise tax on documents for beach acquisition  
21 and land management, and

22 WHEREAS, the Legislature has determined that it is also  
23 appropriate to fund the preservation, restoration, and  
24 management of Florida's beaches from the same revenue source,  
25 NOW, THEREFORE,

26  
27 Be It Enacted by the Legislature of the State of Florida:

28  
29 Section 1. Section 161.088, Florida Statutes, is  
30 amended to read:

31 161.088 Declaration of public policy respecting beach

Amendment No. 001 (for drafter's use only)

1 erosion control and beach restoration and renourishment  
2 projects.--Because beach erosion is a serious menace to the  
3 economy and general welfare of the people of this state and  
4 has advanced to emergency proportions, it is hereby declared  
5 to be a necessary governmental responsibility to properly  
6 manage and protect Florida beaches from erosion and that the  
7 Legislature make provision for beach restoration and  
8 renourishment projects. The Legislature declares that such  
9 beach restoration and renourishment projects, as approved  
10 pursuant to s. 161.161 are in the public interest. Given the  
11 extent of the problem of critically-eroding beaches, it is  
12 also declared that beach restoration and renourishment  
13 projects shall be funded in a manner that encourages all cost  
14 saving strategies, fosters regional coordination of projects,  
15 improves the performance of projects, and provides long term  
16 solutions. The Legislature further declares that nothing  
17 herein is intended to reduce or amend the beach protection  
18 programs otherwise established in this chapter or to result in  
19 local governments altering the coastal management elements of  
20 their local government comprehensive plans pursuant to chapter  
21 163.

22 Section 2. Section 161.091, Florida Statutes, is  
23 amended to read:

24 161.091 Beach management; funding; repair and  
25 maintenance strategy.--

26 (1) Subject to such appropriations as the Legislature  
27 may make therefor from time to time, disbursements from the  
28 Ecosystem Management and Restoration Florida-Permit-Fee Trust  
29 Fund may be made by the division subject to the approval of  
30 the department in order to carry out the proper state  
31 responsibilities in a comprehensive, long-range, statewide

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1 beach management plan for erosion control; beach preservation,  
2 beach restoration, and beach renourishment; and storm and  
3 hurricane protection. ~~The department shall make a concerted~~  
4 ~~effort to identify an additional dedicated revenue source to~~  
5 ~~fund the beach management plan.~~

6 (2) ~~In concert with any increased funding,~~ The  
7 department shall develop a corresponding multiyear repair and  
8 maintenance strategy that:

9 (a) Encourage regional approaches to ensure Ensures  
10 the geographic coordination and sequencing of prioritized  
11 projects;

12 (b) Reduces equipment mobilization and demobilization  
13 costs;

14 (c) Maximizes the infusion of beach-quality sand into  
15 the system;

16 (d) Extends the life of beach nourishment projects and  
17 reduces the frequency of renourishment; and

18 (e) Promotes inlet sand bypassing to replicate the  
19 natural flow of sand interrupted by inlets and ports.

20 (3) In accordance with the intent expressed in s.  
21 161.088 and the legislative finding that erosion of the  
22 beaches of this state is detrimental to tourism, the state's  
23 major industry, further exposes the state's highly developed  
24 coastline to severe storm damage, and threatens beach-related  
25 jobs, which, if not stopped, could significantly reduce state  
26 sales tax revenues, funds deposited into the State Treasury to  
27 the credit of the Ecosystem Management and Restoration Trust  
28 Fund, in the annual amounts provided in s. 201.15(8), shall be  
29 used, for a period of not less than 15 years, to fund the  
30 development, implementation, and administration of the state's  
31 beach management plan, as provided in ss. 161.091-161.212,

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1 prior to the use of funds in that trust fund for any other  
2 purpose.

3 Section 3. Section 161.101, Florida Statutes, is  
4 amended to read:

5 161.101 State and local participation in authorized  
6 projects and studies relating to beach management and erosion  
7 control.--

8 (1) The Legislature recognizes that beach erosion is a  
9 statewide problem that does not confine its effects to local  
10 governmental jurisdictions and that beach erosion can be  
11 adequately addressed most efficiently by a state-initiated  
12 program of beach restoration and beach renourishment. However,  
13 since local beach communities derive the primary benefits from  
14 the presence of adequate beaches, a program of beach  
15 restoration and beach renourishment should not be accomplished  
16 without a commitment of local funds to combat the problem of  
17 beach erosion. Accordingly, the Legislature declares that the  
18 state, through the department, shall determine those beaches  
19 which are critically eroding and in need of restoration and  
20 renourishment and may authorize appropriations to pay up to 75  
21 percent of the actual costs for restoring and renourishing a  
22 critically eroded beach. The local government in which the  
23 beach is located shall be responsible for the balance of such  
24 costs.

25 (2) To carry out the beach and shore preservation  
26 programs, the department is hereby constituted as the beach  
27 and shore preservation authority for the state. In this  
28 capacity, the secretary of the department may at his or her  
29 own initiative take all necessary steps as soon as practicable  
30 and desirable to implement the provisions of this chapter.

31 (3) Whenever a beach erosion control project has been

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1 authorized by Congress for federal financial participation in  
2 accordance with any Act of Congress relating to beach erosion  
3 control in which nonfederal participation is required, it  
4 shall be the policy of the state to assist with an equitable  
5 share of such funds to the extent that funds are available, as  
6 determined by the department.

7 (4) The department, for itself or on behalf of any and  
8 all duly established beach and shore preservation districts  
9 and local governments within the state, may enter into  
10 cooperative agreements and otherwise cooperate with, and meet  
11 the requirements and conditions (including, but not limited  
12 to, execution of indemnification agreements) of, federal,  
13 state, and other local governments and political entities, or  
14 any agencies or representatives thereof, for the purpose of  
15 improving, furthering, and expediting the beach management  
16 program.

17 (5) The department is authorized, for and on behalf of  
18 the state, to accept such federal moneys for beach erosion  
19 control as are available and to sign all necessary agreements  
20 therefor and to do and perform all necessary acts in  
21 connection therewith to effectuate the intent and purposes of  
22 this act.

23 (6) The department is authorized to make application  
24 for federal participation in the cost of any beach and shore  
25 preservation project under any Acts of Congress and all  
26 amendments thereto.

27 (7) The department is authorized to implement regional  
28 components of the beach management plan pursuant to ss.  
29 161.091 and 161.161, and where appropriate to enter into  
30 agreements with the federal government, inlet districts, port  
31 authorities, intercoastal waterway districts, and local



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1 governments to cost share and coordinate such activity.

2 (8) The department is authorized to sponsor or  
3 cosponsor demonstration projects of new or innovative  
4 technologies which has the potential to reduce project costs,  
5 conserve beach quality sand, extend the life of beach  
6 nourishment projects, and improve inlet sand bypassing  
7 pursuant to s. 161.091.

8 (9) {7} The department is authorized to pay up to 100  
9 percent of the construction and maintenance costs of projects  
10 authorized for construction pursuant to subsection (11) when  
11 construction and maintenance are on lands of which the state  
12 is the upland riparian owner.

13 (10) {8} With regard to a project approved in  
14 accordance with s. 161.161, the department is authorized to  
15 pay from legislative appropriations specifically provided for  
16 these purposes an amount up to 75 percent of the actual costs  
17 of the approved project, including, but not limited to, the  
18 costs for:

19 (a) Project design engineering and construction  
20 supervision and inspection;

21 (b) Biological monitoring;

22 (c) Inlet sand transfer projects;

23 (d) Dune revegetation and stabilization;

24 (e) Restoration, renourishment, or feeder beach  
25 project costs;

26 (f) Construction easements, rights-of-way, public  
27 access easements, and vehicle parking spaces;

28 (g) Obtaining required permits;

29 (h) Establishing erosion control lines;

30 (i) Enhancement of marine turtle propagation; and

31 (j) Sand-source studies.

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1        (11) ~~(9)~~ The intent of the Legislature in preserving  
2 and protecting Florida's sandy beaches pursuant to this act is  
3 to direct beach erosion control appropriations to the state's  
4 most severely eroding beaches, and to prevent further adverse  
5 impact caused by navigation inlets, coastal armoring, or  
6 existing upland development. In establishing annual project  
7 funding priorities, the department shall seek formal input  
8 from local coastal governments, beach and general government  
9 interest groups, and university experts. Criteria to be  
10 considered by the department in determining annual funding  
11 priorities shall include:

12            (a) The severity of erosion conditions, the threat to  
13 existing upland development, and recreational and/or economic  
14 benefits.

15            (b) The availability of federal matching dollars.

16            (c) The extent of local government sponsor financial  
17 and administrative administration commitment to the project,  
18 including a long-term financial plan with a designated funding  
19 source or sources for initial construction and periodic  
20 maintenance.

21            (d) Previous state commitment and involvement in the  
22 project.

23            (e) The anticipated physical performance of the  
24 proposed project, including the frequency of periodic planned  
25 renourishment.

26            (f) The extent to which the proposed project mitigates  
27 the adverse impact of navigation inlets on adjacent beaches.

28            (g) Innovative, cost-effective, and environmentally  
29 sensitive applications to reduce erosion.

30            (h) Proposed beach nourishment projects that provide  
31 enhanced habitat within or adjacent to designated refuges of

Amendment No. 001 (for drafter's use only)

1 nesting sea turtles.

2 (i) The extent to which local or regional sponsors of  
3 beach erosion control projects agree to coordinate the  
4 planning, design, and construction of their projects to take  
5 advantage of identifiable cost savings.

6 (12) {+0} Until the unmet demand for repairing  
7 Florida's damaged beaches and dunes is satisfied, it is the  
8 further intent of the Legislature to cost-share such projects  
9 equally between the state and local sponsors.

10 (13) In order to encourage regional approaches that  
11 provide cost savings, and notwithstanding subsection (12),  
12 actual cost savings that can be documented as resulting from  
13 geographic coordination and sequencing of two or more discrete  
14 erosion control projects shall proportionally reduce each  
15 local sponsor's cost share as long as the state financial  
16 participation does not exceed 75 percent as provided by  
17 subsection (10).

18 (14) {++} The selection of a project engineer  
19 acceptable to the department by local government as project  
20 sponsor shall be on the basis of competitive negotiation as  
21 provided in chapter 287. The project sponsor shall assume full  
22 responsibility for all project costs in excess of the state  
23 cost limitation.

24 (15) {+2} A local government desiring to initiate and  
25 pay the entire cost of designing, constructing, and  
26 maintaining an erosion control project prior to the state's  
27 initiating such construction may be reimbursed from state  
28 funds on the basis of the procedures set forth in s. 161.161,  
29 provided the project is approved by the department before  
30 initiation of construction and based on legislative  
31 appropriations and whether it furthers the provisions of s.

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1 161.161. Such local interests shall, as project sponsor, be  
2 responsible for obtaining federal reimbursement in the case of  
3 federal-aid projects.

4 (16) ~~(+3)~~ The department may expend funds from the  
5 Ecosystem Management and Restoration Trust Fund to alleviate  
6 emergency conditions, upon a declaration, after a hearing, by  
7 the Governor and Cabinet that a shoreline emergency of state  
8 concern exists. Any expenditures made for this purpose shall  
9 be pursuant to legislative appropriations or from amendments  
10 to original approved operating budgets authorized pursuant to  
11 s. 216.181.

12 (17) ~~(+4)~~ Twenty-five percent of any funds  
13 appropriated for implementation of this section shall be held  
14 by the department until the last quarter of the fiscal year  
15 for which the appropriation is made. This amount shall be  
16 used to meet emergencies prescribed in subsection (11). If no  
17 such emergencies occur, then these funds may be released in  
18 the last quarter of the fiscal year in which the appropriation  
19 is made for projects.

20 (18) ~~(+5)~~ The department shall maintain a current  
21 project listing and may, in its discretion and dependent upon  
22 the availability of local resources and changes in the  
23 criteria listed in s. 161.161, revise the project listing.

24 Section 4. Section 161.161, Florida Statutes, is  
25 amended to read:

26 161.161 Procedure for approval of projects.--

27 (1) The division shall develop and maintain a  
28 comprehensive long-term management plan for the restoration of  
29 the state's critically eroding beaches. The beach management  
30 plan shall:

31 (a) Address long-term solutions to the problem of

Amendment No. 001 (for drafter's use only)

1 critically eroding beaches in this state.

2 (b) Evaluate each improved coastal beach inlet and  
3 determine whether the inlet is a significant cause of beach  
4 erosion. With respect to each inlet determined to be a  
5 significant cause of beach erosion, the plan must include:

6 1. The extent to which such inlet causes beach erosion  
7 and recommendations to mitigate the erosive impact of the  
8 inlet, including, but not limited to, recommendations  
9 regarding inlet sediment bypassing; modifications to channel  
10 dredging, jetty design, and disposal of spoil material;  
11 establishment of feeder beaches; and beach restoration and  
12 beach renourishment; and

13 2. Cost estimates necessary to take inlet corrective  
14 measures and recommendations regarding cost sharing among the  
15 beneficiaries of such inlet.

16 (c) Specify design criteria for beach restoration and  
17 beach renourishment projects, including, but not limited to:

18 1. Dune elevation and width and revegetation and  
19 stabilization requirements; and

20 2. Beach profile.

21 (d) Evaluate the establishment of feeder beaches as an  
22 alternative to direct beach restoration and recommend the  
23 location of such feeder beaches and the source of  
24 beach-compatible sand.

25 (e) Identify causes of shoreline erosion and change,  
26 calculate erosion rates, and project long-term erosion for all  
27 major beach and dune systems by surveys and profiles.

28 (f) Identify shoreline development and degree of  
29 density and assess impacts of development and shoreline  
30 protective structures on shoreline change and erosion.

31 (g) Identify short-term and long-term economic costs

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1 and benefits of beaches, including recreational value to user  
2 groups, tax base, revenues generated, and beach acquisition  
3 and maintenance costs.

4 (h) Study dune and vegetation conditions.

5 (i) Identify beach areas used by marine turtles and  
6 develop strategies for protection of the turtles and their  
7 nests and nesting locations.

8 (j) Identify alternative management responses to  
9 preserve undeveloped beach and dune systems, to restore  
10 damaged beach and dune systems, and to prevent inappropriate  
11 development and redevelopment on migrating beaches, and  
12 consider beach restoration and renourishment, armoring,  
13 relocation and abandonment, dune and vegetation restoration,  
14 and acquisition.

15 (k) Establish criteria, including costs and specific  
16 implementation actions, for alternative management techniques.

17 (l) Select and recommend appropriate management  
18 measures for all of the state's sandy beaches in a beach  
19 management program.

20 (m) From the beach management plan, establish a list  
21 of beach restoration and beach renourishment projects,  
22 arranged in order of priority, and the funding levels needed  
23 for such projects.

24  
25 The beach management plan may be prepared at the regional  
26 district level based upon areas of greatest need and probable  
27 federal funding. Such district plans shall be components of  
28 the statewide beach management plan and shall serve as the  
29 basis for state funding decisions upon approval in accordance  
30 with chapter 86-138, Laws of Florida. In accordance with a  
31 schedule established for the submission of district plans by

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1 the department, any completed plan must be submitted to the  
2 secretary of the department for approval no later than March 1  
3 of each year. These regional district-level plans shall  
4 include, but shall not be limited to, recommendations of  
5 appropriate funding mechanisms for implementing projects in  
6 the beach management plan, giving consideration to the use of  
7 single-county and multicounty taxing districts or other  
8 revenue generation measures by state and local governments and  
9 the private sector. Prior to presenting the plan to the  
10 secretary of the department, the department shall hold a  
11 public meeting in the areas or-district for which the plan is  
12 prepared. The district plan submission schedule shall be  
13 submitted to the secretary for approval. Any revisions to such  
14 schedule must be approved in like manner.

15 (2) In establishing the recommended list of  
16 restoration and renourishment projects described in subsection  
17 (1), the division shall consider and balance the following  
18 criteria:

19 (a) The estimated demand user-occasions that would be  
20 served by increased beach area;

21 (b) The extent of existing and threatened damage to  
22 property from beach erosion;

23 (c) The prospect for long-term success of the  
24 restoration or renourishment project, as measured by the  
25 anticipated amount and frequency of future renourishment;

26 (d) The location of the beach relative to the  
27 statewide effort to control the erosion of the beaches;

28 (e) The total anticipated costs of the project,  
29 including the costs for restoration and for periodic  
30 renourishment;

31 (f) The proximity of an adequate source of

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1 beach-compatible sand;

2 (g) The quality of the sand proposed to be used;

3 (h) The degree of public access to the beach,  
4 including adequate vehicle parking or consolidated public  
5 access points, taking into account existing access points and  
6 local public access needs;

7 (i) The extent of public support for the project;

8 (j) The anticipated impact of the project on natural  
9 resources, including, but not limited to, impacts on coral,  
10 worm and rock reefs, submerged and emergent vegetation,  
11 fishing resources, and turtle nesting;

12 (k) The extent to which the local governments in the  
13 area of the project have enacted ordinances or other  
14 regulations to protect sea turtles from the adverse effects of  
15 beachfront lighting.

16  
17 The extent to which the foregoing criteria are addressed in a  
18 net positive manner shall result in a greater priority being  
19 assigned to those projects. In addition to consideration of  
20 criteria listed in this subsection, a project, in order to  
21 receive state funds, must provide for public access in  
22 substantial compliance with paragraph (h) and must provide for  
23 protection for those historically established habitats  
24 identified in paragraph (j) and for endangered and threatened  
25 species.

26 (3) Upon approval of the beach restoration management  
27 plan by the department, the secretary shall present to the  
28 Legislature recommendations for funding of beach erosion  
29 control projects. Such recommendations, compiled by region,  
30 shall be presented to the Legislature in the priority order  
31 specified in the plan and established pursuant to criteria



Amendment No. 001 (for drafter's use only)

1 contained in subsection (2) and s. 161.101(11) Board-of  
2 Trustees-of-the-Internal-Improvement-Trust-Fund-written  
3 recommendations-for-the-funding-of-the-beach-restoration-and  
4 beach-renourishment-projects-according-to-the-priority  
5 specified-in-the-beach-restoration-management-plan.-Each-year  
6 thereafter,-the-department-shall-present-to-the-head-of-the  
7 department-written-recommendations-for-the-funding-of-those  
8 projects-that-remain-in-need-of-restoration-and-renourishment  
9 pursuant-to-the-approved-list.

10 (4) Upon receipt of the written recommendation and  
11 certification from the department with respect to a project,  
12 the board of trustees shall decide whether, in light of  
13 existing needs throughout the state, the project should be  
14 pursued. -- In determining whether Once a project is determined  
15 to should be undertaken, the board of trustees shall consider  
16 the criteria specified in this section relative to the  
17 project. -- If the board of trustees determines that a project  
18 should be pursued, it shall forthwith conduct a survey of all  
19 or part of the shoreline within the jurisdiction of the local  
20 government in which the beach is located shall be conducted in  
21 order to establish the area of beach to be protected by the  
22 project and locate an erosion control line. No provision of  
23 ss. 161.141-161.211 shall be construed as preventing a local  
24 government from participating in the funding of erosion  
25 control projects or surveys undertaken in accordance with the  
26 provisions of ss. 161.141-161.211. In lieu of conducting a  
27 survey, the board of trustees may accept and approve a survey  
28 as initiated, conducted, and submitted by the appropriate  
29 local government if said survey is made in conformity with the  
30 appropriate principles set forth in ss. 161.141-161.211.

31 (5) Upon completion of the survey depicting the area

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1 of the beach erosion control project and the proposed location  
2 of the erosion control line, the board of trustees shall give  
3 notice of the survey and the date on which the board of  
4 trustees will hold a public hearing for the purpose of  
5 receiving evidence on the merits of the proposed project and,  
6 if approval is granted, of locating and establishing such  
7 requested erosion control line. Such notice shall be by  
8 publication in a newspaper of general circulation published in  
9 the county or counties in which the proposed beach erosion  
10 control project shall be located not less than once a week for  
11 3 consecutive weeks and by mailing copies of such notice by  
12 certified or registered mail to each riparian owner of record  
13 of upland property lying within 1,000 feet (radial distance)  
14 of the shoreline to be extended through construction of the  
15 proposed beach erosion control project, as his or her name and  
16 address appear upon the latest tax assessment roll, in order  
17 that any persons who have an interest in the beach erosion  
18 control project or in the location of such requested erosion  
19 control line can be present at such hearing to submit their  
20 views concerning necessity for the project and the precise  
21 location of the proposed erosion control line. Such notice  
22 shall be in addition to any notice requirement in chapter 120.

23 (6) The board of trustees shall approve or disapprove  
24 the beach restoration or beach renourishment project as it  
25 affects sovereignty lands. If approval is granted, the  
26 secretary shall authorize the expenditure from legislative  
27 appropriations specifically provided for these purposes of the  
28 amount necessary to pay for up to 75 percent of the costs of  
29 the project, and the board of trustees shall establish the  
30 location of the erosion control line. In locating said line,  
31 the board of trustees shall be guided generally by the

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1 existing line of mean high water, bearing in mind the  
2 requirements of proper engineering in the erosion control  
3 project, the extent to which erosion or avulsion has occurred,  
4 and the need to protect existing ownership of as much upland  
5 as is reasonably possible.

6 (7) In no event shall the department undertake a beach  
7 restoration or beach renourishment project pursuant to chapter  
8 86-138, Laws of Florida, where a local share is required  
9 without the approval of the local government or governments  
10 responsible for that local share.

11 (8) The department shall adopt rules for reviewing and  
12 determining projects eligible for state funds.

13 ~~(9)--The intent of the legislature in preserving and~~  
14 ~~protecting Florida's sandy beaches pursuant to this act is to~~  
15 ~~direct beach erosion control appropriations to the state's~~  
16 ~~most severely eroding beaches, and to prevent further adverse~~  
17 ~~impact caused by navigation inlets, coastal armoring, or~~  
18 ~~existing upland development.--In establishing annual project~~  
19 ~~funding priorities, the department shall seek formal input~~  
20 ~~from local coastal governments, beach and general government~~  
21 ~~interest groups, and university experts.--Criteria to be~~  
22 ~~considered by the department in determining annual funding~~  
23 ~~priorities shall include:~~

24 ~~(a)--The severity of erosion conditions, the threat to~~  
25 ~~existing upland development, and recreational and/or economic~~  
26 ~~benefits;~~

27 ~~(b)--The availability of federal matching dollars;~~

28 ~~(c)--The extent of local government sponsor financial~~  
29 ~~and administration commitment to the project;~~

30 ~~(d)--Previous state commitment and involvement in the~~  
31 ~~project;~~

HOUSE AMENDMENT FOR COMMITTEE PURPOSES

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~~(e)--The-anticipated-physical-performance-of-the  
proposed-project,-including-the-frequency-of-periodic-planned  
renourishment-~~

~~(f)--The-extent-to-which-the-proposed-project-mitigates  
the-adverse-impact-of-navigation-inlets-on-adjacent-beaches-~~

~~(g)--Innovative,-cost-effective,-and-environmentally  
sensitive-applications-to-reduce-erosion-~~

~~(+0)--Until-the-unmet-demand-for-repairing-Florida's  
damaged-beaches-and-dunes-is-satisfied,-it-is-the-further  
intent-of-the-legislature-to-cost-share-such-projects-equally  
between-the-state-and-local-sponsors--~~

Section 5. Section 201.15, Florida Statutes, is  
amended to read:

201.15 Distribution of taxes collected.--All taxes  
collected under this chapter shall be subject to the service  
charge imposed in s. 215.20(1) and shall be distributed as  
follows:

(1) Sixty-two and sixty-three hundredths percent of  
the remaining taxes collected under this chapter shall be used  
for the following purposes:

(a) Subject to the maximum amount limitations set  
forth in this paragraph, an amount as shall be necessary to  
pay the debt service on, or fund debt service reserve funds,  
rebate obligations, or other amounts with respect to bonds  
issued pursuant to s. 375.051 and payable from moneys  
transferred to the Land Acquisition Trust Fund pursuant to  
this paragraph shall be paid into the State Treasury to the  
credit of the Land Acquisition Trust Fund to be used for such  
purposes. The amount transferred to the Land Acquisition Trust  
Fund shall not exceed \$90 million in fiscal year 1992-1993,  
\$120 million in fiscal year 1993-1994, \$150 million in fiscal

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1 year 1994-1995, \$180 million in fiscal year 1995-1996, \$210  
2 million in fiscal year 1996-1997, \$240 million in fiscal year  
3 1997-1998, \$270 million in fiscal year 1998-1999, and \$300  
4 million in fiscal year 1999-2000 and thereafter. No individual  
5 series of bonds may be issued pursuant to this paragraph  
6 unless the first year's debt service for such bonds is  
7 specifically appropriated in the General Appropriations Act.  
8 No moneys transferred to the Land Acquisition Trust Fund  
9 pursuant to this paragraph, or earnings thereon, shall be used  
10 or made available to pay debt service on the Save Our Coast  
11 revenue bonds.

12 (b) The remainder of the moneys distributed under this  
13 subsection, after the required payment under paragraph (a),  
14 shall be paid into the State Treasury to the credit of the  
15 Land Acquisition Trust Fund and may be used for any purpose  
16 for which funds deposited in the Land Acquisition Trust Fund  
17 may lawfully be used. Payments made under this paragraph  
18 shall continue until the cumulative amount credited to the  
19 Land Acquisition Trust Fund for the fiscal year under this  
20 paragraph and paragraph (2)(b) equals 70 percent of the  
21 current official forecast for distributions of taxes collected  
22 under this chapter pursuant to subsection (2). As used in  
23 this paragraph, the term "current official forecast" means the  
24 most recent forecast as determined by the Revenue Estimating  
25 Conference. If the current official forecast for a fiscal  
26 year changes after payments under this paragraph have ended  
27 during that fiscal year, no further payments are required  
28 under this paragraph during the fiscal year.

29 (c) The remainder of the moneys distributed under this  
30 subsection, after the required payments under paragraphs (a)  
31 and (b), shall be paid into the State Treasury to the credit

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1 of the General Revenue Fund of the state to be used and  
2 expended for the purposes for which the General Revenue Fund  
3 was created and exists by law or to the Ecosystem Management  
4 and Restoration Trust Fund as provided in subsection (8).

5 (2) Seven and fifty-six hundredths percent of the  
6 remaining taxes collected under this chapter shall be used for  
7 the following purposes:

8 (a) Beginning in the month following the final payment  
9 for a fiscal year under paragraph (1)(b), available moneys  
10 shall be paid into the State Treasury to the credit of the  
11 General Revenue Fund of the state to be used and expended for  
12 the purposes for which the General Revenue Fund was created  
13 and exists by law or to the Ecosystem Management and  
14 Restoration Trust Fund as provided in subsection (8). Payments  
15 made under this paragraph shall continue until the cumulative  
16 amount credited to the General Revenue Fund for the fiscal  
17 year under this paragraph equals the cumulative payments made  
18 under paragraph (1)(b) for the same fiscal year.

19 (b) The remainder of the moneys distributed under this  
20 subsection shall be paid into the State Treasury to the credit  
21 of the Land Acquisition Trust Fund. Sums deposited in the  
22 fund pursuant to this subsection may be used for any purpose  
23 for which funds deposited in the Land Acquisition Trust Fund  
24 may lawfully be used.

25 (3) One and ninety-four hundredths percent of the  
26 remaining taxes collected under this chapter shall be paid  
27 into the State Treasury to the credit of the Land Acquisition  
28 Trust Fund. Moneys deposited in the trust fund pursuant to  
29 this section shall be used for the following purposes:

30 (a) Sixty percent of the moneys shall be used to  
31 acquire coastal lands or to pay debt service on bonds issued

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1 to acquire coastal lands; and

2 (b) Forty percent of the moneys shall be used to  
3 develop and manage lands acquired with moneys from the Land  
4 Acquisition Trust Fund.

5 (4) Five and eighty-four hundredths percent of the  
6 remaining taxes collected under this chapter shall be paid  
7 into the State Treasury to the credit of the Water Management  
8 Lands Trust Fund. Sums deposited in that fund may be used for  
9 any purpose authorized in s. 373.59.

10 (5) Five and eighty-four hundredths percent of the  
11 remaining taxes collected under this chapter shall be paid  
12 into the State Treasury to the credit of the Conservation and  
13 Recreation Lands Trust Fund to carry out the purposes set  
14 forth in s. 259.032.

15 (6) Seven and fifty-three hundredths percent of the  
16 remaining taxes collected under this chapter shall be paid  
17 into the State Treasury to the credit of the State Housing  
18 Trust Fund and shall be used as follows:

19 (a) Half of that amount shall be used for the purposes  
20 for which the State Housing Trust Fund was created and exists  
21 by law.

22 (b) Half of that amount shall be paid into the State  
23 Treasury to the credit of the Local Government Housing Trust  
24 Fund and shall be used for the purposes for which the Local  
25 Government Housing Trust Fund was created and exists by law.

26 (7) Eight and sixty-six hundredths percent of the  
27 remaining taxes collected under this chapter shall be paid  
28 into the State Treasury to the credit of the State Housing  
29 Trust Fund and shall be used as follows:

30 (a) Twelve and one-half percent of that amount shall  
31 be deposited into the State Housing Trust Fund and be expended

HOUSE AMENDMENT FOR COMMITTEE PURPOSES

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1 by the Department of Community Affairs and by the Florida  
2 Housing Finance Agency for the purposes for which the State  
3 Housing Trust Fund was created and exists by law.

4 (b) Eighty-seven and one-half percent of that amount  
5 shall be distributed to the Local Government Housing Trust  
6 Fund and shall be used for the purposes for which the Local  
7 Government Housing Trust Fund was created and exists by law.  
8 Funds from this category may also be used to provide for state  
9 and local services to assist the homeless.

10 (8) From the moneys specified in paragraphs (1)(c) and  
11 (2)(a) and prior to deposit of any moneys into the General  
12 Revenue Fund, \$10 million shall be paid into the State  
13 Treasury to the credit of the Ecosystem Management and  
14 Restoration Trust Fund in fiscal year 1998-1999, \$20 million  
15 in fiscal year 1999-2000, and \$30 million in fiscal year  
16 2000-2001 and each fiscal year thereafter, to be used for the  
17 preservation and repair of the state's beaches as provided in  
18 ss. 161.091-161.212.

19 (9)(b) The Department of Revenue may use the payments  
20 credited to trust funds pursuant to paragraphs (1)(b) and  
21 (2)(b) and subsections (3), (4), (5), (6), and (7) to pay the  
22 costs of the collection and enforcement of the tax levied by  
23 this chapter. The percentage of such costs which may be  
24 assessed against a trust fund is a ratio, the numerator of  
25 which is payments credited to that trust fund under this  
26 section and the denominator of which is the sum of payments  
27 made under paragraphs (1)(b) and (2)(b) and subsections (3),  
28 (4), (5), (6), and (7).

29 Section 6. This act shall take effect July 1 of the  
30 year in which enacted.  
31



Amendment No. 001 (for drafter's use only)

1 ===== T I T L E A M E N D M E N T =====

2 And the title is amended as follows:

3 On page 1, line 3 through line 15

4 remove from the title of the bill: all of said lines

5

6 and insert in lieu thereof:

7 management; amending s. 161.088, F.S.;

8 providing a legislative declaration that beach

9 restoration and renourishment projects are in

10 the public interest and shall be funded in a

11 specified manner; amending s. 161.091, F.S.;

12 providing for funding of the state's beach

13 management plan through the Ecosystem

14 Management and Restoration Trust Fund;

15 providing that designated funds be deposited in

16 the trust fund and that funds in the trust fund

17 be used to fully implement the beach management

18 plan prior to being used for any other purpose;

19 amending s. 161.101, F.S.; authorizing the

20 Department of Environmental Protection to

21 implement regional components of the beach

22 management plan, to enter into agreements to

23 cost share and coordinate such activity, and to

24 sponsor or cosponsor beach management

25 demonstration projects; providing criteria to

26 be considered in determining annual funding

27 priorities for beach management projects;

28 providing for reductions in local sponsors'

29 cost shares; amending s. 161.161, F.S.;

30 providing for regional components of the

31 statewide beach management plan; providing for

HOUSE AMENDMENT FOR COMMITTEE PURPOSES

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1 submission of funding recommendations to the  
2 Legislature; deleting obsolete provisions;  
3 amending s. 201.15, F.S.; providing for  
4 appropriation of certain documentary stamp tax  
5 revenues to the trust fund for purposes of  
6 beach preservation and repair; providing an  
7 effective date.

Amendment No. 3 (for drafter's use only)

## COMMITTEE ACTION

1	ADOPTED	Y	N	:	FAILED TO ADOPT	Y	N
2	ADOPTED AS AMENDED	Y	N	:	WITHDRAWN		
3	ADOPTED w/o OBJECTION			:	OTHER		

Committee hearing bill: General Government Appropriations  
Representative(s) Mackey offered the following:

Amendment (with title amendment)

On page 24, line 3, of the bill

insert: new Section 6.

Section 6. There are hereby appropriated to the Department of Environmental Protection, (six positions) and \$449,918 for FY 1998-99 from the Ecosystems Management and Restoration Trust Fund from revenues provided by this act pursuant to s. 201.15(8). These positions and funding are provided to assist local project sponsors, and shall be used to facilitate and promote enhanced beach erosion control project administration. Such staffing resources shall be directed toward more efficient contract development and oversight, promoting cost-sharing strategies and regional coordination or projects among local governments, providing assistance to local governments to ensure timely permit review, and improving billing review and disbursement processes.

Upon implementation of the Governor's Building Codes Study Commission recommendations pertaining to coastal construction, and the adoption of those recommendations by local governments, the department shall delegate the coastal

Amendment No. 3 (for drafter's use only)

construction building codes review pursuant to s. 161.053,  
Florida Statutes, to those local governments. Current  
department positions supporting the coastal construction  
building codes review shall be directed to support  
implementation of the subject beach management plan.

## ===== T I T L E   A M E N D M E N T =====

And the title is amended as follows:

On page 2, line 2,

insert: after "repair;"

providing an appropriation;

year. The remaining costs are shared with the federal government and local governmental entities. Between 1991 and 1996, an average of only \$8.6 million a year was appropriated by the legislature to implement the Department's beach management program, severely limiting the miles of beaches restored. This average does not include the \$31.8 million one time appropriation by the 1995/96 Legislature to implement the Hurricane Opal Poststorm Beach and Dune Recovery Strategic Management Plan for the Panhandle Coast of Florida.

**B. EFFECT OF PROPOSED CHANGES:**

Of the state's estimated 300 miles of critically eroding beaches, only 105 miles are currently addressed by the state's beach management program. The proposed bill would provide a dedicated source of funds to be used for the implementation of beach management and erosion control projects which would protect and restore these remaining miles of eroding shoreline as well as maintaining the existing 105 miles currently managed.

The Statewide Strategic Beach Management Plan represents a shift in the current management strategy from annual planning on a local scale to statewide planning on a multi-year scale. This change in management strategy would yield significant savings in the cost of beach management projects due to the ability to regionally coordinate projects and to plan for the long-term needs of the eroding beaches.

**C. SECTION-BY-SECTION ANALYSIS:**

Section 1. Provides authority to fund beach management activities from the Ecosystem Management and Restoration Trust Fund and provides a link to s. 201.15(8), F.S. as a source for funds to develop and implement Florida's Statewide Strategic Beach Management Plan.

Section 2. Directs that moneys, \$10 million for fiscal 1998-99, \$20 million for fiscal 1999-2000 and \$30 million for fiscal 2000-2001 and beyond for a total of at least fifteen years, be credited to the Ecosystem Management Trust Fund to be used for the preservation and repair of the state's beaches.

Section 3. Provides effective date.

**III. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT:**

**A. FISCAL IMPACT ON STATE AGENCIES/STATE FUNDS:**

The fiscal impacts listed below represent the addition of 10 professional positions for the planning, design review, and construction management needed to implement Florida's Statewide Strategic Beach Management Plan. In addition, an annual allocation to acquire technical consulting capabilities, such as environmental and economic analysis,

feasibility studies, construction management, and other assistance as needed, is required. The recurring cost of these positions (including the annual OPS allocation for consulting services) is approximately 3% of the maximum amount of revenue allowed under the bill. The remaining revenue will be used for beach management and restoration projects.

1. Non-recurring Effects:

	<u>FY98/99</u>	<u>FY99/2000</u>	<u>FY 2000/01</u>	<u>Each Year Thereafter</u>
FTE:	\$19,820	0	0	0
OPS:	0	0	0	0

2. Recurring Effects:

	<u>FY98/99</u>	<u>FY99/2000</u>	<u>FY 2000/01</u>	<u>Each Year Thereafter</u>
FTE:	\$663,366	\$663,366	\$663,366	\$663,366
OPS:	\$300,000	\$300,000	\$300,000	\$300,000

3. Long Run Effects Other Than Normal Growth: None.

4. Total Revenues and Expenditures:

<u>FY98/99</u>	<u>FY99/2000</u>	<u>FY 2000/01</u>	<u>Each Year Thereafter</u>
\$10 million	\$20 million	\$30 million	\$30 million

B. FISCAL IMPACT ON LOCAL GOVERNMENTS AS A WHOLE:

The proposed bill will provide additional funding to local governments not presently receiving funds and will allow local governments to efficiently plan for future projects and project the level of future funding needs.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

1. Direct Private Sector Costs: None.

2. Direct Private Sector Benefits: Private properties upland of eroding beaches are vulnerable to damage from storms. Properly managed beaches provide a significant level of protection from coastal storms. This bill would allow the state to provide an increased level of storm protection to coastal property owners by providing the funding to restore additional miles of critically eroding beach and to continue to maintain those restored beaches.

3. Effects on Competition, Private Enterprise and Employment Markets:  
Competition: None.

# Dr. Beach ranks Cape Florida State Park No. 7 in the country

By JODI RODGERS

The beach at Bill Baggs Cape Florida State Recreation Area has once again made Dr. Beach's top 10 list of American shorelines.

Dr. Beach, a/k/a Dr. Stephen Leatherman of the International Hurricane Center at Florida International University, named Cape Florida the seventh best beach in the country, ranked just below four beaches in Hawaii, St. Joseph Peninsula State Park in the Panhandle and Caladesa Island State Park near Tampa. Leatherman's number one beach in the United States is Kailua Beach Park in Hawaii.

He was featured on the "Today" show on Memorial Day with his annual ratings, which he has been publishing for the past eight years on the holiday due to its status as the beginning of beach season. He has also been featured on "The Oprah Winfrey Show," as well as in various publications such as *The Washington Post*.

Leatherman, an erosion expert who spends about 25 percent of his time traveling the continent and its islands, bases his ratings on which beaches are best for swimming.

Leatherman uses a rating system of 50 questions based on physical, biological and amenity factors for each beach. He looks at water and air temperature, number of sunny days, sand softness, size of breaking waves, beach slope, bathing area bottom conditions, water color, water smell, wildlife, pests, pollution, views, urban development, access, vegetation, lifeguards, noise and safety, to name a few.

Leatherman said he chose Cape Florida as the seventh beach for meeting his criteria because of its balance between nature and nurture.

"It's near all the amenities of the whole Miami area," he explained, "yet it's a world apart."

Leatherman said Cape Florida offers sand dunes; natural vegetation; a historical lighthouse; clear, greenish water; fine, white coral sand; a shallow, sandy bottom; and gentle waves. The beach is also close to a major metropolis as well as a high-end small island town.

"You can swim here year-round, almost any day," Leatherman explained, adding that there are more recreational beaches and barrier islands in Florida than any other state in the nation. "It's a beach for all seasons, and

you've got to rank that very high."

Cape Florida had been knocked off the list after Hurricane Andrew ravaged the park. But restored after the storm, the park made it back to the list last year at number six.

Leatherman said the only thing he doesn't like about Cape Florida's beach is the seaweed that washes up on shore, which he said park officials will not move because it's part of the natural environment.

Leatherman is actually a coastal geomorphologist, or "beachologist," who studies the impacts of storms on beach erosion. He began his surveys of U.S. beaches—90 percent of which are eroding—as part of his research on coastal erosion when he was a professor at the University of Maryland.

But the academic scientist became Dr. Beach after an unexpected telephone inquiry from a travel

writer who wanted his opinion on the top 10 American beaches. When the writer's article was published, Leatherman was barraged with calls from a variety of chambers of commerce and tourist bureaus, including those whose beaches had not been included.

"All of this hoopla made me think about how seriously Americans take ratings," Leatherman wrote in the introduction to his book, *America's Best Beaches*, published this year. "Everyone wants to know what is best. We rate everything, from hotels and restaurants to graduate programs in universities, so why not beaches?"

So, Leatherman developed his 50-point criteria for rating beaches and spent two years completing a survey of 650 major public recreational beaches in the U.S. He released his first ratings on Memorial Day of 1991.

Leatherman now spends about a quarter of his time traveling, mostly supported by a \$720,000 grant from the Andrew W. Mellon

Foundation. He said he expects the grant to be renewed in the near future. He also teaches one graduate level course at F.I.U. during the spring semester.

Leatherman moved to South Florida from the Washington, D.C., area with his family—his wife, Debbie, and his children, Stephen Beach, 6, and Sandy Marie, 7—last summer.

"The Chesapeake area is great, but where are the beaches?" said Leatherman, who would drive between two and a half and three hours to get to Maryland's shore for a day

at the beach.

Leatherman said Key Biscayne's beaches are better off since the Village's recent beach restoration project, which left the sand and waters looking less attractive to some eyes.

"It's going to take a couple of seasonal storms to wash that clay and silt out and flush it offshore," he explained. "The sand will be cleaner after that. It's a self-sorting system, nature has."

To obtain a copy of Leatherman's new, full-color book, call 1-888-TOP BEACHES.



Dr. Stephen Leatherman

## Lighthouse in Hall of Fame

The Cape Florida Lighthouse has been included in Dade Heritage Trust's new Preservation Hall of Fame.

The Hall of Fame was developed by Miami-Dade's largest historic preservation organization to honor the county's outstanding historic landmarks which have been preserved for their original use.

The first 10 inductees were named at an awards ceremony at Gusman Cultural Center last week. They were:

- The Cape Florida Lighthouse
- The Barnacle
- Villa Vizcaya
- Scottish Rite Masonic Temple
- Venetian Pool
- Hialeah Park and Race Course
- Gusman Cultural Center
- The Biltmore Hotel
- Miami Senior High School
- National Hotel

"We wanted to recognize exemplary landmarks, those that have been preserved with their architectural integrity intact and which have maintained their original use, which is something that's not always easy to find," said Becky Roper Matkov, Dade Heritage Trust executive director. "Not that it's wrong to adaptively use something, but we just think these are the finest examples of Miami's historic architecture."

Roper Matkov said the Preservation Hall of Fame information can be used not only for locals to appreciate their history, but for tourists and out-of-town guests who wish to get a feel for historic Miami.

A representative from each inductee received a plaque featuring pictures of the Cape Florida Lighthouse, the Freedom Tower and Dr. James Jackson's office.

"The Cape Florida Lighthouse is the first inductee on the list," Roper Matkov explained, "and it's certainly Dade County's oldest and most well-recognized landmark. And with Dade Heritage Trust's long involvement in the restoration of it, it's very dear to our hearts, as it is to the hearts of so many Miamians."

Matkov said her organization hopes to add inductees each year and is planning on having a Preservation Hall of Fame photograph display at the Dade Heritage Trust headquarters in the Brickell area.



[www.key-biscayne.com](http://www.key-biscayne.com)

# SALE OPPORTUNITY

## Key Colony

# Beach sand tests come back with 'mixed' results

By GARY GREENBERG

The results of wet sieve tests to determine the quality of the sand used to nourish the beach by The Ocean Club came back with "mixed" results.

Wet sieve tests performed on sand samples from the February nourishment showed that the undesirable fine grain content was more than double the dry sieve test results. Grains less than 70 microns went from 4-5 percent to 11-13 percent, which is above legal limits. However, preliminary results of wet sieve tests on fill samples from mid-May appeared to be within the legal limit.

The reason why the percentage might vary between the February and May samples is that the fill material had a chance to mix more thoroughly with the sand that was already there.

Told that a preliminary report on the wet sieve tests of the May samples showed acceptable sand quality, University of Miami geology professor Harold Wanless, responded by saying, "That's a bunch of hokey."

"If you mix pollutant sand into the beach, of course the percentage of fines is going to come down," Wanless said. "The rule is that the sand you put on the beach has to be of a certain quality and mixing it with ambient sand doesn't make it okay."

The fill has created quite a bit of controversy since being transported to the beach from Cape Florida last winter. Several residents and Wanless have complained about the poor quality of the sand, which results in crevices on the beach, an escarpment at the high water line, a high compaction level and persistent cloudiness of the near-shore water.

Wanless has insisted that the standard engineering practice of testing the sand quality through a dry sieve process is flawed because this particular

a wet sieve test and the Council agreed, asking the Village staff and the Department of Environmental Resource Management (DERM) to arrange for the testing.

Although the results show that the fill was not acceptable beach quality sand, DERM's Brian Flynn didn't consider it as a catastrophe.

"I don't think we'll have a regulatory problem because we used the standard method for determining sand quality; this just happened to be a unique type of material," Flynn explained. "Also, it's a small quantity. Ten thousand cubic yards is a minuscule amount compared with the Key Biscayne beach in its entirety."

point" until the middle of October, when sea turtle nesting season ends.

"Over the next six months, there's not much we can do," Flynn explained. "We'll revisit the beach after the sea turtle season and make a determination at that time."

Flynn added that the long-term environmental effects will be minimal.

"My opinion is that it's not a negative impact to the environment," Flynn said. "It's not going to affect the sea grass, which adapts well to turbidity. And if you consider that more than 80 percent of the material is within the range of good quality sand, that represents a positive addition to the sediment budget out there."

Wanless contended that a much higher percentage of the sand will eventually go into the sea.

"If it's finer than 200 microns, it's not viable sand and will move offshore," Wanless said. "That 10 percent number is the absolute minimum quality and doesn't represent meaningful beach sand that would be good for the people of Key Biscayne and the marine environment."

Wanless, Flynn and DeCocq are all members

of the Key Biscayne Beach Management Task Force and have now joined resident meteorologist Sam Houston and marine geophysicist Henny Groschel-Becker on a subcommittee to develop special specifications for the importation of sand on Key Biscayne.

"The new specifications will be an optimum standard to ensure that there are no problems with sand quality during the large-scale project," Flynn said. "This whole exercise may be a blessing in disguise because it's forcing us to look at things a little differently in

*'It's not an environmental travesty.'*

**- James DeCocq**  
Assistant to the  
Village manager

*'It's a very obvious pollutant, even to most lay people.'*

**- Hal Wanless**  
University of Miami  
geology professor

Assistant to the Village manager James DeCocq agreed. "It's not an environmental travesty," he said. "There is no environmental impact and, in the meantime, that sand is stabilizing the beach and adding protection for hurricane season."

Wanless had a different view.

"It's a very obvious pollutant, even to most lay people," Wanless said of the fill. "The volume of silt in this material is illegal. I say what I've said all along. The sand is illegal and

## PLASTIC SURGERY ask the Doctor



Robert L.  
Simons, M.D.

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R.M., Hialeah

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# 53 sea turtle nests, 100 false crawls on Key so for this season

By JODI RODGERS

Local park officials have reported 53 sea turtle nests and nearly 100 false crawls since the sea turtle nesting season began May 1.

Paula Schneeberger, Crandon Park naturalist, said she and her staff—who monitor nests in the park and on the Village beach and relocate them to a predator- and poacher-safe hatchery in the Bear Cut Preserve—have documented 39 nests and 65 false crawls so far.

"Right now, we're pretty much on the number," Schneeberger said. "Last year, we had 37 nests as of this date, so we're only off by two nests."

In addition, Schneeberger said this past weekend, she discovered this season's first nest in the newly renourished portion of the Village beach. Schneeberger also reported four false crawls in the new sand since the season began.

But the most unusual trend for this year's nesting season so far has been the large number of nests at the beach in front of the Sonesta Beach Resort. Schneeberger estimates that about a quarter of this year's turtle activity has occurred there.

"It's rather amazing how the turtle manages to lay eggs under a boat," she said. "Determination. They make me contort to get the eggs out, I'll put it to you that way."

Schneeberger, who has been monitoring sea turtle nests on Key Biscayne for five years, said she did not see any nests in the Sonesta area of the beach during the first three years of her position.

Last year, however, a few nests showed up, and this year the number of nests found there comprises 25 percent of the total nests found in Schneeberger's monitoring jurisdiction.

Schneeberger said she would like Sonesta staff and beach goers alike to be aware of the high amount of nesting activity in that portion of the beach and to take extra special care to avoid nesting turtles during night visits to the beach, she said.

On the other hand, Schneeberger said turtle

activity at the beach in front of The Towers has decreased.

"Activity this year has been really weird," Schneeberger explained. "It's basically been between the south end of Crandon's beach and the Sonesta. Normally, turtles loved that area by The Towers; and I've had only two nests from The Towers this year. It's literally that you go past the Sonesta and it's almost dead."

Schneeberger said she doesn't know whether lights and activity from the new Grand Bay and Ocean Club developments have affected the sea turtles, who seem to prefer to nest in dark, quiet beaches.

She did say, however, that the turtles used to nest frequently in the area where the developments have been built and that she plans to survey the beach at night to view first hand the light situation at the developments.

In Bill Baggs Cape Florida State Recreation Area, staff have documented 14 nests and more than 30 false crawls as of publication date.

"It's probably about the same as last year," said Liz Golden, park biologist. "So far, things seem to be preceding fairly normally. So far, so good."

Golden said this year, she and her staff are placing screens over the nests to prevent predation by raccoons.

"The openings in the screens are large enough for the hatchlings to go through," she explained, "but they prevent the raccoons from digging very far into the nest area."

Each year between May 1 and Oct. 31,



Baby turtle are less than two inches in diameter.

female sea turtles lug their heavy bodies onto South Florida's shores to nest on the beaches where they were born.

Sometimes the turtles crawl onto the beach but do not end up nesting, a phenomenon which experts call a false crawl. Other times, the female will dig a hole in the sand with her back flippers and deposit sometimes 100 eggs, which are then safely covered with sand to incubate in the sun.

About two months later, hatchlings break free, instinctively scurrying their way toward the ocean and into beds of sargassum, a type of seaweed, where they attempt to ward off the perils of nature.

If they are successful, they may live about

20 or 30 years. If they are female, they will return to Key Biscayne to nest when they reach sexual maturity.

Some residents have joined Schneeberger and Golden in their surveys of the beach. Chris Sack, a Miami-Dade county science teacher and future Rosenstiel School student, has monitored the beach consistently for nests, although he does not join Schneeberger's staff in moving them.

"I just wanted to make sure people on the Key know they're nesting now, to be careful where they're walking and not go near the nests, and if they do see females laying their eggs, to wait until they're heading back toward the ocean to approach," Sack explained.

Even visitors to Key Biscayne's beach have been fascinated by the nesting turtles. Schneeberger said a couple from Australia—another sea turtle nesting spot—who saw her at work was very enthusiastic about park staff moving the nests to protect them.

"They were really thrilled to see the tracks and the nests and the eggs," Schneeberger explained, "and for me, it was great to see their excitement. And they got to see it right here on our beautiful Key Biscayne beach."

## Saving the turtles

Never approach turtles emerging from the sea or harass nesting turtles.

Watch out for disoriented hatchlings on turtles wandering in the road.

If you live along the beach, keep outside lights off or minimized from May 1 to Oct. 31.

Be careful while boating to avoid collisions with turtles and never throw trash on the water or beach.

Harming sea turtles can result in imprisonment and/or a maximum \$500 state fine or \$20,000 federal fine. Should you witness a violation, call 1-800-342-1821.

May 28, 1998

Editor  
USA Today  
1000 Wilson Boulevard  
Arlington, VA 22229

Dear Editor:

Your May 22, 1998 piece, "Line in the Sand Over Beach Rebuilding," regrettably misses the mark. Like parks, roads, and schools, beaches need to be cared for, not ignored. The so-called "hefty tab" that federal taxpayers pick up is a little more than \$100 million — hardly a big expense especially considering that by law, every dollar spent on beach nourishment must produce more than a dollar of public benefits.

As with every other aspect of our natural environment, human intervention along the coast has had negative effects. From the creation of our first port more than 200 years ago, this intervention has impeded the natural flow of sand. In most cases, beach renourishment projects can substantially reduce the net loss of sand while maintaining a beach that restores the natural environment, protects coastal property from storm damage, and enriches the national and regional economies.

For a modest investment of federal, state and local tax dollars, shore protection generates an enormous amount of economic activity. Tourism is America's number two industry, contributing over 10% to our Gross Domestic Product. Beaches are America's number one travel destination, with coastal areas receiving 85% of all tourist-related revenues in the U.S. Billions in tax dollars for local governments, states, and the Federal government and tens of thousands of jobs can be directly attributed to beaches.

The man-made jetties, seawalls, and groins that the article blames for much of our beach erosion problems are usually a sign of desperation. Faced with approaching ocean waters, property owners do not retreat. They build hard structures that may save their buildings but usually do nothing to save sand. The alternative to beach renourishment is the armoring of America's coastline. Critics claim that beach replenishment disturbs the habitats of rare species such as piping plovers and sea turtles. Hard, man-made structures such as sea-walls surely do not provide habitable environments for these creatures. Ultimately, the combined environmental and economic impact of erecting these hard structures will prove extraordinarily costly to our nation's coastline.

For its relatively tiny price tag, beach replenishment is an investment that is well worth it — for our economic infrastructure, our environment, and the beauty of our coastal regions.

Sincerely,

Howard Marlowe, President  
American Coastal Coalition



# American Coastal Coalition

## Coastal Fax

5/27/98

To: C. Samuel Kissinger, Village of Key Biscayne

Fax: 1-305-365-8936

From: Howard Marlowe

Subject:

Total Number of Pages (including this page): 5

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## Line in the Sand Over Beach Rebuilding

5/22/98

By Martha T. Moore

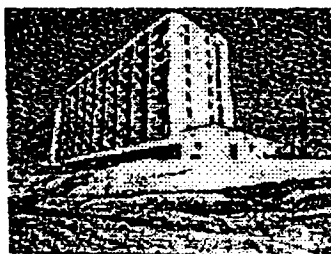
USA TODAY

At the end of the long, hot Memorial Day highway there is, blessedly, a beach. A wide, breezy beach with plenty of room for the kids to play, and plenty of space between the oceanfront houses and the waves.

That's what the crowds heading to the nation's beaches this weekend want. And that's what they've got, thanks to 30 years and an estimated \$3.5 billion of public money spent pumping sand onto beaches to replace what nature has taken away.

Winter storms, currents from inlets and a slow rise in sea level cause beaches to erode. The wide sand of last Labor Day can disappear after a fierce Nor'easter or a pounding from El Nino. Coastal states and towns say the process of replacing sand - beach replenishment - is vital to keep tourists coming, to protect the coastal property from storms and to keep their economies healthy.

But environmentalists hate beach replenishment. They say it doesn't last, it's environmentally questionable, and it's bad fiscal policy. Their argument is winning converts: The federal government, which



*Wrightsville, N.C.: The state is letting the Shell Island condominium fall into the sea.*

pays for the majority of beach replenishment through the Army Corps of Engineers, wants to stop picking up so much of the tab. And in states battling shoreline erosion, some are questioning whether it is worth trying to hold back the tide. "You'll always have the beach. It just may not be where you want it," says Jim Gibeaut a coastal geologist with the University of Texas' bureau of economic geology.

### Why beach erosion happens

Beach erosion is inevitable. Many beaches - from Fire Island, N.Y. to the North Carolina Banks to Padre Island, Texas - are on barrier islands, long narrow sand islands just off the mainland. In their natural state, barrier islands constantly, imperceptibly shift: as they are pounded by waves from the ocean, they roll over on themselves, moving closer to the mainland. The Oceanside beach retreats but doesn't disappear. "A barrier island's profile is preserved by allowing it to give with bad storms, to roll with the punch," says Dery Bennett, president of the American Littoral Society, a coastal-environment advocacy group.

The real villain in erosion is development, environmentalists say. Beach houses, hotels and roads interfere with the islands' movements. Beach sand trying to move in from the ocean gets jammed up against man-made structures and has nowhere to go but out to sea. As a result replenished beaches erode again. The solution, environmentalists say, is to move buildings back from the oceanfront. That would be a huge and expensive undertaking.

Opponents of beach replenishment also argue that generous federal-subsidies - the federal government usually pays 65% of the cost of replenishment - simply make people across the country pay to protect coastal residents' beachfront properties.

"The problem is that we try to draw a line in the sand and challenge the sea not to cross it," says David Conrad of the National Wildlife Federation.

Building seawalls to protect beachfront property, and building groins and jetties to try to hold beaches in place, is even worse than beach replenishment, environmentalists say. Seawalls hasten beach erosion by giving the sand nowhere to go but straight out to sea. Groins and jetties interfere with water currents that carry sand from beach to beach - giving one beach sand while starving the next beach over. Natural inlets, which tend to shift in position, and man-made channels, which alter water currents, contribute to erosion.

"There are many, many causes (for erosion) but I think man is the biggest problem," says Orrin Pilkey, director of Duke University's Program for the Study of Developed Shorelines, and a leading opponent of beach replenishment.

### **Federal money and beaches**

Since 1965, an estimated \$3.5 billion has been spent on 1,305 beach replacements, according to a study by Duke's developed-shoreline program. The Army Corps of Engineers cites much lower numbers, but says it is currently spending \$150 million a year on beach replacement.

The beach economy, which begins its annual boom this weekend, depends on the federal spending. No sandy beach, no tourists, no money for all the resort owners, rental property landlords, restaurateurs, hotel operators, and ferris-wheel ticket-takers who depend on them. And no tax revenue for the cities and states along the coasts.

"It's a matter of economic survival," says Stan Tait, president of the Florida Shore and Beach Preservation Association, where nearly 23 million tourists a year visit beaches and spend \$9.7 billion.

But increasingly, governments no longer want to spend money re-engineering the beach. The Clinton administration has proposed cutting Army Corps of Engineers funding in the Water Resources Development Act, a biennial bill now before Congress that funds beach replenishment, harbor dredging and other public works projects.

Under the administration's proposal, the Corps would still pay for 65% of the initial cost of new beach replenishment projects.

But it would cut to 35% the federal share of the following 50 years of maintenance, including storm rehabilitation and further sand pumping every few years, that beach replacement projects require.

A change of thinking about beach erosion also is occurring on local levels. In the difficult decision on property vs. nature, a few states are leaning toward nature.

### **Tough local decisions**

Shell Island, a nine-story, 12-year-old condominium in Wrightsville Beach, N.C., is about to fall into the sea - and North Carolina isn't going to stop it. North Carolina, South Carolina, Maine, Rhode Island, Texas and Oregon ban seawalls and other hard structures on beaches. The state Coastal Resources Commission has denied permission to the building's owner to install a permanent seawall, and requires that a temporary seawall come down next year. The case is in court.

In Oceanside, Ore., El-Nino-strengthened winter storms ate away bluffs until the cliff edge was 5 feet from a luxury townhouse development called The Capes. Evergreen trees fell downhill from backyards. Twenty homes were judged too dangerous to occupy. In February, despite pleas from homeowners, Gov. John Kitzhaber refused to allow a rock wall to be built on the beach to stop erosion of the sandy 170-foot bluff. In Washington state, which does not have a seawall ban, the focus of controversy is a condo development built on a 25-foot dune in Ocean Shores. For three years, the dune has been eroding. A consultant hired by the state to study the problem says the best solution is simply to pick up the development and move it 500 feet inland.

"The solution that makes the most sense is to not fight the Pacific Ocean," says Harry Hosey of Pacific Engineering International in Edmonds, Wash.

In New York, the Army Corps of Engineer's wants to start a 15-mile beach replenishment project on Fire Island, a Long Island summer resort. But the Department of the Interior has objected, saying beach replenishment could damage habitat for the endangered piping plover and interfere with the beach's natural recovery. The Interior Department could halt the project because part of the beach is a national seashore.

On the shores of Lake Michigan, in Ogden Dunes, Ind., the only thing that's keeping Buzz Lee's house from sliding into the lake - his back yard is already gone - is a 23-foot steel wall that he spent \$20,000 to build last year. Residents here complained in a federal lawsuit that the nearby Port of Indiana Harbor, carved out of the lakeshore 30 years ago, has stopped the huge volumes of sand that would have naturally drifted along the shoreline to feed their beaches.

Rep. Peter Visclosky, D-Ind., has proposed an Army Corps of Engineers study to find the best way to make repairs. In exchange, residents must agree to allow public access to their beach. "The study will take 10 years," says resident Don Crizer. "By the time they finish, these houses might not even be here."

If federal budget cuts go through, shore communities and coastal states will be faced with tough decisions on whether they can or want to pay more of the bill for beach replenishment.

But that will make for more honest debate on its desirability, says Stephen Leatherman, director of the Laboratory for Coastal Research at Florida International University in Miami. Heavy federal funding makes coastal towns "almost like a dope addict. As long as you can keep getting your fixes and its free, why would you stop? ... We're not getting an honest cost-benefit analysis right now."



# American Coastal Coalition

## Coastal Fax

5/25/98

To: C. Samuel Kissinger, Village of Key Biscayne

Fax: 1-305-365-8936

From: Howard Marlowe

Subject: Second of fax updates

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### Comments:

## American Coastal Coalition

1667 K Street, NW, Suite 480 Tel: (202) 775-1796  
Washington, DC 20006-1649 Fax: (202) 775-0214

May 22, 1998

To the Editor:

Peter Goodman's May 21st piece, "Shoring Up So People Show Up," did well to point out many of the economic benefits that beach replenishment brings to coastal communities such as Rehoboth, Delaware and Ocean City, Maryland. Beach replenishment projects are too often characterized as, "throwing taxpayer dollars into the sea." However, it is evident that the economic health of these communities is almost completely reliant on the health of their sandy beaches.

In a year when so much attention has been given to infrastructure spending, we ought to appreciate how valuable sandy beaches are to our Nation's infrastructure. Tourism is America's number two industry, contributing over 10% to our total Gross Domestic Product. Beaches are America's number one travel destination, with coastal areas receiving 85% of all tourist-related revenues in the U.S. The enormous amount of economic activity generated by beaches translates into billions of dollars in tax revenues. Most importantly, each dollar spent on beach replenishment reaps well over a dollar in economic rewards.

These statistics highlight why small business owners, residents, and visitors in areas such as Rehoboth become so concerned when they see such a large amount of sand washed away by the heavy storms the Atlantic coast has seen this year. The bottom line is that beach replenishment works - it maintains the beauty of our Nation's sandy beaches as well as the economic well-being of our coastal communities.

Sincerely,

Howard Marlowe, President



# Sympathy for our coastal landowners

What I want to know is, how come in this Politically Correct age no one cares about the feelings of coastal property owners?

Oh my, I heard that. You shouldn't use bad words, you know. You'll go to a very hot place some day if you use those words.

I am very serious about this. Natural disasters happen all the time all over the country and we grieve and groan and send money. Volcanoes in Washington state. Tornados in Nashville. Earthquakes, floods, droughts, fires and mudslides in California.

But let a hurricane or a nor'easter hit the East Coast, and what do you get? A New York Times headline like this: "As Beaches Erode, a Debate On Who'll Pay for Repairs."

Or a story in the Washington Post bannered with these words: "After Another Ocean Storm, a New Wave of Expense."

The expenses of which the critics speak are threefold. There are the costs of repairing damages after the declaration of a national disaster. There is the price of flood insurance, which is underwritten by the federal government. And there is the expense of a program known as "replenishment," wherein sand is pumped from the bottom of the sea onto eroding beaches.

So, you see the problem. It appears that coastal property owners are takers and never givers, and as such, they get no sympathy. Good colleges regard them as fools who are engaged in a hopeless battle with Mother Nature. Fiscal hawks view them as drains on the public treasury. Eco-freaks see them as intruders on lands that belong to the larger community. The general

## VIEWPOINT



Joseph Spear

public perceives them as rich people who are ripping off the system.

I know whereof I speak because I, Joseph, am co-owner of a small piece of property in coastal Delaware and as such, have personally suffered from vicious and injurious remarks. Sometimes the naysayers will go so far as to assert we should be taxed to the waives. This observation, which appeared in a February letter to the Washington Post, is fairly typical:

"The best course would be to allow nature to reclaim both flood plains and the coast, prohibit future development in these areas and allow everyone to enjoy them in both calm and storm."

Let me set the record straight on a few things:

"It would mean kissing goodbye to Cape Cod and Long Island, to large parts of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, California, Oregon and Washington."

1. The majority of coastal property owners are not moneyed people (witness I, Joseph). Millions are small businessmen, service providers and workday backs like myself who scraped their pennies together, purchased at a propitious moment and slowly constructed modest retreats to which they can repair for spiritual restoration. The rich often live in private communities and as such are not eligible for many federal benefits.

2. Flood insurance claims are paid for by premiums not by the taxpayer. Because of the federal government's construction standards, they encourage sound development. In any case, it is more cost effective to guarantee insurance programs than to make direct payments for repairs in the wake of natural disasters.

3. Beach replenishment is a maintenance program, and it is no more an unconscionable drag on public

funds than sewers, bridges, highways, harbors and ports. Thanks to taxes paid by tourists and property owners, beach communities that support more to the governments that protect them than they take.

4. The notion that humankind should surrender to storms and rising seas and withdraw from coastal areas is, in my judgment, a ludicrous one, but it does conjure up some interesting thoughts.

It would mean kissing goodbye to Cape Cod and Long Island, to large parts of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, California, Oregon and Washington.

Bye! Miami. You were a blight, but a fun town. See you, New Orleans. You were a scary little slum, but I kind of liked you. Adios, San Francisco. What can I say? You were beautiful.

I don't think it would work. What we really need is another harassment law to protect the feelings of us coastal dwellers.

JOHN NEWEL/ARND BRONKHORST/ARND

"It appears that coastal property owners are takers and never givers, and as such, they get no sympathy."



# American Coastal Coalition

## Coastal Fax

5/25/98

To: C. Samuel Kissinger, Village of Key Biscayne

Fax: 1-305-365-8936

From: Howard Marlowe

Subject: First of fax updates

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BY MARK GALE—THE WASHINGTON POST

Rehoboth Beach lifeguard Woody Marderwald works under a boardwalk damaged by winter storms.

# Shoring Up So People Show Up

## *Resorts Forced to Replenish Sand on Ravaged Beaches*

By PETER S. GOODMAN  
Washington Post Staff Writer

REHOBOTH BEACH, Del.—As this Atlantic resort readies itself for Memorial Day weekend and the usual crush of visitors, most of the familiar attractions are in place—the boardwalk, the frozen custard stands, the bumper cars. Even sunny skies appear likely. But one element clearly is in short supply: sand.

Egged on by El Niño, a series of brutal winter storms hauled away thousands of tons of white beach, dumping it several hundred yards offshore. Scientists had hoped more benevolent spring waves would carry back the sand, but it hasn't worked out that way.

At high tide, a 60-foot-wide strip of sand is all that separates the ocean from the boardwalk, not nearly enough room for the vacation-time umbrellas and blankets that crowd the usual 120 to 150 feet of beach. When tides swell particularly high, the ocean consumes the beach entirely, rolling fingers of foam under the boardwalk.

With tourist season upon them, Delaware officials are planning to dredge sand off the ocean bottom and pump it onto the beach—a job projected to cost as much as \$1.25 million. But work won't begin until July, and people here are bitter, fearful that if the sand isn't on the beach, the tourists won't be, either.

See BEACHES, A12, Col. 1

A12 THURSDAY, MAY 21, 1998

THE REGION

THE WASHINGTON POST

# Resorts Forced to Replenish Beaches Ravaged by Winter Storms

BEACHES, from A1

"It has to affect business," said Penny Contractor, who owns Cafe Papillon, a pastry shop just off the main drag, Rehoboth Avenue. "This is a beach town. If there's no beach here, why would people come?"

Such concerns are hardly confined to Rehoboth. Throughout the mid-Atlantic region, beach communities are carrying out an assortment of projects designed to restore what nature stripped away. Delaware is returning sand to several storm-vi-

naged beaches south of here—Dewey Beach, Bethany Beach, South Bethany and Fenwick Island.

In Maryland, where Ocean City lost as much as 25 percent of its beachfront in recent years, state and federal officials are planning to pump more than 1.3 million cubic yards of sand onto nearly eight miles of coast, at a cost of \$2.9 million. In Virginia, the U.S. Army Corps of Engineers this week began dredging sand to shore up nearly five miles of Sandbridge Beach, just south of Virginia Beach. The City of Virginia Beach is

itself banking up the sand that fronts its strip of resort development.

Beach erosion is, of course, neither new nor unexpected. Waves are constantly reshaping the land, scattering sand here and adding it there, particularly on the slinking, low-lying barrier islands that make up much of the coast. As a result, publicly financed beach replenishment efforts have become as much a part of the preservation ritual for many Atlantic communities as hiring college students to sell beach kites and scrambling rest of outdoor tables.

But Rehoboth has not pumped sand on its shore since the legendary storm of March 1962. The town sits on what is known as a Pleistocene headland, an elevated chunk of ground where beaches are less vulnerable to the forces of the ocean.

Yet even Rehoboth could not weather the assault. The Atlantic lashed this past winter. Nor'easters in January and February delivered waves reaching 25 feet high, tearing out pieces of the boardwalk and ripping sand from under beachfront swimming pools and hot tubs.

They knocked stacks and carried off half the beach, fully exposing five-foot-tall pilings that are usually buried by sand and water.

"I was really surprised when I saw the extent of the damage," said Annapolis resident Sherry Fieber as she leaned back in her beach chair yesterday, moved in land. The beach "is not crowded (now), so it doesn't make any difference, but this weekend could be tough."

Along the coast yesterday, each community seemed to be confronting its summer prospects according to its

own unique geography.

In Ocean City, where dunes erected eight years ago held fast against the winter's destructions, some 75 yards of beach separate the ocean from the boardwalk, even at high tide. "We've got plenty of beach for everybody," said George McGowry, treading his boardwalk and ice cream stand on the boardwalk.

The same goes for Dewey Beach, where the sea encroached severely, but where there's less competition

See BEACHES, A13, C4, 3

THE WASHINGTON POST



With the Memorial Day holiday weekend days away, workers repair the Rehoboth Beach boardwalk that was damaged during last winter's storms.

BY MARK GUN—THE WASHINGTON POST

THURSDAY, MAY 21, 1998 A13

## Atlantic Beaches Shoring Up So Tourists Show Up

BEACHES, From A12

for blanket space than in Rehoboth.

"If we have weather like this, we'll be great," said Eric Shindler, as sunshine washed over his sandwich stand, Sharky's Grill.

But in Bethany Beach, where space tends to be tight, and the sea has been greedy, 22-year-old Scott Miller figured how beach would translate into less demand for the umbrellas he is paid to drive into the sand.

"We're, like, worried about the equipment washing into the water,"

he said as the tide edged closer, leaving a mere 20 feet between the ocean's edge and the boardwalk bordering above the sand.

"I keep having to pick up and move toward town," complained Beverly Welles of Pottsville, Pa. "There's no beach. It's all water."

Given the multimillion-dollar expense of beach replenishment, and the fact that it's only a short-term fix—the ocean-bottom places where needed sand is gathered are known as "borrowing sites"—some have branded the efforts a waste of money.

effectively flushing dollars out to sea. Officials say that's misleading. The beaches are critical pieces of local economies. A recent study commissioned by the State of Delaware found that state businesses would lose more than \$30 million in five years if the state pulled the plug on its ongoing beach maintenance efforts.

"The beach is a very big asset," said Rehoboth Beach Mayor Sam Cooper, who owns several rental cottages. "What's the alternative?"

State officials are seeking permits required from the Corps of Engineers

to dredge the needed sand. They are also waiting for their contractor to get free of work the company is doing in Ocean City. But the locals are edgy, nervous and impatient. They don't understand why something wasn't done sooner, and they worry about the high season upon them.

"I'm concerned we'll have some cancellations," said Jo Ann Merrick, who manages Whitson Guest House, just off the boardwalk. "People don't come to Rehoboth to struggle to park to enjoy a fine restaurant. They want to go to the beach."



# American Coastal Coalition

## Coastal Fax

5/25/98

To: C. Samuel Kissinger, Village of Key Biscayne

Fax: 1-305-365-8936

From: Howard Marlowe

Subject: Third Fax Update -- More to Come

Total Number of Pages (including this page): 6

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## Congress of the United States

Washington, DC 20515

May 14, 1998

The Honorable William Jefferson Clinton  
President of the United States  
The White House  
1600 Pennsylvania Avenue  
Washington, D.C. 20500

Dear President Clinton:

We are writing to express our concern regarding the Administration's proposal to change the U.S. Army Corps of Engineers' shore protection program. This proposal has been included in the Administration's draft bill entitled the "Water Resources Development Act of 1998" (WRDA). While we welcome the opportunity to resolve the longstanding differences between Congress and the Administration regarding continued federal support for shore protection projects, we are concerned that the Administration still is not firmly committed to maintaining a shore protection program over the long term.

As Members of Congress, we are very interested in resolving this issue and welcome the opportunity to do so. We understand that the Administration views the shore protection proposal included in its WRDA bill as an effort in this regard, and we look forward to continuing this dialogue. As you know, this proposal would reduce the share of federal funding for the replenishment of federal beach replenishment projects from 65 percent of costs to only 35 percent, while maintaining the traditional 65% federal/35% non-federal cost-sharing formula for the initial construction of these projects.

It is our concern that as a part of its proposal, the Administration has not committed to either authorizing new shore protection projects or budgeting for shore protection projects in future years. In fact, there are no shore protection project authorizations included in the Administration's proposed WRDA bill and the President's budget request included a 79 percent cut in shore protection funding from FY98 enacted levels.

We are reluctant to engage in any further discussion of changes to the Army Corps' shore protection program without a firm commitment on the part of the Administration to: (1) recommend to Congress the authorization of new shore protection studies, (2) recommend to Congress the construction of shore protection projects with a cost/benefit ratio of greater than one, and (3) include adequate funding for shore protection activities in its annual budget request submitted to Congress.

As we stated earlier, we are very interested in resolving the differences between Congress and the Administration on the shore protection issue so that the program can be maintained within the context of a balanced Federal budget. It is imperative, however, that there be a strong and clear commitment — on behalf of both the Administration and the Congress — to operate within the context of a balanced Federal budget AND to support shore protection projects through authorization and budgetary mechanisms.

*Frank Pallone, Jr.*  
Rep. Frank Pallone, Jr.

*Frank A. LoBlundo*  
Rep. Frank A. LoBlundo

*Peter Deusch*  
Rep. Peter Deusch

*Jim Saxton*  
Rep. Jim Saxton  
*Michael P. Forbes*  
Rep. Michael P. Forbes

*Bob Franks*  
Rep. Bob Franks

*William D. Delahunt*  
Rep. William D. Delahunt

*Charles E. Schumer*  
Rep. Charles E. Schumer

*Deana Ros-Lehtinen*  
Rep. Deana Ros-Lehtinen

*E. Clay Shaw, Jr.*  
Rep. E. Clay Shaw, Jr.

*Porter J. Goss*  
Rep. Porter J. Goss

*Mike McIntyre*  
Rep. Mike McIntyre

*Brian P. Billbray*  
Rep. Brian P. Billbray

*Peter T. King*  
Rep. Peter T. King

*Gary L. Ackerman*  
Rep. Gary L. Ackerman

*Jerrold Nadler*  
Rep. Jerrold Nadler

*Carrie P. Meek*  
Rep. Carrie P. Meek

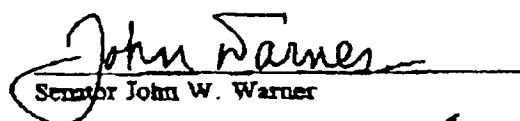
*Tillie K. Fowler*  
Rep. Tillie K. Fowler



Sincerely,

  
Senator Frank Lautenberg

  
Senator Connie Mack

  
Senator John W. Warner

  
Senator Robert Torricelli

  
Senator Bob Graham

  
Senator Alfonse M. D'Amato

  
Senator William V. Roth, Jr.

  
Senator Barbara A. Mikulski

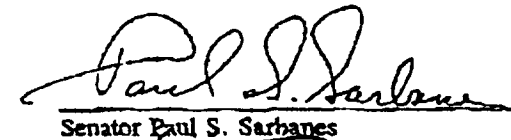
  
Senator Ernest F. Hollings

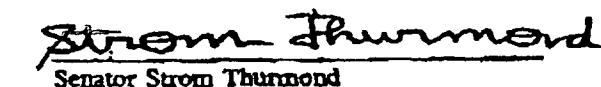
  
Senator Jesse Helms

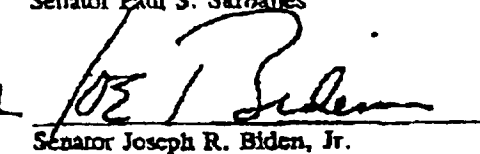
  
Senator Lauch Faircloth

  
Senator Charles S. Robb

  
Senator Daniel Patrick Moynihan

  
Senator Paul S. Sarbanes

  
Senator Strom Thurmond

  
Senator Joseph R. Biden, Jr.

Robert Wexler  
Rep. Robert Wexler

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Rep. Christopher H. Smith

Edward J. Markey  
Rep. Edward J. Markey

Allen Boyd  
Rep. Allen Boyd

Nick Lampson  
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Eva M. Clayton  
Rep. Eva M. Clayton

Mike Castle  
Rep. Michael N. Castle

Owen B. Pickett  
Rep. Owen B. Pickett

Mark Foley  
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Robert A. Underwood  
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Robert A. Weygand  
Rep. Robert A. Weygand

  
Rep. Gene Taylor

  
Rep. Marge Roukema

  
Rep. Joe Scarborough

  
Rep. Patrick J. Kennedy

cc. Chairman John H. Chafee, Senate EPW  
Ranking Member Max Baucus, Senate EPW  
Chairman Bud Shuster, House T&I  
Ranking Member James L. Oberstar, House T&I  
Chairman Sherwood L. Boehlert, House Water Resources and Environment  
Ranking Member Robert A. Borski, House Water Resources and Environment  
T.J. Glauthier, OMB Assoc. Dir. for Natural Resources  
John H. Zirschky, Acting Asst. Sec. for Civil Works

**Subject: USA Today - June 3rd - ACC Letter to the Editor Printed**

**Date: Sat, 06 Jun 1998 00:44:11 -0400**

**From: "Howard.Marlowe" <Howard.Marlowe@mail.netlobby.com>**

**To: ACC@mail.netlobby.com**

June 3, 1998

USA TODAY

Modest investment in beaches yields big dividends

The editorial, "Sand Subsidies Costly, Futile," misses the mark (Our View, beach erosion debate; Tuesday). Beaches, like parks, roads and schools. need to be cared for, not ignored.

A Little more than \$ 100 million a year is hardly a big expense, especially considering the law requires that every \$1 spent on beach nourishment must produce more than \$1 in benefits for the public.

Contrary to the editorial's assertion, beaches will not regroup "quite nicely" if left alone. They will continue to erode because 200 years of human intervention have impeded the natural flow of sand.

Nor is it likely that more than one-half of the population will retreat from the coast. Instead, property owners are likely to erect walls to protect their property but destroy what is left of the beach and the natural environment. Those of us in beach preservation are determined to prevent this armoring of America's coastline.

You ignore the fact that dozens of beach nourishment projects have reduced substantially the net losses of sand while maintaining the beaches that restore the natural environment, protect coastal property from storm damage and enrich the national and regional economies.

A modest investment of federal, state and local tax dollars in shore protection generates an enormous amount of economic activity. Tourism is America's No. 2 industry. contributing more than 10% to our gross domestic product. Beaches are our No. 1 travel destination. Coastal areas receive 85% of all tourist-related revenue. Billions in taxes for local, state and federal governments and tens of thousands of jobs can be attributed directly to beaches.

For its relatively tiny price tag, beach replenishment is worth the investment - for our economic infrastructure, environment and the beauty of coastal regions.

Howard Marlowe, president  
American Coastal Coalition  
Washington, D.C.

SANDRA GOLDSTEIN & ASSOCIATES, INC.  
240 CRANDON BOULEVARD, SUITE 211, KEY BISCAYNE, FL 33149  
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PHONE (305) 365-2885 . FAX (305) 365-0894  
E-MAIL: gosandra@icanect.net

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**FACSIMILE TRANSMITTAL SHEET**

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TO: C. Samuel Kissinger  
COMPANY: Key Biscayne Village  
FROM: Sandra Goldstein *SG*  
DATE: May 26, 1998  
FAX NUMBER: 305-365-8936  
NO. OF PAGES: 3 (including cover page)  
SUBJECT: Copy of letter to President of Council of Garden  
Club Presidents of Dade County

---

SG

SANDRA GOLDSTEIN  
& ASSOCIATES, INC.

May 26, 1998

Shirley Haverfield  
President  
Council of Garden Club Presidents of Dade County  
3708 Ponce de Leon Boulevard  
Coral Gables, FL 33134

Dear Shirley:

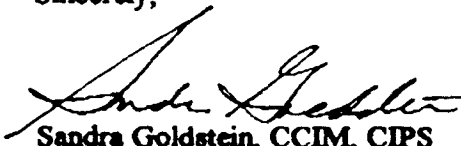
It was a tremendous opportunity to be in the presence of so many community leaders who have promoted conservation and natural resources, horticulture and the beautification of our environment. Thank you for honoring me with a Certificate of Appreciation for beach restoration work.

It is indeed extraordinary the way that dunes work. When you plant sea oats, they dig into the seascape creating a natural protection against the damaging effects of storm surges and hurricanes, and in areas where there are both renourished beaches and a planted dunescape, not only do the dunes enhance the beauty of the seascape, but they are vital for the part they play in preserving our sandy beaches, and mitigating storm damage to a considerable degree.

In Dade County there are 21 miles of beaches and most are in need of dune planting. I think it would be a great idea if we could organize the very committed people associated with the Council of Garden Club Presidents of Dade County to use their skills to spearhead the gardeners of our communities to do for the seascape what they are doing for the landscape.

I would be very happy to create a seminar for them which could alert them to the needs in the community for this effort, and provide information on the planting of sea oats and other kinds of shrubs to protect the beaches.

Sincerely,



Sandra Goldstein, CCIM, CIPS

Chair: Village Beach Resources Management Task Force, Key Biscayne

*Specializing in Commercial Real Estate, Buyer and Tenant Representation, Consulting Services*

240 CRANDON BLVD., #211, KEY BISCAYNE, FLORIDA 33149, TELEPHONE 305 365 2885, FAX 305 365 0894, PAGER 305 366 4311  
E-MAIL: gosandra@icnnect.net

- 2 -

cc Michele Padovan, Island Garden Club, Key Biscayne  
Jane Lusk-Smith, Island Garden Club, Key Biscayne  
Nancy Maloy, Chair, Beautification and Outstanding Awards Committee, Council of  
Garden Club Presidents of Dade County  
Brian Flynn, DERM, Dade County  
Sam Kissinger, Village Manager, Key Biscayne

## **Appendix C**

### **Sand Quality for Key Biscayne Beaches**

;



EVALUATION OF PROPOSED BORROW AREA  
FOR BEACH SAND NOURISHMENT  
SOUTHEAST OF KEY BISCAYNE, FLORIDA

By Harold R. Wanless

Introduction

Key Biscayne is the most southerly of the sand island barriers along the Atlantic coast of the United States. Littoral sand moving southward past Key Biscayne has created a submerged sand ridge that extends for about five miles southeastward from Key Biscayne. Ebb tidal flow through Cape Florida Channel at the south end of Key Biscayne and other channels in the mud bar belt to the south have shifted this sand ridge eastward from the trend of Key Biscayne. Ebb tidal flow through Cape Florida Channel has also created a broad shallow littoral sand platform to the east of the southern portion of Key Biscayne (Figures 1 and 2). The seaward margin of this platform is mobile sand. Lower energy conditions in from the platform margin have permitted seagrasses to colonize. These are shown in black in Figure 1 and the darker area in the top center of Figure 2.

The beaches along Key Biscayne and the loose mobile sand bottoms on the littoral sand platform contain sands that are predominantly coarser than 200 microns in size. These sands move mainly along the bottom (as a "bedload") forming ripples and dunes (Figure 2). In the areas of seagrass cover on the littoral sand platform, the sand is much finer, predominantly less than 200 microns. Seagrass beds actively inhibit the transport

sediment along the bottom, but actively trap the finer sands that are transported across the platform in suspension during storms.

Throughout the discussions on the proposed beach nourishment for Key Biscayne, it has been the writer's contention that the borrow area should be on the mobile sand portion of the littoral platform to the south of Key Biscayne. This is a sand of a quality quite comparable to that found on the beaches of central and southern Key Biscayne. Though this sand body forms the low ridge, it does not protect an adjacent shoreline. It is simply sand that has moved on past Key Biscayne's beaches.

It has also been the writer's contention that the seaward margins of the littoral platform adjacent to Key Biscayne should not be disturbed. The shallow mobile sand ridge provides significant wave protection during storms, a protection to which the beaches are adjusted.

Further, the seagrass beds should not be used as a borrow source for two reasons: a) they generally contain sand that is too fine grained to be satisfactory beach nourishment and b) if the seagrass cover is disturbed, this finer grained sand on the littoral sand platform tends to become very dynamic and can cause severe changes to the littoral sand platform. Serious changes have taken place on the platform seaward of northern Key Biscayne as a result of a borrow pit constructed in 1969.

#### Procedures

In order to evaluate the proposed borrow area, I traveled to Clewiston, Florida, on April 1, 1981, to the Corps of Engineers headquarters. I was met there by Mr. Doug Rosen from the Corps, and he permitted me to obtain samples from

the core borings made in the proposed borrow area. I obtained 200-300 grams of material, and stored it in a glass jar for return to Miami. Samples were taken from each core, except from Core #43 below 11 feet. For this, there would have been insufficient sample remaining if I had taken a subsample.

At our laboratory these samples were analyzed for grain-size distribution by both sieving and settling. Samples from Cores #43, #45, #47, and #49 were sieved in order to provide a comparison with the Corps of Engineers's analysis and to provide a standard for comparison with our settling analysis. Each sample for sieving was split in half with a sample splitter. One half of the sample was used for sieve analysis, and one half was saved. Each sample split to be sieved was washed to remove salt content, dried, and weighed on a Mettler balance. The sample was then sieved through a stack of 9 inch diameter Tyler sieves. Sieves were at half phi (0) intervals between 4,000 microns (-2 phi) and 62 microns (4 phi). Sieving was done on an electromagnetic vibrating sieve machine for 10 minutes. Sieved fractions were reweighed and are expressed in Table 1 as weight per cent in each size fraction. Cumulative weight per cent coarser than is shown in Table 2.

Settling analysis was performed on each sample taken.

This was done because a significant percentage of each sample contained carbonate grains which have a hydrodynamic behavior that is much different than for quartz. As a result, in many cases sieve analysis provides a highly misleading evaluation of the suitability of the sediment for beach nourishment.

Settling analysis is at least a first approximation of the hydrodynamic behavior of the total sample. Settling analysis

is performed on a vertical accumulation tube. For settling of each sample, one teaspoon of sediment was taken. This was then wet sieved through a 2mm mesh sieve to remove coarser fraction that would jam the settling tube. Both the finer and coarser than 2mm fractions were then dried and weighed. The finer fraction to be settled was then soaked in tap water for about an hour for settling so that it would absorb water and lose any bubbles. Settling was done in tap water at 18.5-19°C. The settled sample was then removed from the vertical accumulation tube, dried and reweighed. Difference between sand weight after settling and before settling was inferred to represent the fraction less than 62.5 microns (4 phi). The vertical accumulation tube records volume per cent not weight per cent. Results are thus expressed on Tables 3 and 4 as volume per cent and volume per cent coarser than. The greater than 2mm weight per cent, and the less than 62.5 micron weight per cent, however, were recalculated into the samples. This introduces some error.

### Results

Figures 3, 4, 5, and 6 compare the sieve results done in our laboratory with those provided by the Corps of Engineers. Our results are simply plotted on top of the Corps of Engineers data. In two of the samples, Cores #43 and #47, results compare very closely. Our results indicated Cores #45 and #49 to be somewhat finer grained than was suggested by the Corps's sieving. The discrepancy is not significant, and in the case of Core #49, appears simply to represent a slight increase in coarser shell debris in the Corps of Engineers sample than happened to be in our sample.

Results of settling analyses are tabulated in Tables 3 and 4.

Our sieve data and settling data are plotted as size distribution curves on Figures 7, 8, and 9. These curves show that the bulk of the sediment for each sediment behaves similarly by both sieving and settling analyses. In each case the coarser than 0 phi (1mm) portion of the sieve analyses settled as significantly finer grains. This coarser fraction is mainly platy shell material and behaves as hydrodynamically finer grains. The sample for Core #46 shows by far the best sorting. This is to be expected as it was from the seaward margin of the littoral sand platform. The peaks of the grain-sized curves from Cores #43, #45, #46, #47, #48, and #49 were at about  $1\frac{1}{2}$  phi (350 microns). The peak of the curve from Core #44 is about a  $\frac{1}{2}$  phi unit finer, occurring at about 2 phi. No sample contained a significant amount of silt material (less than 62.5 microns; greater than 4 phi).

### Evaluation

#### Quality of Cores

Though the core logs indicate that there was between 30 and 80 per cent recovery, the samples archived and examined at Clewiston contained very little sediment from each core. This is not especially disturbing, because previous coring by the writer in the proposed nourishment area showed that the sediment sequence was fairly uniform in character, except for the bottom 6 inches just above limestone bedrock.

#### Comparison of Results With Beach Sands on Key Biscayne

The March 23 report of the Army Corps of Engineers contained a transect across the beach in a section of Cape Florida. I

hope that this will not be taken as representative of the whole area to be nourished. I presume the Corps has other analyses of beach sands from the central and southern sector of Key Biscayne's beach. Figure 10 shows beach sand analysis conducted by the writer during a Sea Grant project in 1972. Samples were taken in November, 1972. In this figure, grain size distribution is by settling. Transects 1, 2, and 3 are in the proposed nourishment area. Transect 4 is at the southern end of Crandon Park, just north of the proposed nourishment area. The samples from Transects 1, 2, and 3, though better sorted than most of the sands from the proposed borrow area, are generally similar. The beach sample (B) from transect 3 is significantly coarser. This likely reflects the more exposed character of the shore in this area (there is no shallow littoral sand platform seaward of much of the commercial sector of Key Biscayne). The fineness of the beach sand (B) on transect 2 may be related either to a small beach nourishment effort that had occurred just to the north or to the proximity of the seagrass beds just offshore.

#### Grain Sizes in Borrow Area Suitable for Beach Nourishment

Except for in the area in the vicinity of Core #44, the cores in the proposed borrow area appear to represent sand suitable for nourishment of the central to southern sectors of Key Biscayne. The sand in Core #44 is significantly finer grained than in the other areas. This is likely due to the proximity to the area of seagrass cover on the littoral sand platform. It is recommended that the very northern part of the borrow area not be used both because sand is somewhat finer than desirable for beach nourishment and because disruption

by borrowing from this portion of the littoral sand platform may have damaging consequences to the platform.

#### Silt Content and Durability of Carbonate Grains

The sands in the proposed borrow area contain less than 1 per cent grains finer than 62.5 microns (silt). Silt and clay-sized material in the proposed nourishment source will thus not be a significant problem. A second potential source of silt and turbidity is from the rapid breakdown of delicate calcareous grains in the sediment. As shown by the settling analysis and by visual inspection of the grains, most of the carbonate grains in the proposed borrow area are of satisfactory durability to place on a beach. Most of the carbonate grains are somewhat rounded and previously abraded as a result of a history of dynamic movement both on the shore and on the mobile part of the littoral sand platform. Sediment in the proposed sand borrow area is suitable both in respect to silt content and durability of the carbonate grains.

#### Proximity of the Borrow Area to Seagrass Beds

In their March 23rd report, the Corps of Engineers included a copy of an aerial photograph apparently taken recently. This photograph shows patchy seagrass cover quite close to the northern limits of the proposed borrow area. This aerial photograph has superimposed on it the sampling lines and the proposed borrow area. Earlier aerial photographs, such as the aerial photograph from 1967 that is included in this report in both Figures 2 and 11, show that at other times the seagrass cover was more set back from the proposed borrow area. The 1967 aerial photograph was taken one year after a series of hurricane years. Thus, the more extensive seagrass cover in the recent aerial

photograph has likely been permitted by the lack of hurricanes since 1966, and seagrass cover near the proposed borrow area is probably ephemeral. Nevertheless, as suggested by the finer grained sediment in Core #44 near the northern margin of the proposed borrow area, it is advised that the borrow area be shifted southward slightly to eliminate any problems that might be associated with areas of seagrass stabilization.

#### Seaward Margin of the Littoral Sand Platform

The eastern point of the proposed borrow area lies essentially at the seaward edge of the littoral sand platform. In this area, the eastern edge of the platform is a shallow sand wave. As shown in Core #46, this sand is well sorted and perhaps the best sand for shore nourishment. On the other hand, the ridge is both a viable protection against wave attack for inshore areas and is a natural part of the littoral drift system on the seaward margin of the platform. It is recommended that that part of the littoral sand platform within 100 yards of the marginal sand wave crest not be disturbed. It is thus proposed that the eastern edge of the borrow area set back somewhat. This proposed setback is shown by a dash line in Figure 11 and as a blue line on the photograph copy supplied by the Corps of Engineers's report.

#### Thickness of Sediment

As indicated by the Corps of Engineers's bathometric profile, the southwest corner of the proposed borrow area has less than one foot of sediment cover above limestone bedrock. It, thus, is not a viable borrow zone and has been eliminated from the borrow area recommended by the writer.



### Proposed Borrow Area

Figure 11 shows, in a solid line, the general location of the borrow area, as recommended by the Corps of Engineers. The dash line on this photograph shows the general location of the borrow area proposed in this report. Because of arguments presented previously, it cuts off the northeast and southwest corners of the borrow area as defined by the Corps of Engineers. It stays approximately 100 yards west of the littoral platform margin and it extends on southward to the extent necessary to fulfill the borrow requirements of the nourishment project.

### The Groin

I believe the current design for beach nourishment on Key Biscayne includes a groin structure south of the lighthouse. The concept may be fine, but I have seen no evidence that it is designed with a clear understanding of the causes for shore erosion in the vicinity of the lighthouse.

Design of this structure must recognize that major sand loss from the south end of the island is related to (1) artificial deepening of Cape Florida Channel creating a sediment sink, (2) increased exposure to southerly wave attack because of channel widening and deepening of the channel, and (3) loss of a beach on the back side of the island because of bulkheading of that shoreline in the late 1940's. The latter eliminated a beach sand reservoir that had served as a buffer to short term erosion.

### Concluding Note

The sand in the proposed borrow area, with the minor modifications shown in Figure 11, is suitable sand for nourish-

ment of the beach of central and southern Key Biscayne.

Decent sand for shore nourishment is an incredibly valuable commodity. I very, very strongly recommend that the County use this resource wisely, not extravagantly. There are a number of reasons that indicate that sand will be desperately needed over the next 50 to 100 years to protect the shorelines of Key Biscayne and Virginia Key.

First, since the construction of the groins on Government Cut in the late 1920's and early 1930's, essentially no sand has moved south to provide natural nourishment to Virginia Key's and Key Biscayne's littoral system. Because there is a significant net southerly drift of sand on these islands, there will come in the not-too-distant future an urgent need for nourishment of portions of these islands or decision to have to abandon their shore positions. Secondly, it is becoming well recognized that there has been a recent drastic increase in rise of sealevel, presumably through increase of the rate of melting from the polar ice caps. There are strong suggestions that the present rate of sealevel rise is on the order of 10-14mm per year. If this is true, and if this continues for any significant time in the future, our sand resources such as those to the southeast of Key Biscayne will be absolutely invaluable for meeting shore management decisions that we have not yet even begun to consider. Those numbers if continued correspond to a sealevel rise of 3.3-4.6 feet per 100 years.

Respectfully submitted,



Harold R. Wanless

Dated: April 10, 1981

## Greater Than

## Less Than

[illegible]

Table 1

Less  
Than

Table 2

## SETTLING FRACTIONS

Less  
Than

## Greater Than

[illegible]

Table 3

SETTLING FRACTIONS  
Cumulative Percentage  
Greater Than

SAMPLE #	φ mm	-2.0	-1.5	-1.0	-0.5	0.0	+0.5	+1.0	+1.5	+2.0	+2.5	+3.0	+3.5	+4.0	Less Than
		4.0	2.8	2.0	1.4	1.0	0.710	0.500	0.355	0.250	0.170	0.125	0.090	0.063	0.063
43	(6.5-11.5)	----	----	1.36	1.36	1.36	2.34	7.23	34.12	66.87	92.29	97.67	98.16	99.14	100.00
44	(6.5-10.5)	----	----	0.35	0.35	0.35	0.35	16.21	29.10	59.83	92.55	97.51	98.50	99.49	100.00
44	(10.5-13.5)	----	----	----	----	----	1.00	5.99	26.96	59.91	93.86	98.85	99.85	99.85	100.00
45	(5.4-9.6)	----	----	3.07	3.07	5.01	12.76	37.94	61.19	79.59	93.15	98.00	98.97	99.94	100.00
45	(9.6-12.6)	----	----	1.01	1.01	1.01	7.94	24.77	49.52	76.25	92.09	98.03	99.02	100.00	100.00
46	(8.7-13.2)	----	----	----	----	----	2.00	6.00	35.00	84.00	98.00	100.00	100.00	100.00	100.00
47	(6.2-11.7)	----	----	0.64	0.64	1.63	6.58	25.40	52.15	81.87	95.74	98.71	99.21	99.71	100.00
48	(4.7-8.7)	----	----	3.70	3.70	5.62	10.23	29.42	54.37	80.28	94.67	98.51	98.89	99.66	100.00
48	(8.7-12.4)	----	----	2.09	2.09	3.07	10.90	29.49	50.03	81.33	96.00	98.93	99.91	99.91	100.00
49	(6.3-12.0)	----	----	2.40	2.40	3.38	7.28	19.97	45.35	76.58	95.12	100.00	100.00	100.00	100.00

Table 4

- Figure 1. (a) Sketch of sedimentary environments adjacent to Key Biscayne, Florida. Black denotes areas of seagrass cover.
- (b) Explanation of origin of broad littoral sand platforms seaward of northern and southern Key Biscayne.

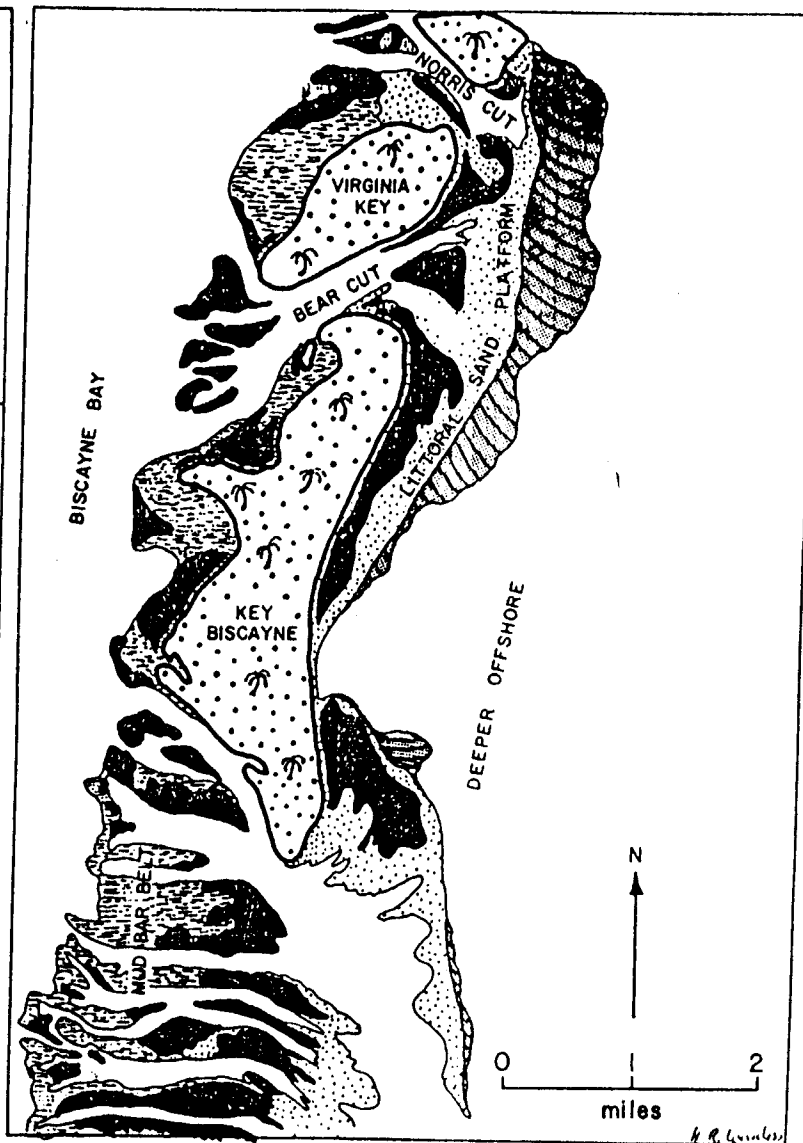
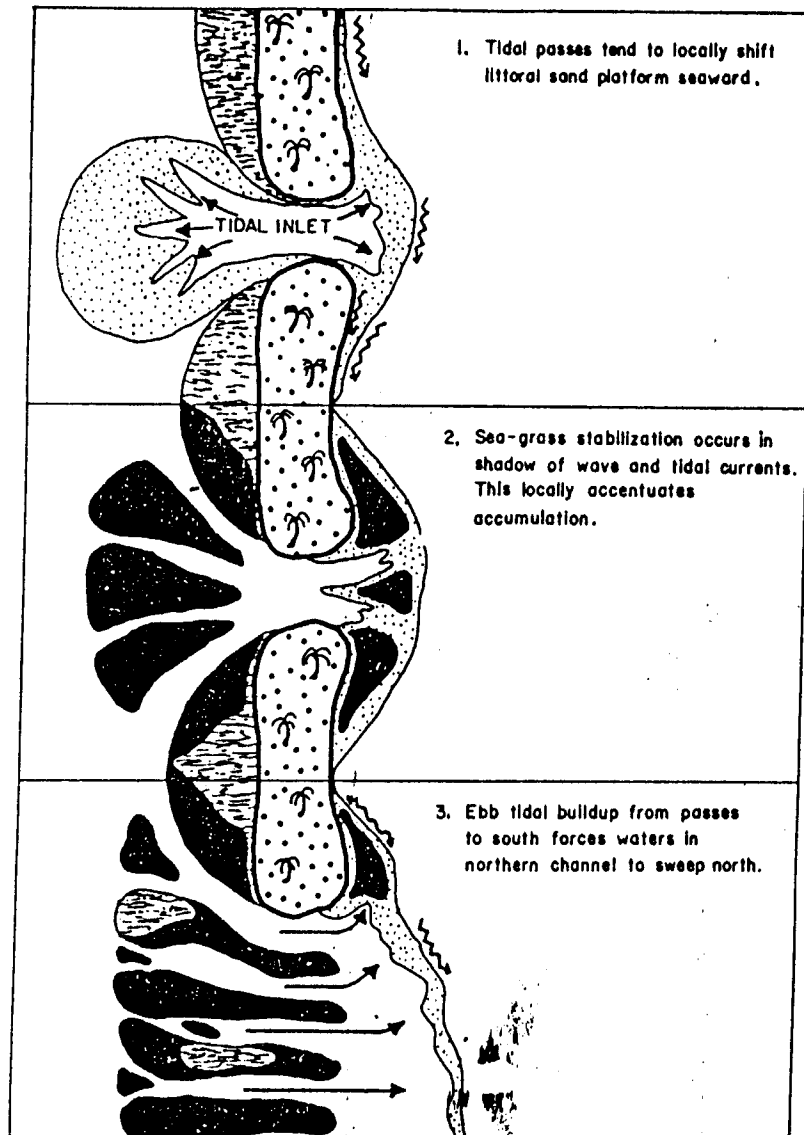




Figure 2. Vertical aerial photograph of southern Key Biscayne and seaward littoral sand platform. Longshore transport (wiggly arrows) occurs both along the shore and along the seaward margin of the littoral sand platform. Ebb tidal flow (arrows) sweeps sand seaward. Seagrass cover on littoral sand platform (top center) shows up dark.

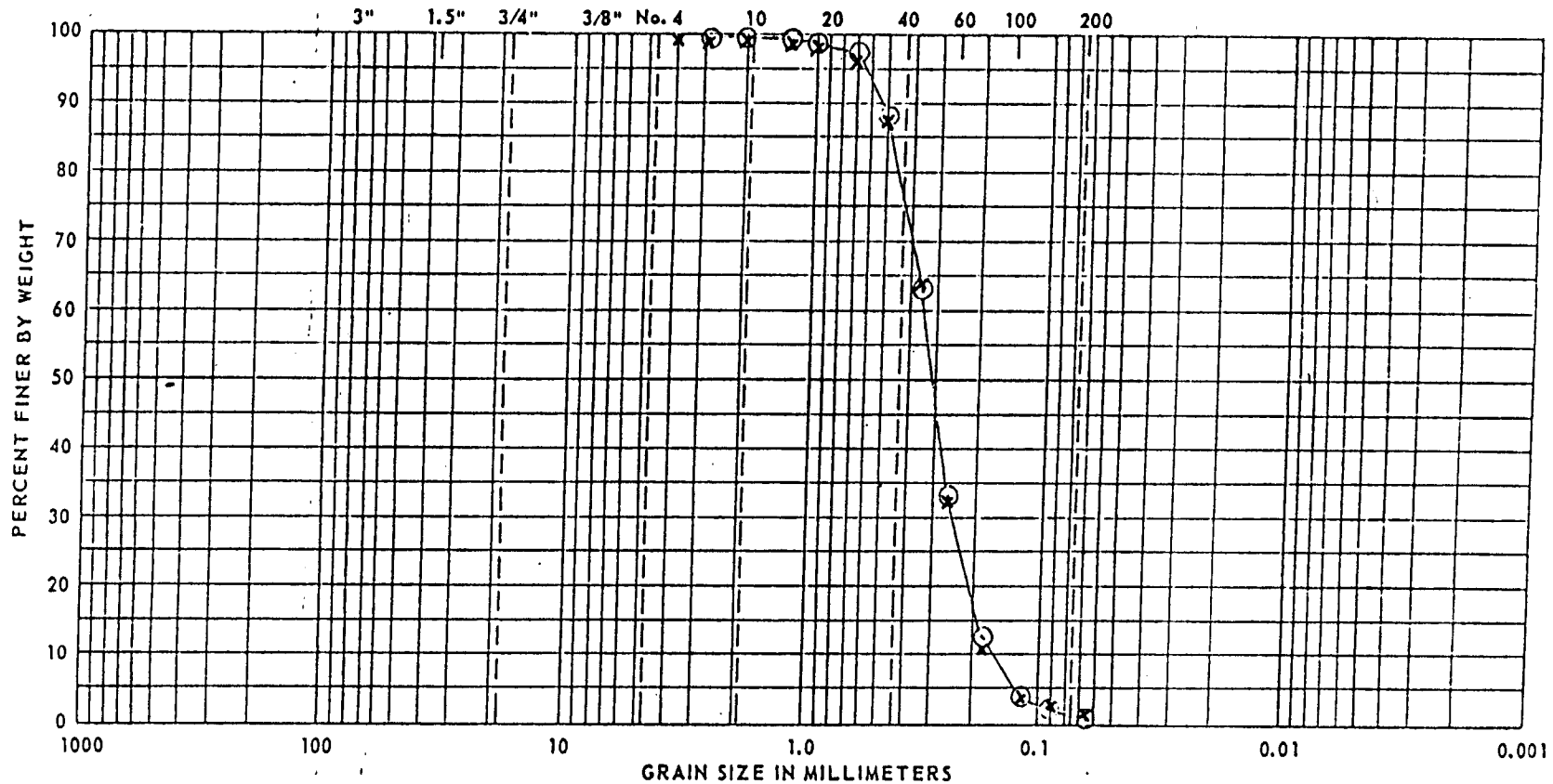
Extensive dredging of the Cape Florida Channel took place in the late 1940's. Sand carried to the south tip of the island by longshore drift is now lost into the channel during flood tides.



Figures 3-6. Plot of cumulative grain size distribution by sieving. Circled dots and solid lines are data from Corps of Engineers report.. Dashed lines and "X"'s are data from this report.

# GRAIN SIZE DISTRIBUTION CURVE

U. S. STANDARD SIEVE SIZE



COBBLES	GRAVEL		SAND			SILT OR CLAY	
	COARSE	FINE	COARSE	MEDIUM	FINE		

SAMPLE NO.	BORING	DEPTH	LINE	CLASSIFICATION	NAT. WC	LL	PL	PI	REMARKS	PLOTTED BY
CB-K13-43		6.5'-	---	SP Poorly Graded,						I.T.
		11.5'	---	Fine To Medium						
			---	Sand With Shell						
			---							

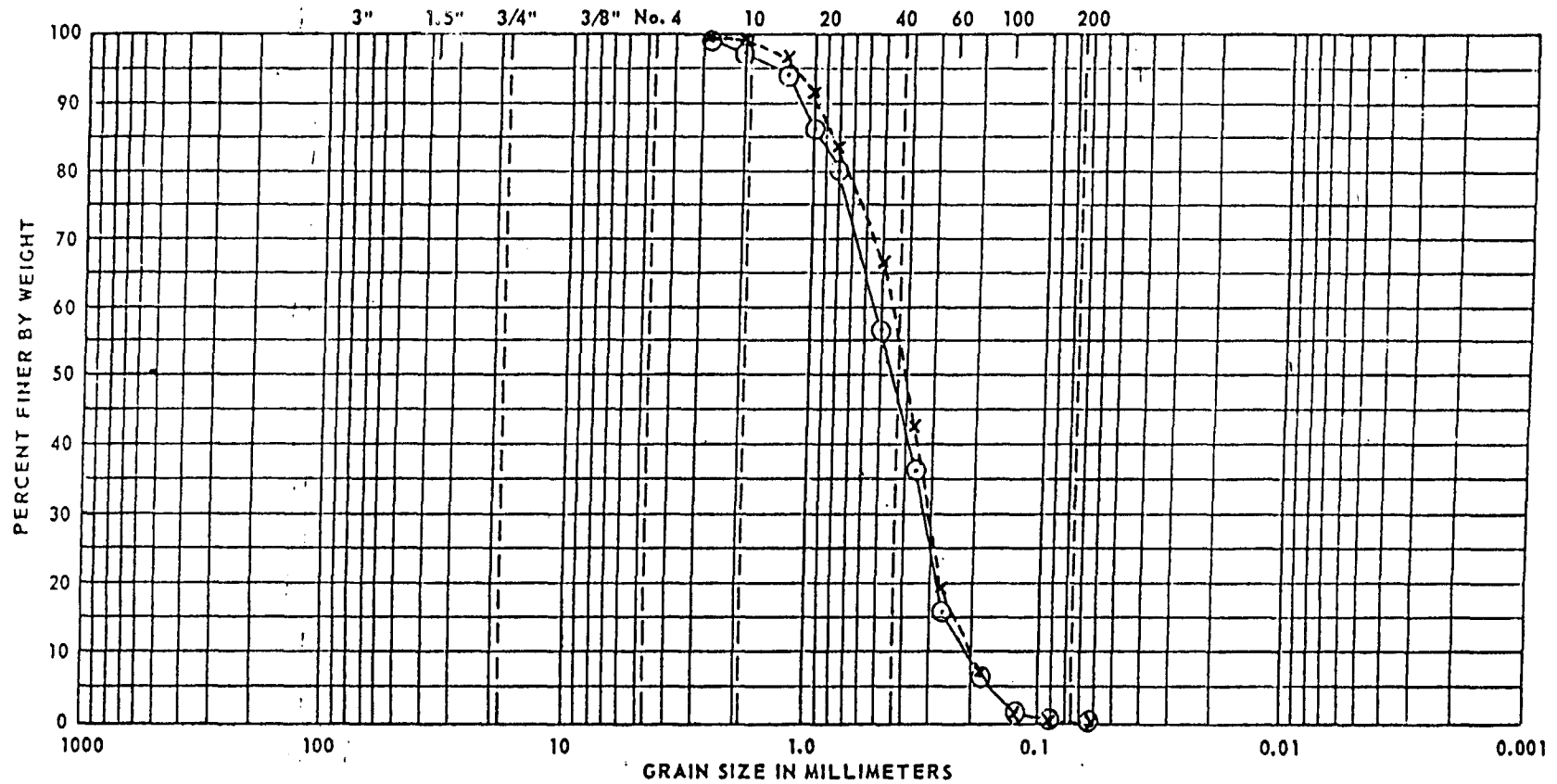
PITTSBURGH TESTING LABORATORY

ORDER NO. JA-2856

Figure 3

# GRAIN SIZE DISTRIBUTION CURVE

U. S. STANDARD SIEVE SIZE



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

SAMPLE NO.	BORING	DEPTH	LINE	CLASSIFICATION	NAT. WC	LL	PL	PI	REMARKS	PLOTTED BY:
CB-KB-45		5.6'-	---	SP Poorly Graded,						I. T.
		12.6'	---	Fine To Medium						
			---	Sand With Shell						
			---							

PITTSBURGH TESTING LABORATORY

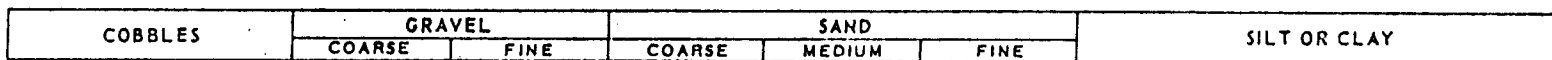
ORDER NO. JA-2856

Figure 4

ORDER  
PITTSBURGH TESTING LABORATORY

ORDER NO. JA-2856

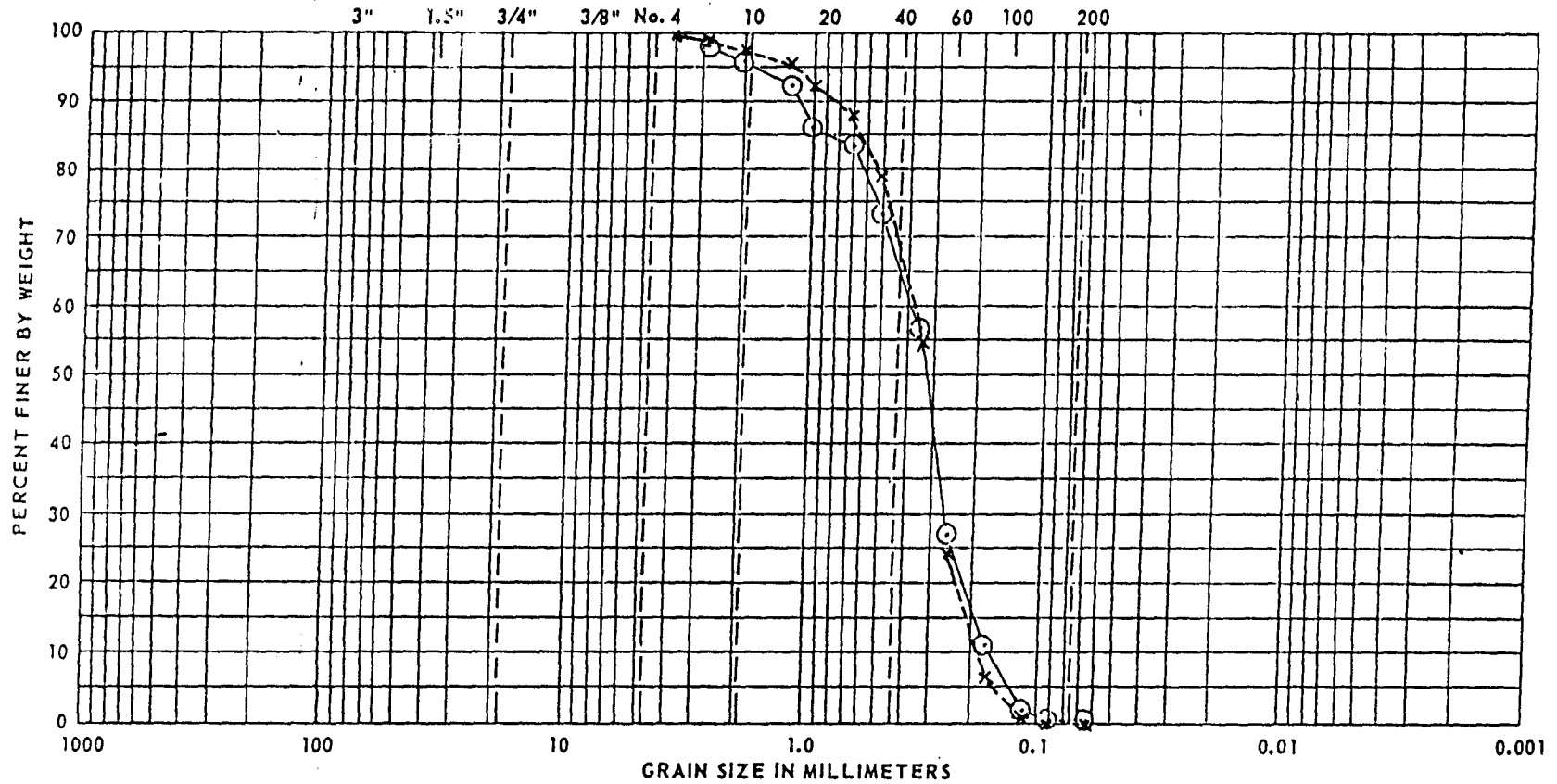
Figure 5



SAMPLE NO.	BORING	DEPTH.	LINE	CLASSIFICATION	NAT. WC	LL	PL	PI	REMARKS	PLOTTED BY
CB-KB		6.2'-	—	SP Poorly Graded,						J. T
47		11.7'	--	fine To Medium						
			---	Sand With Shell						
			----							

# GRAIN SIZE DISTRIBUTION CURVE

U. S. STANDARD SIEVE SIZE



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

SAMPLE NO.	BORING	DEPTH	LINE	CLASSIFICATION	NAT. WC	LL	PL	PI	REMARKS	PLOTTED BY:
CB-KB-49		6.3'	---	SP. Poorly Graded,						J.T.
		12.0'	---	Fine To Medium						
			---	Sand With Shell						
			---							

PITTSBURGH TESTING LABORATORY

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Figure 6

Figures 7-9. Grain size distribution curves for samples analyzed in this report. Dots and dotted lines are sieve data (cores 43, 45, 47, and 49). Pluses (+) and circles(o) and solid lines are settling data. Portions of settling curve finer than 200 microns are shaded. This size has a tendency to move as a suspended load and not be suitable as beach sand.

Horizontal scale is grain size in phi ( $\phi$ )  
(4 = 62.4 microns; 3 = 125 microns; 2 = 250 microns; 1 = 500 microns; 0 = 1000 microns; -1 = 2000 microns; and -2 = 400 microns).



Figure 7

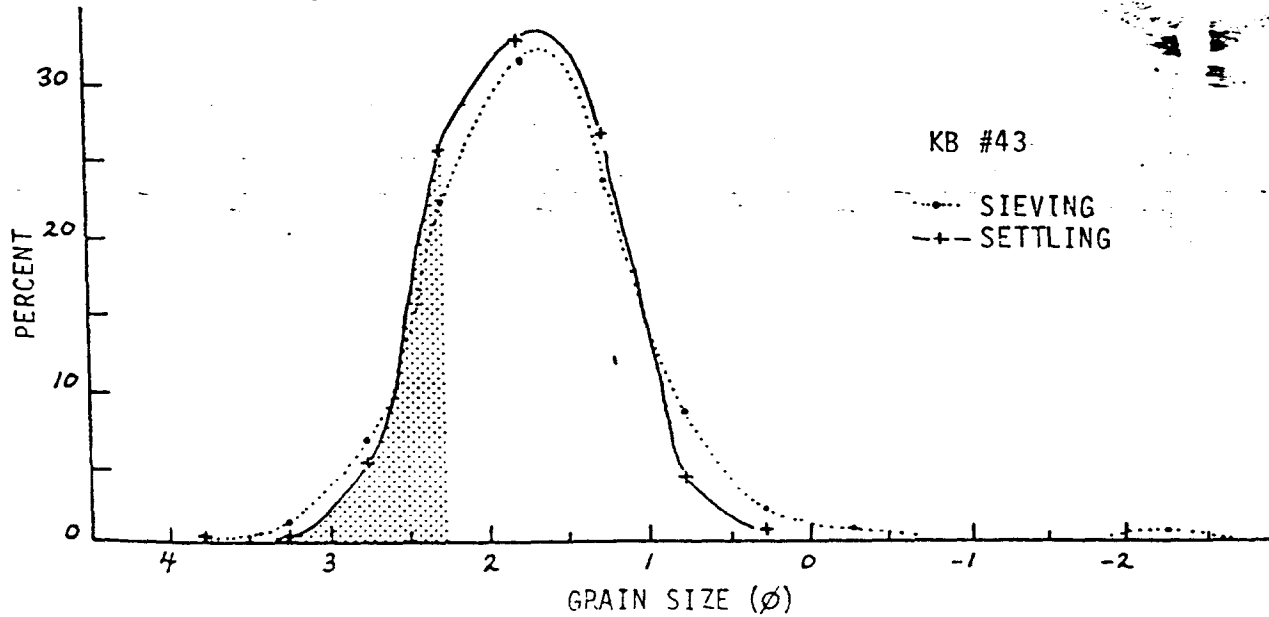
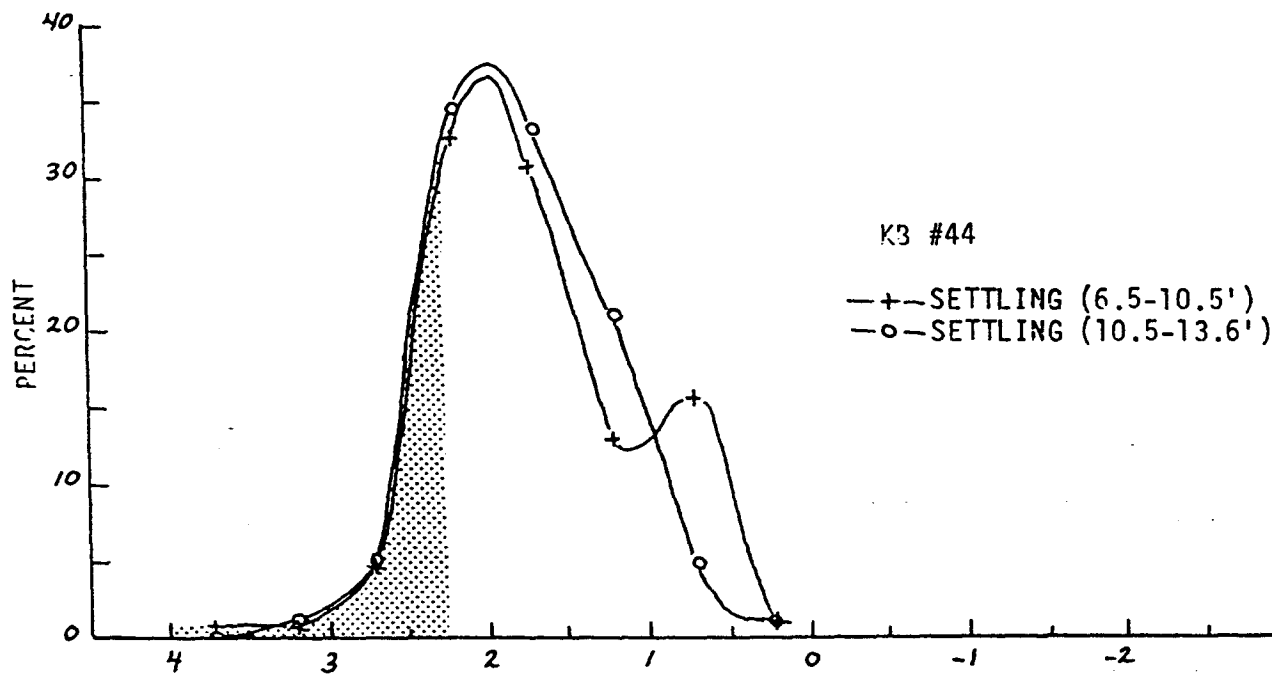
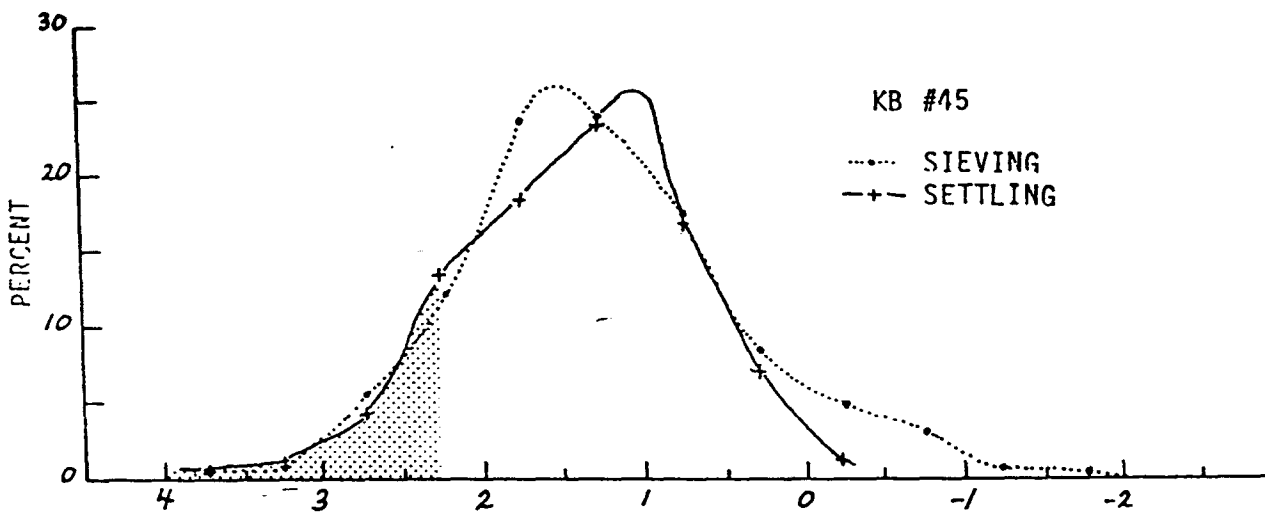


Figure 8

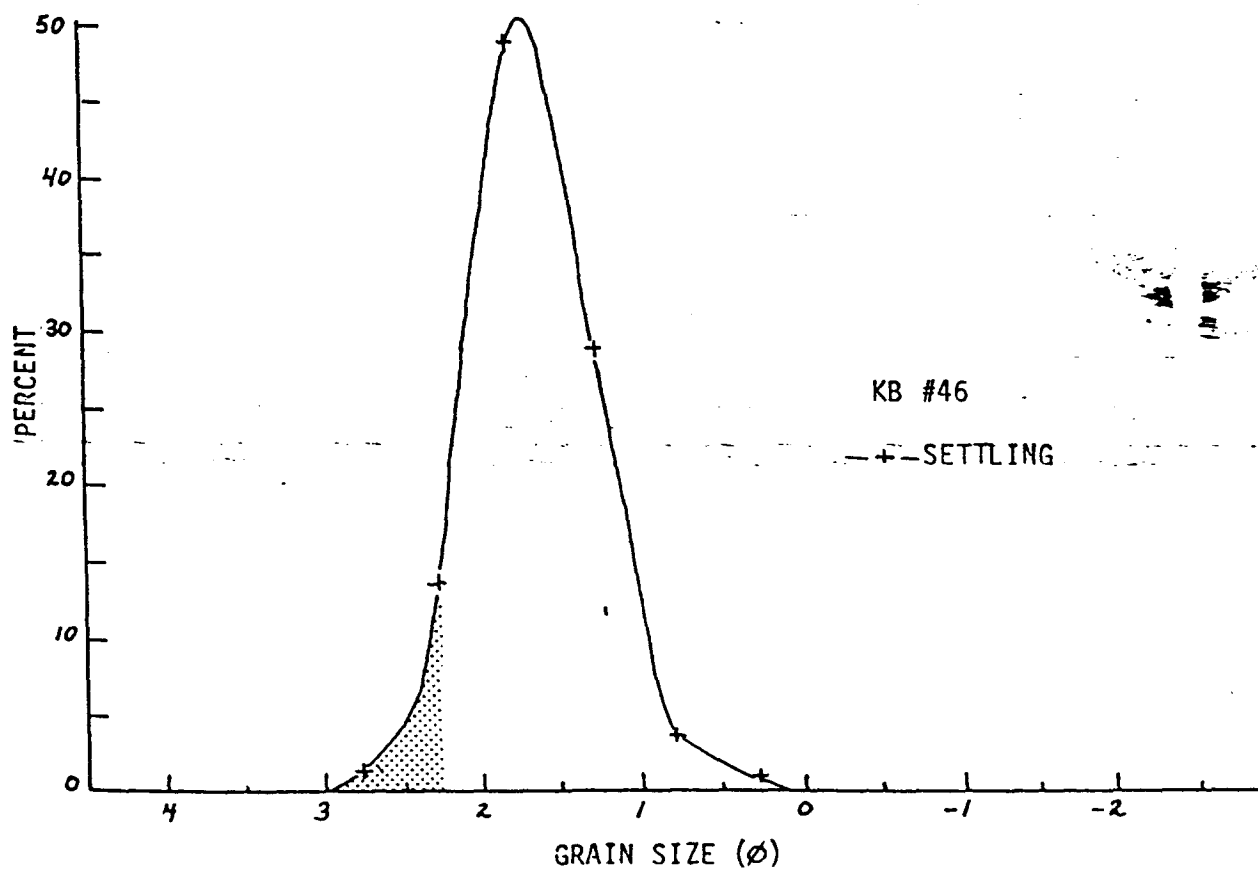
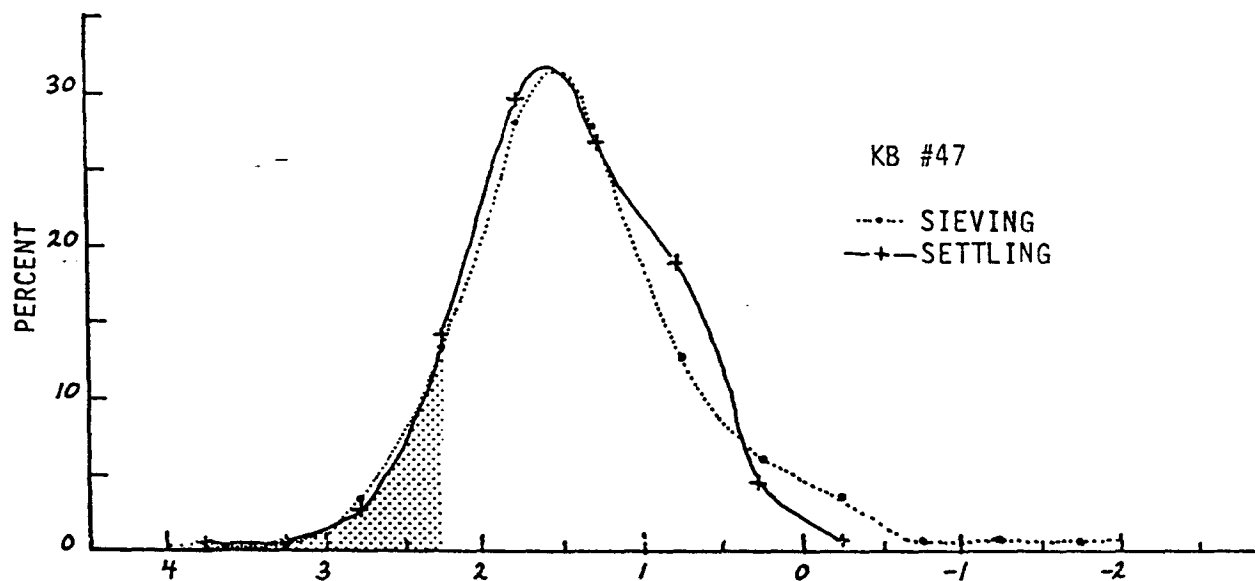


Figure 9

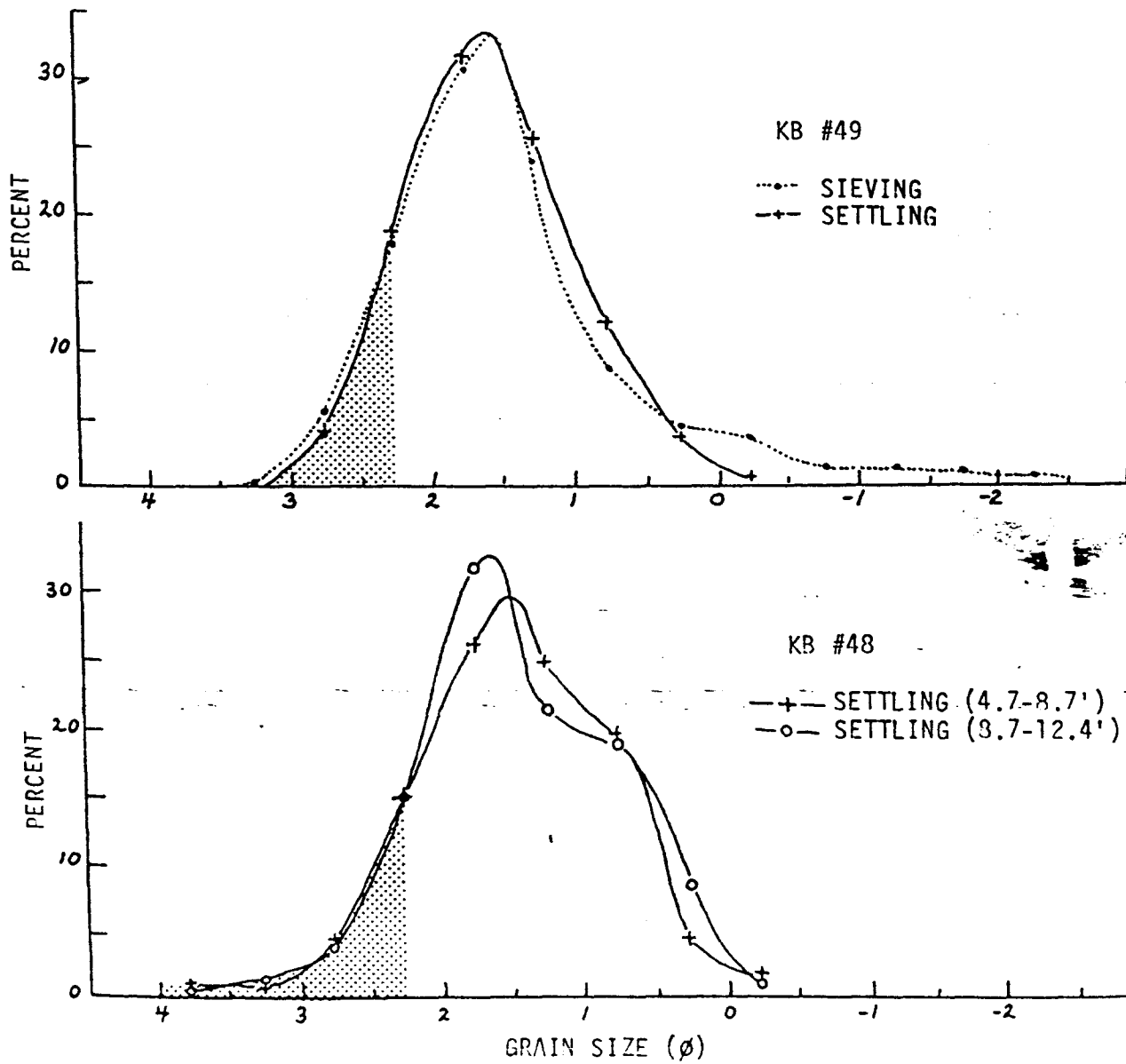
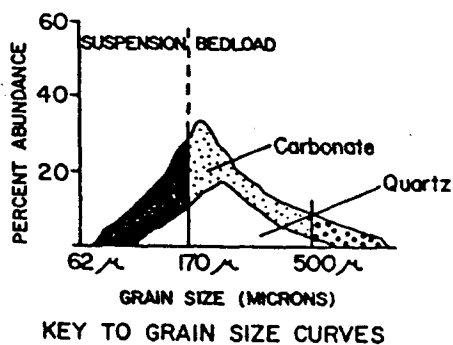


Figure 10. Grain size data for beach sands in Dade County. Samples were taken in November, 1972. Samples on transects 5, 6, 7, and 8 were influenced by a beach nourishment done in 1969. Transect 12 is also associated with previous nourishment projects. Other samples are thought to represent natural sand. See key below to read grain size curves.



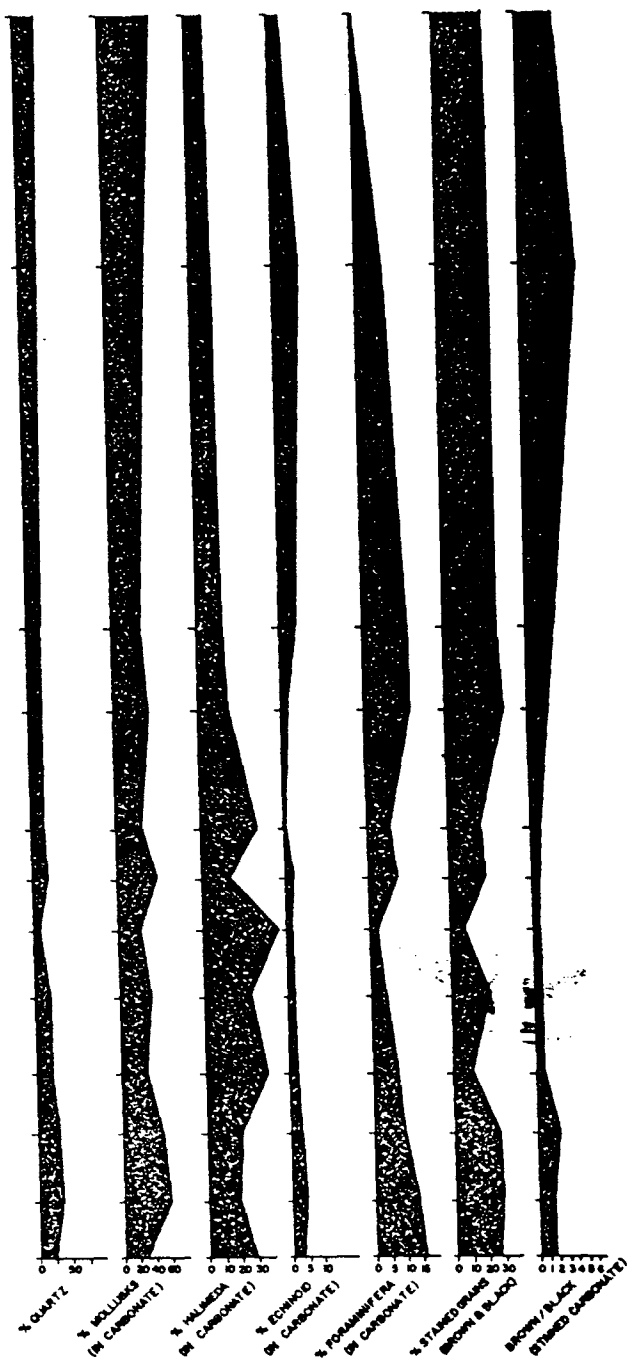
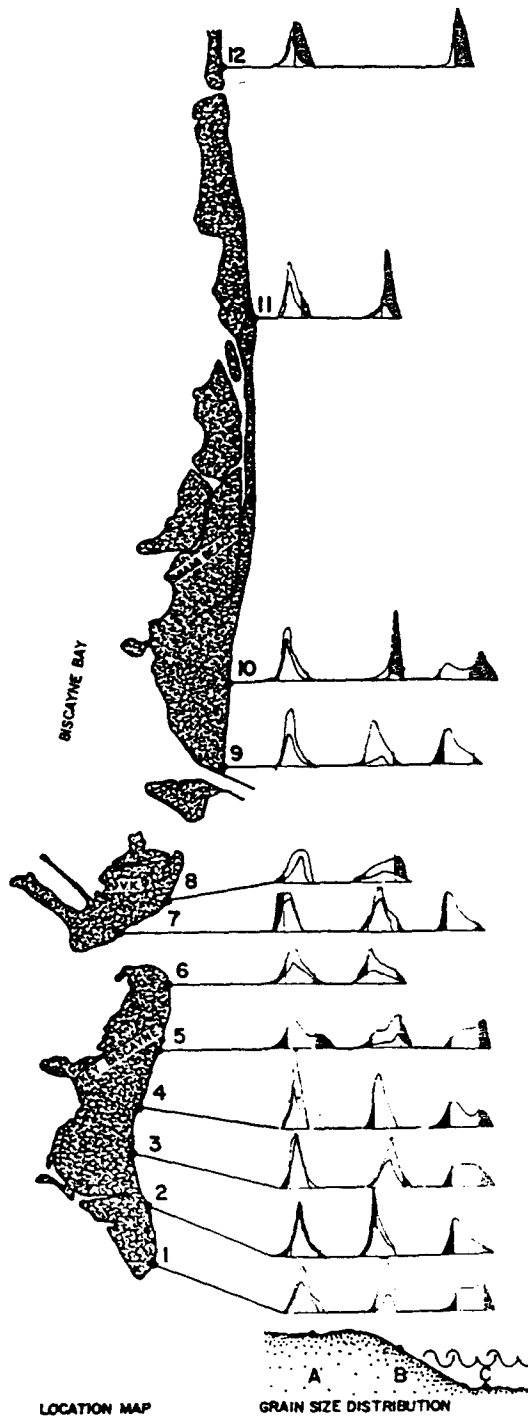




Figure 11. Vertical aerial photograph of southern Key Biscayne and adjacent littoral sand platform taken October 26, 1967 (#C&G5-56469). Solid line outlines approximate location of burrow proposed by Corps of Engineers (in communication to Mr. Edward Swakon on March 23, 1981). Dashed line outlines approximate location of burrow area recommended in this report (accurate location of proposed burrow area is shown on attached maps). Because of hurricanes in 1964, 1965 and 1966, seagrass cover (dark) on the littoral sand platform is less in this 1967 photograph than in more recent photography.

RESOLUTION ON SAND QUALITY TO BE USED MAINTAINING THE OCEAN  
BEACH OF KEY BISCAZYNE

APPROVED BY THE BEACH RESOURCES TASK FORCE  
of the  
VILLAGE OF KEY BISCAZYNE  
JUNE 17, 1998

**RESOLUTION:** Future sand renourishment of the ocean beach of Key Biscayne shall use only high quality sand that meets the requirements set forth below so as to guarantee a beach system that will remain a top quality recreational and protective beach and remain a positive environmental influence.

The ideal sand to be used for future renourishment of Key Biscayne's beach would have no material finer than 200 microns, less than 50 per cent coarser than 500 microns, and no material coarser than 1,000 microns (see Figure 1). The sand would have 25-80 per cent durable carbonate grains in which the grain size is verified by settling analyses.

The minimum quality sand to be placed on the beaches of Key Biscayne is shown in Figure 1. In this, less than 5 percent is finer than 80 microns, less than 25 per cent is finer than 200 microns, less than 10 per cent is coarser than 1,000 microns, and no rock aggregate particles are coarser than 5000 microns (5 mm). No shell is coarser than 3 cm.

**PURPOSE**

This resolution is to provide assurance that the ocean shoreline on Key Biscayne is maintained as a top quality recreational and protective beach which will positively affect the offshore marine environment, the beach dune environment, the human and natural users of the beach-dune system, and the landward environment and developments.

**BACKGROUND**

Key Biscayne's beach is unique. Any attempt to manage or restore Key Biscayne's beach must be based upon knowledge of the differences between Key Biscayne's beach and other Atlantic coast beaches.

Key Biscayne is the most southerly sandy barrier island on the Atlantic coast of the United States. Key Biscayne, and its ocean beach, has formed over the past several thousand years as sand extended southward from the north. Key Biscayne extends southward as a sandy finger into the subtropical *carbonate*<sup>1</sup> environments of Biscayne

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<sup>1</sup> *Carbonate* is used to describe environments where the sediment is locally produced gravel-, sand- and mud-sized particles of calcium carbonate derived from the skeletons of organisms, precipitation from sea water (oolitic grains and some mud) or aggregations of carbonate mud. Skeletal carbonate sand grains may be whole skeletons or broken fragments.

Bay and the Reef Tract. Sands comprising Key Biscayne and its beach are 20-30% quartz grains that have been transported from the weathered Appalachian Mountains. The remaining 70-80% of the sand is skeletal grains of calcium carbonate. A part of the skeletal component is robust rounded fragments of mollusk shells. These grains have been incorporated into the beach sands as they moved south to Key Biscayne. The remaining skeletal components, 40-60% of the sand, are more delicate and porous skeletal fragments derived from the more local marine environments offshore.

A net southward transport of sand along the beaches of Dade County (estimated to be at least 80,000 cubic yards of sediment per year) is driven by the north and northeasterly winds following winter cold fronts. The quartz-carbonate sand of the Key Biscayne shore system extends southeast about 5 miles as a subtidal spit and fades out to the east of the mud banks of the Safety Valve.

Key Biscayne's beach, though exposed to numerous winter storms and hurricanes, differs from the Atlantic beaches to the north in that it lies in the complete protection of the Bahamas and so does not receive oceanic swells of the Atlantic Ocean. In addition, shallow water limestone ridges to seaward provide some protection from waves generated in the Straits of Florida. This more protected setting has permitted tidal processes to have more influence on the morphology of the barrier island system. Major natural inlets to the north and south of Key Biscayne, maintained by tidal exchange with Biscayne Bay have been permanent features through historic time. Southward drifting sand, caught in these tidal systems, has formed large flood and ebb tidal deltas. The ebb tidal deltas have formed broad, shallow *littoral*<sup>2</sup> sand platforms seaward of northern and southern Key Biscayne. Waves have smoothed the seaward margins of these ebb tidal deltas, and longshore currents have formed offshore bars extending the deltas southward and northward towards central Key Biscayne. However, the shore of central Key Biscayne is not protected by a shallow littoral sand platform to the seaward.

The exposed seaward margin of the ebb tidal deltas and bars is barren rippled sand. The interior of the shallow littoral sand platform behind this protection is sufficiently protected that seagrasses have colonized and flourish. This seagrass cover provides a stable bottom which permits an important bottom fauna to persist, is a wave baffling influence that actively traps finer suspended sands, and provides substrate stabilization during storms through the deeply penetrating rhizome and root mat. Areas of persistent seagrass cover have accumulated sands that are much finer than would be stable on the adjacent bare bottom areas or beaches.

Seaward of the beach of central Key Biscayne and the littoral sand platforms of northern and southern Key Biscayne, the bottom deepens to an exposed limestone

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<sup>2</sup> *Littoral* is a shallow zone seaward of the beach which is subjected to waves and currents associated with shallowing waves, longshore drift and, near inlets, tidal currents. Off Key Biscayne the shallow littoral sand platform extends as much as 1 mile seaward of the shore and is composed of quartz-carbonate sand similar in composition (but not necessarily grain size) as the beach, but is different fin composition from sands to the seaward.



surface 20-25 feet in depth. The quartz-carbonate sands of the shore system do not extend out onto this deeper seaward shelf; this area has skeletal carbonate sands filling depressions in the limestone and as subtidal sand waves.

## **SAND QUALITY**

To assure optimal quality of Key Biscayne's beach as the result of any future beach renourishment projects, an optimal and minimum quality sand is defined. These recommendations are based on analyses of historical natural sands of the Key Biscayne beach, analysis and performance of historical beach renourishment projects on Key Biscayne's beach, and general sedimentologic and hydrodynamic considerations.

***Natural Beach Sands of Key Biscayne.*** The natural sand of Key Biscayne beaches is 20-40% skeletal calcium carbonate grains and 60-80% quartz grains. Because of the high amount of skeletal grains sieving and settling analyses give very different results. By sieving analysis, the sand has two modes of abundance or a broad fine-skewed unimodal peak with . By settling analysis, the sand has a narrower generally symmetrical unimodal peak. As explained below (in *Methods of Analysis*), the difference is because many of the calcium carbonate grains settle together with finer quartz grains. In other words, the physical size and shape of many of the skeletal grains is misleading -- they behave as finer grains than sieve analysis measures them to be. As a result the following characterizations of natural and renourishment sands are given as the results of sieve analyses. These results could be directly compared to sieve results of pure quartz sands or of non-porous, equant calcium carbonate sands (e.g. ooids, rounded mollusk fragments).

The natural sand of the berm and beach foreslope of Key Biscayne<sup>3</sup> is a well sorted quartz-carbonate sand with a unimodal peak at 220-350 microns. By settling analysis there is essentially no material coarser than 500 microns in the berm and beach foreslope samples. By settling analysis the quartz and carbonate fractions are essentially equivalent in size distribution. There is a coarser skeletal (mostly mollusk) component in the plunge zone samples. There is no material finer than 80 microns in any of the natural beach sands. Grains finer than 125 microns form 0-10% of the samples; grains finer than 175, 5-30%. The natural beach along the portion of central Key Biscayne not protected by a shallow littoral sand platform was slightly coarser than to the north or south (a unimodal peak at 350 microns and no material finer than 125 microns).

***Character and Performance of Sands in Historical Beach Renourishment Projects.*** The principal sand renourishment project affecting the beach of the Village of Key Biscayne and Cape Florida occurred in 1987. The sand was derived from an offshore sand source on the littoral sand platform lying to the southeast of Cape Florida.

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<sup>3</sup> Sands used as natural Key Biscayne Beach sands were collected in October 1972 by H.R. Wanless as a part of a Sea Grant sponsored research project at the University of Miami. There had been a 1969 beach renourishment project in northern Crandon Park. Thus, only sands from the beach along the now Village of Key Biscayne and Cape Florida Park are used here. Samples were collected from (a) just landward of the berm crest, (b) the foreslope of the beach and (c) in the plunge zone at the base of the beach.

The sand in the borrow area was sand that has moved south from the Key Biscayne beach. This renourishment sand was very similar to the naturally occurring beaches of Key Biscayne in percentage of quartz and carbonate, constituent grain composition, and grain size.

Sand from the borrow site for the 1987 beach renourishment on Key Biscayne was well sorted, unimodal with a peak at 250-350 microns. The sands contained 0-4% finer than 125 microns, 1-12% coarser than 700 microns (by settling) and 0.505% coarser than 1 mm (by sieving) on Key Biscayne in the Paragraph on size

***Sedimentological and Hydrodynamic Considerations.*** Three fundamental particle size boundaries relate how particles move in a fluid to the energy to required to initiate movement.

***Suspension.*** For particles finer than 200 microns, when there is sufficient energy to move them, there is sufficient turbulence to bring them into suspension. Thus, particles finer than 200 microns tend to move as suspended load. ***Short-term Suspension:*** Particles between 200 and 40 microns tend to come out of suspension quickly following the end of the a period of wave of current energy or when the energy is no longer affecting the bottom. ***Long-term Suspension:*** Particles finer than 40 microns tend to remain in suspension long after the resuspending event because of ambient turbulence in the water column.

***Bedload.*** Particles coarser than 200 microns tend to move in contact with the bottom, when there is just sufficient energy to move them. ***Bed Load:*** Particles between 200 and 650 microns in size tend to bounce (saltate) along the bottom. ***Traction Load:*** Particles coarser than 650 microns tend to roll or slide and maintain constant contact with the bottom. With increasing energy and turbulence traction load will begin to move as bed load and bed load as suspension load.

Suspended load material, finer than 200 microns, is unsuitable as beach sand. A small amount of finer than 200 microns material is common on beaches, but it does not stay on the beach. Vegetated coastal dunes are commonly largely built of 100-200 micron sands, as the vegetation traps the finer wind blown particles from the beach. Suspended load material that moves seaward from the beach will move off of the littoral sand platform unless trapped by seagrass beds.

The quartz sand on Key Biscayne has transported southward from the Appalachians over the last several hundred thousand years. In the process most of the coarser sands have been left behind. The upper limit of quartz sands on Key Biscayne's beach is thus limited in part by what is provided, not by what would be stable on the beach.

Coarse pebbles and gravel on a beach become dangerous and damaging projectiles during hurricanes. They also are unpleasant or injurious to those walking and jogging on the beach. Irregular shaped pebbles commonly become fixed on the beach slope. Flat mollusk shells, in contrast, are generally swept to the base of the beach by wave back swash. Shell is less of a problem than irregular pebbles.

## RECOMMENDED SAND QUALITY

The ideal sand to be used for future renourishment of Key Biscayne's beach would have no material finer than 200 microns, less than 50 per cent coarser than 500 microns, and no material coarser than 1,000 microns (See Figure 1). The sand would have 25-80 per cent durable carbonate grains in which the grain size is verified by settling analyses.

The minimum quality sand to be placed on the beaches of Key Biscayne is shown in Figure 1. In this, less than 5 percent is finer than 80 microns, less than 25 per cent is finer than 200 microns, less than 10 per cent is coarser than 1,000 microns, and no rock gravel is coarser than 5000 microns (5 mm). No shell is coarser than 3 cm.

## METHODS OF ANALYSIS

**Dry Sieving:** Quartz sands that are naturally disaggregated into individual grains and are cohesionless may be dry sieved according to standard methods. However, all samples should be evaluated for evidence of grain aggregation by binocular microscope before and after dry sieving. Samples containing significant less than 62 micron fraction should be wet sieved. Samples containing more than 15% carbonate grains should analyzed both by sieving and by settling analysis in which the settling system has been calibrated with respect to quartz sands.

**Wet Sieving:** This method is necessary for those samples in which laboratory drying has aggregated particles or in which the sample is provided dry and particles are aggregated. Small amounts of mud, especially carbonate mud, aggregate (stick or cement) larger grains together. Dry sieving commonly will not disaggregate these grains into their individual components as they will occur in the aqueous environment. It is important that tap water be used, as distilled water will cause dissolution of carbonate mud particles. The wet sieving method must use adequate water and agitation on each sieve to assure particles have adequate opportunity to pass through each sieve. All water passed through the sieves must be retained, the <62 micron particles settled, the clear water decanted, and the remaining fraction dried and weighed. The sand and gravel fractions should be dried and weighed. Reporting is as weight percentage according to standard methods for sieving.

**Settling Analysis:** This method is used to approximate the hydrodynamic behavior of particles, and must be used when the particles have a shape or *effective excess*

*density*<sup>4</sup> that differs from that of subrounded quartz. In samples having significant carbonate grains, it is imperative to analyze grains by settling.

For settling analysis, the sediment should be thoroughly wetted so that no air is in the internal grain pore spaces. The initial volume of the sand should be measured if the settling grain size is to be as volume per cent. As most settling tubes are only calibrated for grains finer than 1 mm, it may be necessary to sieve the sample through a 1 mm mesh sieve prior to settling. All fluid must be retained from this pre settling sieve separation and used in the settling analysis.

There are numerous settling methods including visual accumulation tube, electromagnetic field distortion, and light attenuation. Whatever method is used, it is important that results are not affected by internal grain porosity. Most results are as volume per cent, rather than weight per cent for sieving.

If settling analysis is used, sieving must also be done on the sample. This is to document the physical size of the coarse fraction. The physical size of the coarse fraction is important to the comfort of users of the beach and should be documented.

Task Force Members:

Sandra Goldstien, Chairperson  
Debbie Castillo  
James DeCocq  
Brian Flynn  
John Hinson  
Sam Houston  
Sam Kissinger  
Lee Niblock (ex officio)  
Betty Sime  
Harold R. Wanless

---

<sup>4</sup> A particle's *effective excess density* is the net density of a particle above that of the fluid (density of the grain minus the density of the fluid). Thus in water (~density 1.00), a solid quartz grain (density 2.65) will have an effective excess density of 1.65. Quartz is the standard for which settling analyses are calibrated and from which the hydrodynamic implications of sieving and settling analyses are understood. There are two important considerations of effective excess density. First, different mineral grains have different densities, and solid grains of different density will behave very differently in water. Second and most important to considerations here, many carbonate grains have internal pore spaces, and this will dramatically affect the particles effective density and behavior in a fluid. For example, a calcareous algal *Halimeda* grain is commonly about 60% pore space. The effective excess density of a *Halimeda* particle will be:

$$\begin{aligned} & (0.5 \times \text{density of aragonite}) + (0.5 \times \text{density of water}) - \text{density of water} = \\ & (0.5 \times 1.85) + (0.5 \times 1.00) - 1 = \\ & 0.93 + 0.5 - 1 = 0.43. \end{aligned}$$

Thus the carbonate *Halimeda* grain, although made of a more dense mineral than quartz, has a much lower effective excess density in water. As a result, a *Halimeda* particle will settle together with much smaller quartz grains, and will be moved and resuspended much more easily than would be anticipated by the grain's physical size.

## **Appendix D**

### **Florida Exotic Pest Plant Council's 1997 List of Florida's Most Invasive Species**

## Appendix D

### Florida Exotic Pest Plant Council's 1997 List of Florida's Most Invasive Species

**Purpose:** To focus attention on:

1. The impacts exotic pest plants have on native bio-diversity in Florida ecosystems.
2. The impact of exotic pest plants on the integrity of native plant community functions.
3. Habitat losses due to exotic plant infestations.
4. The impacts of exotic plants on endangered species via habitat loss and alteration (e.g., Cape Sable seaside sparrow).
5. The need to prevent such losses by comprehensive management for exotic pest plants.
6. The socioeconomic impacts of exotic pest plants (e.g., increased wildfires in Melaleuca).
7. Changes in the seriousness of different exotic pest plants over time.
8. The need to provide information that will help managers set priorities for management.

**Definitions:** *Exotic* - a non-indigenous species, or one introduced to this state, either purposefully or accidentally; it then escaped into the wild in Florida where it reproduces on its own either sexually or asexually. *Native* - a species already occurring in Florida at the time of European contact (1500). *Invasive* - is a variable condition defined by the category to which the species is assigned.

**Abbreviations used:** for "Government listed": P=Prohibited by Fla. Dept. Of Environmental Protection, N=Noxious weed as listed by Fla. Dept. Of Agriculture & Consumer Services and/or U.S. Department of Agriculture.

**Category I** - Species that are invading and disrupting native plant communities in Florida. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Government Listed</u>
<i>Abrus precatorius</i>	Rosary pea	
<i>Acacia auriculiformis</i>	Earleaf acacia	
<i>Albizia lebbek</i>	Woman's tongue	
<i>Ardisia crenata</i>	coral ardisia	
<i>Ardisia elliptica</i>	shoebutton ardisia	
<i>Asparagus densiflorus</i>	asparagus fern	
<i>Bauhinia variegata</i>	orchid tree	
<i>Bischofia javanica</i>	bischofia	
<i>Brachiaria mutica</i>	para grass	
<i>Calophyllum antillanum</i>	santa maria	
<i>Cassia coluteoides</i>	climbing cassia	

## Appendix D

Scientific Name	Common Name	Government Listed
<i>Casuarina equisetifolia</i>	Australian pine	P
<i>Casuarina glauca</i>	suckering Australian pine	P
<i>Cestrum diurnum</i>	day jasmine	
<i>Cinnamomum camphora</i>	camphor tree	
<i>Colocasia esculenta</i>	wild taro	
<i>Colubrina asiatica</i>	leather leaf	
<i>Cupaniopsis anacardioides</i>	carrotwood	
<i>Dioscorea alata</i>	winged yam	
<i>Dioscorea bulbifera</i>	air potato	
<i>Eichhorina crassipes</i>	water hyacinth	P
<i>Eugenia uniflora</i>	Surinam cherry	
<i>Ficus microcarpa</i>	laurel fig	
<i>Hydrilla verticillata</i>	hydrilla	P, N
<i>Hygrophila polysperma</i>	green hygro	P, N
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	
<i>Imperata cylindrica</i>	cogon grass	N
<i>Ipomoea aquatica</i>	water spinach	P, N
<i>Jasminum dichotomum</i>	Gold Coast jasmine	
<i>Jasminum fluminense</i>	jasmine	
<i>Lantana camara</i>	lantana	
<i>Ligustrum sinense</i>	Chinese privet	
<i>Lonicera japonica</i>	Japanese honeysuckle	
<i>Lygodium japonicum</i>	Japanese climbing fern	
<i>Macfadyena unguis-cati</i>	claw vine	
<i>Melaleuca quinquenervia</i>	melaleuca	P, N
<i>Melia azedarach</i>	Chinaberry	
<i>Mimosa pigra</i>	catclaw mimosa	P, N
<i>Nandina domestica</i>	nandina, heavenly bamboo	
<i>Nephrolepis cordifolia</i>	sword fern	
<i>Neyraudia reynaudiana</i>	Burma reed, cane grass	
<i>Paederia foetida</i>	skunk vine	
<i>Panicum repens</i>	torpedo grass	
<i>Pennisetum purpureum</i>	Napier grass	
<i>Pistia stratiotes</i>	water lettuce	P
<i>Psidium cattleianum</i>	strawberry guava	
<i>Psidium guajava</i>	guava	
<i>Pueraria montana</i>	kudzu	
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	
<i>Rhoeo spathacea</i>	oyster plant	
<i>Sapium sebiferum</i>	popcorn tree, Chinese tallow	
<i>Scaevola sericea</i>	scaevola	

## Appendix D

Scientific Name	Common Name	Government Listed
<i>Schefflera actinophylla</i>	schefflera	
<i>Schinus terebinthifolium</i>	Brazilian pepper	P, N
<i>Solanum tampicense</i>	aquatic soda apple	
<i>Solanum torvum</i>	turkey berry	N
<i>Solanum viarum</i>	tropical soda apple	N
<i>Syzygium cumini</i>	jambolan, Java plum	
<i>Tectaria incisa</i>	incised halberd fern	
<i>Thespensia populnea</i>	seaside mahoe	
<i>Tradescantia fluminensis</i>	white-flowered wandering jew	

**Category II** - Species that have shown a potential to disrupt native plant communities. These species may become ranked as Category I, but have not yet demonstrated disruption of natural Florida communities.

Scientific Name	Common Name	Government Listed
<i>Adenanthera prvonja</i>	red sandlewood	
<i>Agave sisalana</i>	sisal hemp	
<i>Albizia julibrissin</i>	mimosa	
<i>Aleurites fordii</i>	tung oil tree	
<i>Alstonia macrophylla</i>	devil tree	
<i>Alternanthera philoxeroides</i>	alligator weed	P
<i>Antigonon leptopus</i>	coral vine	
<i>Aristolochia littoralis</i>	calico flower	
<i>Asystasia gangetica</i>	Ganges primrose	
<i>Broussonetia papyrifera</i>	paper mulberry	
<i>Callisia fragrans</i>	inch plant, spironema	
<i>Casuarina cunninghamiana</i>	Australian pine	P
<i>Cereus undatus</i>	night-blooming cereus	
<i>Clerodendron bungei</i>	strong-scented glorybower	
<i>Cryptostegia</i>		
<i>madagascariensis</i>	rubber vine	
<i>Cyperus alternifolius</i>	umbrella plant	
<i>Cyperus prolifer</i>	dwarf papyrus	
<i>Dalbergia sissoo</i>	Indian dalgergia, sissoo	
<i>Enterolobium</i>		
<i>contortisliquum</i>	ear-pod tree	
<i>Epepremmum pinnatum</i>	pathos	
<i>Ficus altissima</i>	false banyan	
<i>Ficus benjamina</i>	weeping fig	
<i>Ficus religiosa</i>	bo tree	



## Appendix D

Scientific Name	Common Name	Government Listed
<i>Flacourtia indica</i>	governor's plum	
<i>Flueggea virosa</i>	flueggea	
<i>Hibiscus tiliaceus</i>	mahoe	
<i>Hiptage benghalensis</i>	hyptage	
<i>Jasminum sambac</i>	Arabian jasmine	
<i>Koelreuteria elegans</i>	golden shower tree	
<i>Leucaena leucocephala</i>	lead tree	
<i>Ligustrum japonicum</i>	Japanese privet	
<i>Ligustrum lucidum</i>	Glossy privet	
<i>Melinis minutiflora</i>	molasses grass	
<i>Merremia tuberosa</i>	wood rose	
<i>Murraya paniculata</i>	orange jasmine	
<i>Myriophyllum spicatum</i>	Eurasian water milfoil	P
<i>Nephrolepis multiflora</i>	Asian sword fern	
<i>Orhrosia parviflora</i>	kopsia	
<i>Oeceoclades maculata</i>	ground orchid	
<i>Paederia craddasiana</i>	sewer vine, onion vine	
<i>Passiflora foetida</i>	stinking passion flower	
<i>Phoenix reclinata</i>	reclinating date palm	
<i>Pittosporum pentandrum</i>	pittosporum	
<i>Pittosporum tobira</i>	Japanese pittorporum	
<i>Rhynchelytrum repens</i>	Natal grass	
<i>Sansevieria hyacinthoides</i>	bowstring hemp	
<i>Solanum diphyllum</i>	twinleaf nightshade	
<i>Solanum jamaicense</i>	Jamiaca nightshade	
<i>Syngodium podophyllum</i>	arrowhead vine	
<i>Syzygium jambos</i>	rose apple	
<i>Terminalia catappa</i>	tropical almond	
<i>Tribulus cistoides</i>	puncture vine, burnut	
<i>Triphasia trifoliata</i>	lime berry	
<i>Urena lobata</i>	Caesar's weed	
<i>Wedelia trilobata</i>	wedelia	
<i>Wisteria sinensis</i>	Chinese wisteria	
<i>Xant hosoma sagittifolium</i>	melanga, elephant ears	

## **Appendix E**

### **Crandon Park Exotic Pest Plant List**

## Appendix E

### CRANDON PARK COUNTY PARK EXOTIC PEST PLANT LIST

**Category A exotics** are known to be a significant threat to the natural areas of Crandon Park and should be first priority for elimination.

**Category B exotics** have the potential to become significant pest problems. These plants should be given a high priority for control in order to prevent costly removal expense at a later time.

**Category C exotics** are thought to be minor ecological threats but still should be eliminated. Certain individual plants, such as early settlement dooryard fruit trees, may have a historic significance which warrants preservation.

**Category D plants** consist of native species which were planted as ornamental landscaping but are outside of their natural historic range. Elimination of these plants should be considered on a species-by-species basis.

#### Category A Exotics:

Species	Common Name
<i>Casuarina equisetifolia</i>	Australian pine
<i>Casuarina glauca</i>	Australian pine
<i>Catharanthus roseus</i>	Madagascar periwinkle
<i>Colubrina asiatica</i>	hoop withe
<i>Ficus benjamina</i>	weeping fig, benjamin fig
<i>Ficus sp.</i>	banyan
<i>Flacourtia indica</i>	Governor's plum
<i>Jasminum fluminense</i>	Jasmine
<i>Lantana camara</i>	Lantana
<i>Leucaena leucocephala</i>	Jumbie bean
<i>Neyraudia reynaudiana</i>	Burma reed
<i>Ricinus communis</i>	Castor bean
<i>Scaevola sericea</i>	Inkberry
<i>Schinus terebinthifolia</i>	Brazilian pepper
<i>Thespesia populnea</i>	Seaside mahoe
<i>Wedelia trilobata</i>	Wedelia

#### Category B Exotics

Species	Common Name
<i>Bryophyllum pinnatum</i>	Live leaf
<i>Cajanus cajan</i>	Pigeon pea

## Appendix E

Species	Common Name
<i>Calophyllum inophyllum</i>	
<i>Carica papaya</i>	Papaya
<i>Cestrum diurnum</i>	Day jessamine
<i>Crotolaria incana</i>	Rattlebox
<i>Desmodium tortuosum</i>	Begger tick
<i>Phoenix dactylifera</i>	Date palm
<i>Rhynchelytrum repens</i>	Natal grass
<i>Sansevieria thyrsiflora</i>	Snake plant
<i>Stenotaphrum secundatum</i>	St. Augustine grass
<i>Terminalia catappa</i>	Indial almond

### Category C Exotics

Species	Common Name
<i>Abrus precatorius</i>	Rosary pea
<i>Citrus sp.</i>	
<i>Cynodon dactylon</i>	Bermuda grass
<i>Kyllinga brevifolia</i>	
<i>Manilkara zapote</i>	Sapodilla
<i>Melinis minutiflora</i>	Molasses grass
<i>Pteris vittata</i>	Chinese brake
<i>Rhynchosia minima</i>	Snoutbean
<i>Sonchus oleraceus</i>	Sow thistle
<i>Zoysia matrella</i> var. <i>Tenuifolia</i>	Mascarene grass

### Category D Exotics

Species	Common Name
<i>Cocos nucifera</i>	Coconut palm

## **Appendix F**

### **Bill Baggs State Recreation Area Exotic Plant List**

## Appendix F

### BILL BAGGS STATE RECREATION AREA EXOTIC PLANT LIST

Florida Exotic Pest Plant Council (EPPC) Rankings:

Category 1: Species that are invading and disrupting native plant communities in Florida

Category 2: Species that have shown a potential to disrupt native plant communities

Bill Baggs Cape Florida Priority List

Priority 1: Seed quickly, spread rapidly (windblown, etc.)

Priority 2: Seed quickly

Priority 3: Locally dominant, do not colonize new areas

Priority 4: Do not seed quickly, can control if done early in life history

Priority 5: Not in great abundance, potential to be a threat, spread quickly

Priority 6: Not in great abundance, have potential to be a threat

EPPC Ranking	Priority Status	Scientific Name	Common Name
<b>Acanthaceae</b>			
		<i>Blechum brownei</i>	Green shrimp plant
<b>Agavaceae</b>			
II		<i>Agave sisalana</i>	Sisal hemp
II	5	<i>Sanseveria hyacinthoides</i>	African bowstring hemp
		<i>Yucca aloifolia</i>	Spanish bayonet
<b>Anacardiaceae</b>			
I	2	<i>Schinus terebinthiofolius</i>	Brazilian pepper
<b>Apocynaceae</b>			
		<i>Catharanthus roseus</i>	Madagascar periwinkle
<b>Araceae</b>			
		<i>Caladium sp.</i>	A Caladium
II		<i>Epipremnum pinnatum</i>	Pothos/Hunter's robe
		<i>Syngonium podophyllum</i>	Nephthrtis
		<i>Xanthosoma sp.</i>	Elephant ear
<b>Areaceae</b>			
		<i>Cocos nucifera</i>	Coconut palm
	4	<i>Phoenix reclinata</i>	Senegal date palm
		<i>Washingtonia sp.</i>	Washington palm

## Appendix F

EPPC Ranking	Priority Status	Scientific Name	Common Name
		<b>Asclepiadaceae</b>	
		<i>Asclepias curassavica</i>	Scarlet milkweed
		<b>Asteraceae</b>	
		<i>Calyptocarpus vialis</i>	Sea daisy
		<i>Helianthus annuus</i>	Sunflower
		<i>Sonchus asper</i>	Spiny-leaved thistle
		<i>Shochus oleraceus</i>	Common sow thistle
		<i>Tridax procumbens</i>	Mexican daisy
		<i>Vernonia cinerea</i>	Ironweed
II	3	<i>Wedelia trilobata</i>	Wedelia
		<i>Youngia japonica</i>	Japanese youngia
		<b>Cactaceae</b>	
II		<i>Cereus undatus</i>	Night-blooming cereus
		<i>Opuntia cochenullifera</i>	Conchineal cactus
		<b>Caricaceae</b>	
	5	<i>Carica papaya</i>	Papaya
		<b>Casuarinaceae</b>	
I	4	<i>Casuarina litorea</i>	Auatralian pine
		<b>Combretaceae</b>	
		<i>Bucida bucera X B. spinosa</i>	Black olive hybrid
II		<i>Terminalia catappa</i>	Tropical almond
		<b>Commelinaceae</b>	
		<i>Rhoeo spathacea</i>	Oyster plant
		<b>Crassulaceae</b>	
	5	<i>Kalanchoe daigremontiana</i>	Devil's backbone
	5	<i>Kalanchoe pinnata</i>	Life Plant
	5	<i>Kalanchoe tubiflora</i>	Chandelier plant
		<b>Cucurbitaceae</b>	
		<i>Momordica charantia</i>	Wild balsam apple

## Appendix F

EPPC Ranking	Priority Status	Scientific Name	Common Name
		<b>Cyperaceae</b>	
		<i>Cyperus esculentus</i>	Yellow nutgrass
		<i>Cyperus rotundus</i>	Nut grass
		<b>Davalliaceae</b>	
II		<i>Nephrolepis exalta</i>	Boston fern
		<i>Nephrolepis multiflora</i>	Boston fern
		<b>Dioscoreaceae</b>	
I	6	<i>Dioscorea bulbifera</i>	Air potato
		<b>Eleocarpaceae</b>	
		<i>Muntingia calabura</i>	Strawberry tree
		<b>Euphorbiaceae</b>	
	2	<i>Ricinus communis</i>	Castor bean
		<i>Euphorbia graminea</i>	
		<b>Fabaceae</b>	
I		<i>Abrus precatorius</i>	Rosary pea
I		<i>Acacia auriculiformis</i>	Earleaf acacia
		<i>Crotolaria incana</i>	Rattlepod
		<i>Macroptilium lathyroides</i>	Golden pothos
		<i>Pithecellobium dulce</i>	Cat claw/Manila tamarind
		<b>Goodeniaceae</b>	
I	2	<i>Scaevola taccada</i>	Beach naupaka
		<b>Liliaceae</b>	
I		<i>Asparagus densiflorus</i>	Asparagus fern
		<b>Malvaceae</b>	
II		<i>Hibiscus tiliaceus</i>	Mahoe
I	4	<i>Thespesia populnea</i>	Seaside mahoe, Portia
II		<i>Urena lobata</i>	Caesar weed
		<b>Moraceae</b>	
II		<i>Ficus benjamina</i>	Weeping fig
		<b>Musaceae</b>	
		<i>Musa X paradisiaca</i>	Banana



## Appendix F

EPPC Ranking	Priority Status	Scientific Name	Common Name
<b>Myrtaceae</b>			
I		<i>Eugenia uniflora</i>	Surinam cherry
II		<i>Psidium guajava</i>	Guava
<b>Nyctaginaceae</b>			
		<i>Mirabilis jalapa</i>	Four-o'clock
<b>Oleaceae</b>			
I	6	<i>Jasminum dichotomum</i>	Goald coast jasmine
I	6	<i>Jasminum fluminense</i>	Jasmine
<b>Orchidaceae</b>			
		<i>Habernaria odontopetala</i>	Orchid
I		<i>Oeceoclades mukulata</i>	African ground orchid
		<i>Zeuxine strateumatica</i>	Lawn orchid
<b>Poaceae</b>			
I		<i>Branchiaria mutica</i>	Para grass
		<i>Branchiaria subquadripara</i>	Signal grass
		<i>Cynodon dactylon</i>	Bermuda grass
		<i>Dactyloctenium aegyptium</i>	Egyptian grass/Crawfoot grass
	1	<i>Eleusine indica</i>	Goose grass
		<i>Lilium perenne</i>	Rye grass
		<i>Neyraudia reynaudiana</i>	Burma reed
		<i>Panicum maximum</i>	Guinea grass
I	3	<i>Panicum repens</i>	Torpedo grass
I		<i>Paspalum notatum</i>	Bahia grass
		<i>Paspalum urvillei</i>	Vasey grass
I		<i>Pennisetum purpureum</i>	Napier grass
II		<i>Rhynchelytrum repens</i>	Natal grass
	5	<i>Rottboellia exaltata</i>	Itch grass
		<i>Sorghum halepense</i>	Johnson grass
	5	<i>Zoysia matrella</i> var. <i>Tenuifolia</i>	Mascarene grass
<b>Pteridaceae</b>			
		<i>Pteris vittata</i>	Brake fern
<b>Rhamnaceae</b>			
I	1	<i>Colubrina asiatica</i>	Leather leaf

## Appendix F

<b>EPPC Ranking</b>	<b>Priority Status</b>	<b>Scientific Name</b>	<b>Common Name</b>
		<b>Rubiaceae</b>	
		<i>Morinda citrifolia</i>	Indian mulberry
		<i>Richardia grandiflora</i>	Buttonweed
		<i>Spermacoce verticillata</i>	
		<b>Sapotaceae</b>	
		<i>Manilkara zapota</i>	Sapodilla
		<b>Scrophulariaceae</b>	
		<i>Russellia equisetiformis</i>	Firecracker bush
		<b>Solanaceae</b>	
I	2	<i>Cestrum diurnum</i>	Day-blooming jasmine
		<i>Lycopersicon esculentum</i>	Tomato
		<i>Solanum seaforthianum</i>	Brazilian nightshade
I		<i>Solanum viarum</i>	Tropical-soda apple
		<b>Turneraceae</b>	
		<i>Turnera ulmifolia</i>	Yellow alder
		<b>Verbenaceae</b>	
I		<i>Lantana camara</i>	Lantana, shrub verbena
		<i>Lantana camara</i> X <i>Lantana depressa</i> ver. <i>floridana</i>	Lantana hybrid
		<i>Verbena bonariensis</i>	Vervain
		<b>Zygophyllaceae</b>	
II		<i>Tribulus cistoides</i>	Puncture weed

Adapted from Bill Baggs Cape Florida State Recreation Area, Exotic Plant Removal Plan,  
December 1996

## **Appendix G**

### **Native Species to Key Biscayne**

## Appendix G

### Native Species to Key Biscayne

#### Vascular Flora of West Point Tropical Hammock, Key Biscayne, Florida

##### ARECACEAE

*Sabal palmetto*, sabal palm

*Serenoa repens*, saw palmetto

##### BROMELIACEAE

*Tillandsia recurvata*, thread-leaved wild pine

*Tillandsia usneoides*, spanish moss

*Tillandsia utriculata*, swollen wild pine

##### AMARYLLIDACEAE

*Hymenocallis latifolia*, spider lilly

##### ORCHIDACEAE

*Encyclia tempensis*, small butterfly orchid

##### MORACEAE

*Ficus aurea*, strangler fig

##### POLYGONACEAE

*Coccoloba uvifera*, sea grape

##### PHYTOLACCACEAE

*Phytolacca americana*, pokeberry

*Rivina humilis*, pigeon-berry

##### CAPPARACEAE

*Capparis flexuosa*, caper-tree

##### FABACEAE

*Caesalpinia bonduc*, grey nicker bean

*Dalbergia ecastophyllum*, titi, coin vine

*Piscidia piscipula*, fish poison, Jamaica dogwood

*Pethecellobium keyense*, Black bead

##### CACTACEAE

*Cereus pentagonus*, dildo cactus

##### SAPOTACEAE

*Mastichodendron foetidissimum*, mastic-bully

## Appendix G

### APOCYNACEAE

*Echites umbellata*, devil's potato

### BURSERACEAE

*Bursera simaruba*, gumbo-limbo

### ANACARDIACEAE

*Metopium toxiferum*, poisonwood

### COMBRETACEAE

*Conocarpus erectus*, buttonwood

*Laguncularia racemosa*, white mangrove

### MYRTACEAE

*Eugenia azillaris*, white stopper

*E. Foetida*, Spanish stopper

### PASSIFLORACEAE

*Passiflora suberosa*, small passion flower

### SAPINDACEAE

*Exothea paniculata*, butterbough

### RHIZOPHORACEAE

*Rhizophora mangle*, red mangrove

### RHAMNACEAE

*Krugiodendron ferreum*, ironwood

### MYRSINACEAE

*Ardisia escallonioides*, marlberry

### SOLANACEAE

*Solanum bahamenese*, cankerberry

### AVICENNIACEAE

*Avicennia germinans*, black mangrove

### RUBIACEAE

*Chiococca alba*, West Indian snowberry

*Randia aculeata*, box briar

## Appendix G

### CUCURBITACEAE

*Melothria pendula*, climbing cucumber

Notiable native plant species in the historic landscape of Key Biscayne, Florida as observed by collectors, surveyour, botanists, and others, 1800 to the present.

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*Acrostichum danneifolium*, Leatherfern  
*Annona glabra*, Pond apple  
*Ardisia escallonioides*, Marlberry  
*Aristolochia pentandra*, Coastal Aristolochia  
*Avicennia germinans*, Black mangrove  
*Baccharis angustifolia*, False Willow  
*Bursera simaruba*, Gumbo-limbo  
*Caesalpinia bonduc*, Grey nicker bean  
*Cakile lanceolata*, Sea Rocket  
*Capparis flexuosa*, Caper-tree  
*Casasia clusiifolia*, Seven-year apple  
*Cereus pentagonus*, Dildoe cactus  
*Chiococca alba*, West Indian snowberry  
*Chiococca parvifolia*, Pineland snowberry  
*Chrysobalanus icaco*, Coco-plum  
*Cladium jamaicense*, Sawgrass  
*Coccoloba diversifolia*, Pigeon plum  
*Coccoloba uvifera*, Sea grape  
*Cocos nucifera*\*, Coconut palm  
*Conocarpus erectus*, Buttonwood  
*Cordia sebestena*, Geiger tree  
*Distichlis spicata*, Saltgrass  
*Echites umbellata*, Devil's potato  
*Encyclia tampensis*, Butterfly orchid  
*Eugenia axillaris*, White stopper  
*Eugenia foetida*, Spanish stopper  
*Exothea paniculata*, Butterbough  
*Ficus aurea*, Strangler fig  
*Guapira discolor*, Blolly  
*Hymenocallis latifolia*, Spider lilly  
*Ipomoea pes-capre*, Railroad-vine  
*Iresine canescens*, Bloodleaf  
*Jacquemontia reclinata*, Beach jacquemontia  
*Kosteletzkya virginica*, Saltmarsh mallow  
*Krugiodendron ferreum*, Ironwood  
*Laguncularia racemosa*, White mangrove  
*Lantana involucrata*, Wild sage

## Appendix G

*Limonium carolinianum*, Sea lavender  
*Lycium carolinianum*, Christmas berry  
*Lyonia fruticosa*, Staggerbush  
*Mallotonia gnaphalodes*, Sea lavender  
*Mastichodendron foetidissimum*, Mastic-bully  
*Metopium toxiferum*, Poisonwood  
*Morinda royoc*, Cheese shrub  
*Morus rubra*, Mulberry  
*Myrica cerifera*, Wax myrtle  
*Okenia hypogaea*, Sea peanut  
*Passiflora suberosa*, Little passion flower  
*Persea borbonia*, Red bay  
*Pinus elliottii* var. *densa*, Southern slash pine  
*Piscidia piscipuls*, Jamaica dogwood  
*Pithecellobium keyense*, Black bead  
*Psychotria nervosa*, Wild coffee  
*Quercus virginiana*, Live oak  
*Randia aculeata*, Box briar  
*Remirea maritima*, Beach star  
*Reynosia septentrionalis*, Darling plum  
*Rhizophora mangle*, Red mangle  
*Rhynchospora caduca*, Rhynchospora  
*Sabal palmetto*, Sabal palm  
*Salicornia bigelowii*, Glasswort  
*Salix caroliniana*, Willow  
*Scaevola plumieri*, Inkberry  
*Schoepfia chrysophylloides*, Whitewood  
*Serenoa repens*, Saw palmetto  
*Sesuvium portulacastrum*, Sea purselane  
*Suriana maritima*, Bay cedar  
*Tillandsia recurvata*, Thread-leaved wild pine  
*Tillandsia usneoides*, Spanish moss  
*Tillandsia utriculata*, Swollen wild pine  
*Uniola paniculata*, Sea oats  
*Ximenia americana*, Tallow-wood  
*Zonothoxylum coriaceum*, Key Biscayne prickly ash

Source: Huck, R.B. 1995. A centennial review: the historic natural landscape of Key Biscayne, Dade County, Florida. *Florida Scientist*, 58(4): 335-351

## **Appendix H**

### **List of Prohibited Landscaping Plants for Dade County**



## Appendix H

### LIST OF PROHIBITED LANDSCAPING PLANTS FOR DADE COUNTY

Prohibited species may not be planted anywhere in Miami-Dade County in accordance with the Landscape Code. These species must be removed from sites upon site development.

Scientific Name	Common Name
<i>Acacia auriculiformis</i>	earleaf asacia
<i>Adenanthera pavonina</i>	red sandlewood
<i>Albizia lebbek</i>	woman's tounge
<i>Antigonon leptopus</i>	coral vine
<i>Ardisia elliptica</i> (= <i>A. humilis</i> )	shoebutton ardisia
<i>Bischofia javanica</i>	bischofia
<i>Casuarina spp.</i>	Australian pine
<i>Cestrum diurnum</i>	day jessamine
<i>Cinnamomum camphora</i>	camphor tree
<i>Colubrina asiatica</i>	leather leaf
<i>Cupaniopsis anacardioides</i>	carrotwood
<i>Dalberia sisoo</i>	indian rosewood
<i>Enterolobium contortisiliquum</i>	ear tree
<i>Ficus altissima</i>	banyon tree
<i>Ficus bengalensis</i>	bengal fig
<i>Ficus benjamina</i>	weeping fig
<i>Ficus microcarpa</i>	laurel fig
<i>Flacourtia indica</i>	governor's plum
<i>Hibiscus tiliaceus</i>	mahoe
<i>Jasminum dichotomum</i>	Gold Coast Jasmine
<i>Jasminum fluminense</i>	jasmine
<i>Lygodium spp</i>	climbing fern
<i>Leucaena leucocephala</i>	lead tree
<i>Melaleuca quinquenervia</i>	melaleuca
<i>Melia azedarach</i>	Chinaberry
<i>Mimosa pigra</i>	Catclaw mimosa
<i>Merremia tuberosa</i>	wood rose
<i>Neyraudia reynaudiana</i>	Burma reed; cane grass
<i>Sapium sebiferum</i>	Chinese tallow
<i>Schefflera actinophylla</i>	schefflera, umbrella tree
<i>Schinus terebinthifolius</i>	Brazilian pepper
<i>Solanum viarum</i>	tropical soda apple
<i>Thespesia populnea</i>	seaside mahoe

Source: The Landscape Manual, Dade County Department of Planning, Development, and Regulation, February 1996

## Appendix H

### List of Prohibited Landscaping Plants for Dade County

#### Controlled Species

Controlled species may not be planted within 500 feet of the native plant communities which they have been known to invade after the adoption of the revised Landscape Code. Included below are the native plant communities which each is known to invade.

Species (Common Name)	Native Plant Communities Invaded
<i>Bauhinia variegata</i> (orchid tree)	Hammocks
<i>Bauhinia purpurea</i> (orchid tree)	Hammocks
<i>Calophyllum calaba</i> (mast wood)	Hammocks
<i>Catharanthus roseus</i> (Madagascar periwinkle)	Beaches, Sandy Pinelands, and Hammocks
<i>Derris indica</i> (pongam)	Pinelands
<i>Eugenia uniflora</i> (Surinam cherry)	Hammocks
<i>Epipremnum pinnatum</i> (pathos)	Hammocks, Pinelands
<i>Flacourtia indica</i> (Governor's plum)	Pinelands
<i>Kalanchoe pinnata</i> (life plant)	Hammocks
<i>Lantana camara</i> (lantana)	Pinelands
<i>Murraya paniculata</i> (orange jessamine)	Hammocks
<i>Pittosporum tobira</i> (Japanese pittosporum)	Pinelands
<i>Pouteria campechiana</i> (canistel)	Hammocks
<i>Psidium guajava</i> (guava)	Freshwater wetlands
<i>Psidium littorale</i> (cattley guava)	Freshwater wetlands
<i>Rhoeo spathacea</i> (oyster plant)	Pinelands, Hammocks
<i>Sansevieria hyacinthoides</i> (bowstring Hemp)	Pinelands, Hammocks
<i>Scaevola taccada</i> var. <i>sericea</i> (=S. <i>frutescens</i> ; =S. <i>sericea</i> ) (scaevola)	Beaches
<i>Syngonium podophyllum</i> (arrowhead)	Hammocks, Pinelands
<i>Syzygium cumini</i> (jambolan; Java plum)	Hammocks
<i>Syzygium jambos</i> (rose apple)	Hammocks
<i>Terminalia catappa</i> (tropical almond)	Coastal & freshwater wetlands
<i>Tribulus cistoides</i> (puncture vine)	Sandy, Pinelands, Beaches
<i>Washingtonia</i> spp. (Washington palm)	Coastal wetlands & beaches
<i>Wedelia trilobata</i> (wedelia)	All communities
<i>Zebrina pendula</i> (wandering zebra)	All communities

### List of Controlled Landscaping Plants for Dade County

#### Controlled Species

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These lists contain plant species documented by The Exotic Pest Plant Council, Miami-Dade County Park and Recreation Department's Natural Areas Management Program, and Miami-Dade County Department of Environmental Resources Management to be invasive pests in natural areas of Miami-Dade County.

These lists contain plant species documented by The Exotic Pest Plant Council, Miami-Dade County Park and Recreation Department's Natural Areas Management Program, and Miami-Dade County Department of Environmental Resources Management to be invasive pests in natural areas of Miami-Dade County.

## **Appendix I**

### **List of Controlled Landscaping Plants for Dade County**

## Appendix I

### List of Controlled Landscaping Plants for Dade County

#### Controlled Species

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Source: The Landscape Manual, Dade County Department of Planning, Development, and Regulation, February 1996

## **Appendix J**

### **Urban & Community Forestry Grant Application**

# **VILLAGE OF KEY BISCAYNE**



## **1998 URBAN & COMMUNITY FORESTRY GRANT APPLICATION**



August 12, 1998  
Village of Key Biscayne, Florida

ANYONE DESIRING ADDITIONAL INFORMATION OF THE CONTENTS OF THIS PACKET SHOULD CONTACT:

C. SAMUEL KISSINGER  
VILLAGE MANAGER  
VILLAGE OF KEY BISCAYNE  
85 WEST MCINTYRE STREET  
KEY BISCAYNE, FL 33149  
(305) 365-5514

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## SUBMIT PROPOSAL TO:

DEPT. OF AGRICULTURE AND CONSUMER SERVICES  
PURCHASING (MAYO BUILDING) ROOM SB-8  
407 SOUTH CALHOUN STREET  
TALLAHASSEE, FLORIDA 32399-0800  
Telephone Number: (850) 488-7552

STATE OF FLORIDA

## REQUEST FOR PROPOSAL

CONTRACTUAL SERVICES  
Acknowledgement

Page: 1 of 136

PROPOSALS WILL BE OPENED @ 2:30 P.M. AUGUST 13, 1998

PROPOSAL NO.

RFP/DP-98/99-01

AGENCY MAILING DATE:

PROPOSAL TITLE:

MAY 13, 1998

1998 URBAN &amp; COMMUNITY FORESTRY GRANT PROGRAM

FEDERAL EMPLOYER IDENTIFICATION NUMBER OR  
S.S. NUMBER 65-0291811

VENDOR NAME Village of Key Biscayne

REASON FOR NO PROPOSAL

VENDOR MAILING ADDRESS  
85 West McIntyre Street

CITY - STATE - ZIP  
Key Biscayne, FL 33149

## POSTING OF PROPOSAL TABULATIONS

Proposal tabulations with recommended awards will be posted for review by interested parties at the location where proposals were opened and will remain posted for a period of 72 hours. Failure to file a protest within the time prescribed in Section 120.53(5), Florida Statutes, shall constitute a waiver of proceedings under Chapter 120, Florida Statutes. Posting will be on or about OCTOBER 7, 1998

AREA CODE 305  
TELEPHONE NUMBER 365-5514  
TOLL-FREE NUMBER

I certify that this proposal is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a proposal for the same contractual services, and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this proposal and certify that I am authorized to sign this proposal for the proposer and that the proposer is in compliance with all requirements of the Request for Proposal, including but not limited to, certification requirements. In submitting a proposal to an agency for the State of Florida, the proposer offers and agrees that if the proposal is accepted, the proposer will convey, sell, assign or transfer to the State of Florida all rights, title and interest in and to all causes of action it may now or hereafter acquire under the Anti-trust laws of the United States and the State of Florida for price fixing relating to the particular commodities or services purchased or acquired by the State of Florida. At the State's discretion, such assignment shall be made and become effective at the time the purchasing agency tenders final payment to the proposer.



AUTHORIZED SIGNATURE (MANUAL)

C. Samuel Kissinger, Village Manager

AUTHORIZED SIGNATURE (TYPED) TITLE

## GENERAL CONDITIONS

**SEALED PROPOSALS:** All proposal sheets and this original acknowledgement form must be executed and submitted in a sealed envelope. (DO NOT INCLUDE MORE THAN ONE PROPOSAL PER ENVELOPE.) The face of the envelope shall contain, in addition to the above address, the date and time of the proposal opening and the proposal number. Proposal prices not submitted on attached proposal price sheets when required shall be rejected. All proposals are subject to the conditions specified herein. Those which do not comply with these conditions are subject to rejection.

(d) **INVOICING AND PAYMENT:** The contractor shall be paid upon submission of properly certified invoices to the purchaser at the prices stipulated on the contract at the time the order is placed, after delivery and acceptance of goods, less deductions if any, as provided. Invoices shall contain the contract number, purchase order number and the contractors' Federal Employer Identification Number. An original and three (3) copies of the invoice shall be submitted. The final payment shall not be made until after the contract is complete unless the State has agreed otherwise. Invoices for fees or other compensation for services or expenses submitted for contractual services shall be submitted in detail sufficient for a proper preaudit and postaudit thereof and invoices for any travel expenses shall be submitted in accordance with the rates at or below those specified in Sections 112.061 and 287.058, F.S. Interest Penalties: Payment shall be made in accordance with Section 215.422, F.S., which states the contractors' rights and the State agency's responsibilities concerning interest penalties and time limits for payment of invoices. **VENDOR OMBUDSMAN:** Vendors providing goods and services to an agency should be aware of the following time frames. Upon receipt, an agency has five (5) working days to inspect and approve the goods and services, unless the bid specifications, purchase order or contract specifies otherwise. An agency has 20 days to deliver a request for payment (voucher) to the Department of Banking and Finance. The 20 days are measured from the latter of the date the invoice is received or the goods or services are received, inspected and approved. If a payment is not available within 40 days, a separate interest penalty of .03333 percent per day will be due and payable, in addition to the invoice amount, to the vendor. The interest penalty provision applies after a 35 day time period to health care providers, as defined by rule. Interest penalties of less than one (1) dollar will not be enforced unless the vendor requests payment. Invoices which have to be returned to a vendor because of vendor preparation errors will result in a delay in the payment. The invoice payment requirements do not start until a properly completed invoice is provided to the agency. A Vendor Ombudsman has been established within the Department of Banking and Finance. The duties of this individual include acting as an advocate for vendors who may be experiencing problems in obtaining timely payment(s) from a state agency. The Vendor Ombudsman may be contacted at (904) 488-2924 or by calling the State Comptroller's Hotline, 1-800-848-3792. The Division of Purchasing shall review the conditions and circumstances surrounding non-payment and unless there is a bona fide dispute, the Division may in writing authorize the contract supplier to reject and return purchase orders from said agency until such time as the agency complies with the provisions of Section 215.422, F.S.

- 1. EXECUTION OF PROPOSAL:** Proposal must contain a manual signature of authorized representative in the space provided above. Proposal must be typed or printed in ink. Use of erasable ink is not permitted. All corrections to prices made by proposer must be initialed. The company name and F.E.I.D. or social security number must appear on each pricing page of the proposal as required. If a vendor intends to do repetitive business with the State and a vendor number has not been assigned to your company, contact Department of Management Services, Division of Purchasing, 2737 Centerview Drive, Knight Building, Suite 220, Tallahassee, FL 32399-0950, 904-488-8440 immediately.
- 2. NO PROPOSAL SUBMITTED:** If not submitting a proposal, respond by returning only this proposer acknowledgement form, marking it "NO PROPOSAL", and explain the reason in the space provided above. Failure to respond to a procurement solicitation without giving justifiable reasons for such failure, non-conformance to contract conditions, or other pertinent factors deemed reasonable and valid shall be cause for removal of the proposer's name from the proposal mailing list. NOTE: To qualify as a respondent, proposer must submit a "NO PROPOSAL", and it must be received no later than the stated proposal opening date and hour.
- 3. PROPOSAL OPENING:** Shall be public, on the date, location and the time specified on the acknowledgement form. It is the proposers responsibility to assure that his proposal is delivered at the proper time and place of the proposal opening. Proposals which for any reason are not so delivered, will not be considered. Offers by telegram or telephone are not acceptable. A proposal may not be altered after opening of the price proposals. NOTE: Proposal tabulations will be furnished upon written request with an enclosed, self addressed, stamped envelope and payment of a predetermined fee. Proposal tabulations will not be provided by telephone.
- 4. PRICES, TERMS AND PAYMENT:** Firm prices shall be proposed and include all services rendered to the purchaser.
  - (a) TAXES:** The State of Florida does not pay Federal Excise and Sales taxes on direct purchases of services. See tax exemption number on face of purchase order or agreement form. This exemption does not apply to purchases of services in the performance of contracts for the improvement of state-owned real property as defined in Chapter 192, Florida Statutes.
  - (b) DISCOUNTS:** Cash discount for prompt payment shall not be considered in determining the lowest net cost for proposal evaluation purposes.
  - (c) MISTAKES:** Proposers are expected to examine the conditions, scope of work, proposal prices, extensions, and all instructions pertaining to the services involved. Failure to do so will be at the proposer's risk.

- (e) ANNUAL APPROPRIATIONS:** The State of Florida's performance and obligation to pay under this contract is contingent upon an annual appropriation by the Legislature.
- 5. CONFLICT OF INTEREST:** The award hereunder is subject to the provisions of Chapter 112, Florida Statutes. Proposers must disclose with their proposal the name of any officer, director, or agent who is also an employee of the State of Florida, or any of its agencies. Further, all proposers must disclose the name of any State employee who owns, directly or indirectly, an interest of five (5%) or more in the proposer's firm or any of its branches, in accordance with Chapter 287, Florida

Attachment D

FLORIDA  
URBAN AND COMMUNITY FORESTRY GRANT PROPOSAL FORM  
1998

GENERAL INSTRUCTIONS: Please complete all items pertaining to the Category Grant for which you are applying. The proposal packet must not exceed thirty (30) one sided pages, excluding maps and plans. All attachments must be 8 1/2" X 11", except any attached sketches, plans and maps which must be no larger than 2' X 3" and folded into 8 1/2" X 11". Eight (8) copies (one copy with original signatures and (7) seven copies) of the proposal packet including the proposal form, the project description and all attachments must be received no later than 2:30 p.m. August 13, 1998 at:

Department of Agriculture and Consumer Services  
Purchasing Office - U&CF - 98 PROPOSAL  
Mayo Building - Room SB-8  
Tallahassee, FL 32399-0800  
Telephone (850) 488-7552

If you have any questions, please see Attachment K, "Division of Forestry District/Center Contacts"

PROPOSER INFORMATION (Please Print or Type)

Project Title: Hazardous Tree Inventory for the Public Right-of-Way

Proposer Name: Village of Key Biscayne, Florida

Name and Title of Contact Person: C. Samuel Kissinger, Village Manager

Address: 85 West McIntyre Street, Key Biscayne, FL

Zip: 33149

Phone: (305) 365-5514

Is your organization a Nonprofit corporation pursuant to Chapter 617, Florida Statutes? Yes        No X

FEID Number 65-0291881

As the duly authorized representative of the Proposer named above, I hereby certify that all parts of the proposal and required grant information have been read and understood and that all information submitted herein is true and correct.

Authorized Executive Officer: C. Samuel Kissinger

Title: Village Manager

Signature: C. Samuel Kissinger Date 8/11/98

ATTACHMENT D

GRANT PROGRAM INFORMATION

Specify Category 1, 2, 3, 4 OR 5 and designate the applicable subcategory (see pages 14-20, "General Information").

Category: Category 1. Local Government Program Development or Improvement

Sub-Category B. Tree Inventories

SUMMARY OF COSTS (A 50/50 match on behalf of the proposer is required).

	Requested Grant \$ I	Local Match \$ II
Contractual costs	<u>\$6,400</u>	<u>\$0</u>
Personnel costs	<u>\$8,000</u>	<u>\$0</u>
Travel costs	<u>\$0</u>	<u>\$0</u>
Equipment costs	<u>\$600</u>	<u>\$15,000</u>
Supplies costs	<u>\$0</u>	<u>\$0</u>
Operating costs	<u>\$0</u>	<u>\$0</u>
Tree costs	<u>\$0</u>	<u>\$0</u>
Overhead costs	<u>\$0</u>	<u>\$0</u>

Total Requested Grant(I) \$ 15,000 -0-

Total Matching Costs(II) \$ -0- \$ 15,000

Total Program Costs(III) \$30,000

100%  
Add columns I and II for total III (100%)  
50 % Grant request 50 % Local match

A budget, detailing all costs identified above must be attached.

PROJECT LOCATION INFORMATION (Please Print or Type)  
(Complete where applicable)

This project is for Region 1, 2, 3, or statewide (circle one). Please see Attachment J for details.

County Miami-Dade

Describe the Specific Location of the Project: Public right-of-way of the Village of Key Biscayne, FL

Who has Maintenance Responsibility for the Property(Category 2 Grants)? Public Works

Is the Land Ownership Public or Private?: public

Name of Landowner: Village of Key Biscayne

PROPOSAL #RFP/DF-98/99-01 OPENING DATE: AUGUST 13, 1998 - 2:30 P.M.

Project Title: Hazardous Tree Inventory for the Public Right-of-Ways

Proposer Name: Village of Key Biscayne

Attachment D

PROJECT DESCRIPTION  
(two page limit)

Background: Urban and Community Forestry Grant Proposal

The Village of Key Biscayne is uniquely located on a barrier island between two parks: Miami-Dade County Crandon Park to the north and Bill Baggs Cape Florida State Recreation Area to the south (see Map 1 & Map 2). Both of these areas have undergone extensive plans to remove exotic plant species and control their future spread. Because the Village has not undergone such a program, it is acting as a "seed bank" for highly invasive exotic plants such as Australian pine (*Casuarina sp.*) (Figure 1), Melaleuca (*Melaleuca quinquenervia*) (Figure 2), and Scaevola (*Scaevola sericea*) (Figure 3), etc. When exotic species invade a native habitat, they may cause drastic changes in the natural ecosystem. Exotics are often able to out-compete native species, causing changes in productivity, consumption, decomposition, water fluxes, nutrient cycling and loss, soil fertility, and erosion. Some invading plants have even been found to increase the frequency of fires. Native species, on the other hand, have many beneficial characteristics which include: low maintenance (i.e., more cost-effective), environmentally friendly (i.e., requiring fewer pesticides and fertilizers due to natural adaptations), promote biodiversity and stewardship, provide food and shelter for native wildlife, restore regional landscapes, and prevent future exotic introductions.

Project:

For all of the above reasons, it is essential for the Village to establish a hazardous tree inventory that will not only allow us to rid public land of invasive exotic species, but also address the presence of invasive exotic species on privately owned land. In order to accomplish this, it will be necessary to educate land owners about the disadvantages of exotic species, while stressing the benefits of native species. To be successful, such a program will require the participation of the entire community of approximately 9,000 residents.

The goal of this program is three fold. This grant from the Florida Urban and Community Forestry Grant Program will be dedicated to the first goal of developing a hazardous tree inventory on public lands, and addressing invasive exotic plant species in all public areas. The second goal will be to replace the exotic species with the appropriate native plants, taking into consideration the location of sidewalks, driveways, drains, sewer lines, visibility of traffic information signs and oncoming vehicles, and overhead utility lines. The third goal is to educate private landowners on the advantages of native plants, and encourage them to remove invasive exotic species. This process will involve the preparation of a brochure that will include a list of native plants from which private land owners may choose. In order to ease identification, pictures of the entire tree and a close up view of the leaves and/or fruit will be included. The brochure will also include those species listed on the Florida Exotic Pest Plant Council list of Florida's most invasive species.

This list will also recommend specific native species that will be effective for various types of energy efficient landscaping. The Landscape Manual prepared by the Miami-Dade County Department of Planning, Development, and Regulation (February, 1996) will be followed in determining the best species to use as well as the optimum location for energy preservation. Moreover, historic vegetation records will not only guide overall plant selection, but will also help to mandate specific species, ratios, and groupings that will reflect historic Key Biscayne plant communities.

Because vegetation may change very quickly, and exotic species that were once not invasive may become invasive, it will be necessary to have a long-term management plan that responds to these dynamics. For this reason, a geographic information system (GIS) will be essential in the long-term analysis of the state of exotic species within the Village. Previous GIS work has been done with our Comprehensive Tree Maintenance Program GIS/GPS report which will serve as an excellent foundation (see Map 3). Also, with the use of CITYgreen GIS software, the Village will be able to analyze the economic benefits that various species of trees will provide including, improved air quality through carbon sequestration, increased energy preservation, and reduced storm water. This program will allow the Village to demonstrate to residents the economic advantages of native vegetation. The information will be continuously updated and available to anyone interested in an analysis of their home. This program is transferable to neighboring communities and communities throughout South Florida.

The creation of a hazardous tree inventory along the Village's right-of-ways will be accomplished through the use of VISAT technology. This technology, available through Measurement Sciences, Inc., allows for the integration of video, inertial, and satellite positioning technologies to produce georeferenced digital images. This technology allows for the fast acquisition of extremely accurate data that will serve as an excellent start for the Village's hazardous tree inventory.

Such a program will prove to be cost effective because it will halt the spread of invasive exotic species before their populations reach numbers that are cost prohibitive to remove. Also, due to their resistance to strong winds, exchanging native for exotic plants will reduce the amount of damage during windstorms. By making residents more aware of the energy-preservation characteristics of trees, the Village could increase energy saving, increase carbon sequestration (i.e., resulting in better air quality), and reduce storm water.

#### Summary:

The comprehensive invasive exotic management program includes three main objectives:

1. Development of a hazardous tree inventory;
2. Demonstration tree/palm planting project; and
3. Information and education program (brochure).

The Village of Key Biscayne is seeking funding for this project through the Florida Urban and Community Forestry Grant. A grant award from the Urban and Community Forest Program will allow the Village to initiate the first objective of this program. The other objectives will be completed in the future with other funds as they become available (i.e., South Florida Community - Urban Resources Partnership). This grant will allow the Village to add to the award winning programs of the Comprehensive Street Tree Planting Program, which included the Crandon Boulevard Median Improvement Program, the Village Green Project, and the Sod Replacement Program, all of which were made possible due to awards from the Florida Urban and Community Forestry Grant.

The main goal of this program is to eliminate invasive exotic plants from both public and private land within the Village of Key Biscayne, and replace these species with appropriate native species. Through these efforts, the Village hopes to replicate, as closely as possible, the historic plant communities and natural vegetative zonation of the island, from the beach to the bay. Through the use of GIS, the Village will be able to continuously update the data base while analyzing the success of this comprehensive program.

Attachment D

BUDGET

Please note: All proposals must include a detailed itemized budget summary which lists all anticipated expenditures and explains all project costs. Proposals for site specific demonstration tree planting projects (category 2A) must list the quantity, species, and approximate size (container size, or caliper and height) of trees to be planted.

\*\*\*\* IMPORTANT: THIS FORM MUST BE USED. PROPOSERS NOT USING THIS FORM WILL BE RULED INELIGIBLE \*\*\*\*

Cost Items	Quantity (#)	Rate or Price (\$)	Grant Cost (\$)	Match Cost (\$)
<u>Contractual</u> (description) VISAT Van (video, inertial, & satellite positioning data of right- of-ways)	One time filming	\$6,400 / 25 miles of public right-of-way	\$6,400	
<u>Personnel</u> (list titles or positions) Environmental Consultant (1)	700 hours	\$11.42 / hour	\$8,000	
<u>Travel</u> N/A				



PROPOSAL #RFP/DF-98/99-01 OPENING DATE: AUGUST 13, 1998 - 2:30 P.M.

Cost Items	Quantity (#)	Rate or Price (\$)	Grant cost (\$)	Match cost (\$)
<u>Supplies*</u> (list items)  N/A				



**PROPOSAL #RFP/DF-98/99-01 OPENING DATE: AUGUST 13, 1998 - 2:30 P.M.**

Cost Items	Quantity (#)	Rate or Price (\$)	Grant cost (\$)	Match Cost (\$)
<u>Operating Costs</u> (list) N/A				
<u>Trees</u> (list species and size) N/A				
Overhead**	N/A	N/A	*****	N/A
Total	N/A	\$30,000	\$15,000	\$15,000

\* Grant dollars may not be used to purchase food as supplies.

\*\* Overhead costs up to 5% may only be used as a matching cost, grant funds may not be used for overhead costs.



# VILLAGE OF KEY BISCAYNE

Office of the Village Clerk

*Village Council*

John F. Festa, *Mayor*  
Mortimer Fried, *Vice Mayor*  
Martha Fdez-León Broucek  
Gregory C. Han  
Hugh T. O'Reilly  
Michele Padovan  
Betty Sime

*Village Clerk*

Conchita H. Alvarez

## CERTIFICATION

STATE OF FLORIDA  
COUNTY OF DADE

I, Conchita H. Alvarez, duly appointed Village Clerk of the Village of Key Biscayne, Florida, do hereby certify that the attached is a true and correct copy of:

Resolution 98-26, adopted by the Village Council on May 12, 1998.

IN WITNESS WHEREOF, I hereunto set my hand and affix the Seal of the Village of Key Biscayne, Florida, this 12th day of August, 1998.



*Conchita H. Alvarez*  
Conchita H. Alvarez  
Village Clerk  
Village of Key Biscayne, Florida

RESOLUTION NO. 98-36

A RESOLUTION OF THE VILLAGE OF KEY BISCAYNE, FLORIDA; AUTHORIZING THE VILLAGE MANAGER TO ENTER INTO URBAN AND COMMUNITY FORESTRY GRANT MEMORANDUM OF AGREEMENTS WITH THE STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Village of Key Biscayne is located between two parks: Miami-Dade County Crandon Park to the north and Bill Baggs Cape Florida State Recreation Area to the south; and

WHEREAS, both of these areas have undergone extensive plans and practices to remove exotic plant species and control their future spread; and

WHEREAS, the Village of Key Biscayne is serving as a 'seed bank' for invasive exotic plant species to re-enter said parks; and

WHEREAS, increasingly large sums of taxpayer dollars will be required annually in the coming years to control invasive exotic plants on public conservation and recreation lands, waterways and productive estuaries and agriculture lands in the State; and

WHEREAS, the Village Council via Resolution 96-30 declared October 1996 as the first annual Invasive Exotic Plant Eradication Month, encouraging "all residents to take part in efforts to remove invasive nonnative plants to protect the long-term environmental health, natural diversity and beauty of all of Key Biscayne, and the State of Florida."

WHEREAS, Policy 1.7.9 in the Master Plan, adopted by the Village Council on September 12, 1995, and approved by Florida Department of Community Affairs (DCA) on October 20, 1995, is to "enact and enforce land development regulations which prohibit the propagation and planting" of thirteen exotic species; and

WHEREAS, the creation and implementation of an Invasive Exotic Eradication Plan was adopted as part of the Fiscal Year 1997 and 1998 Goals and Objectives; and

WHEREAS, the Village of Key Biscayne wishes to enter into the necessary agreements with the Department of Agriculture and Consumer Services to allow for the receipt of federal grant funds for the development of a project to remove invasive exotic species on public and private land within the Village.

NOW, THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF  
KEY BISCAINE AS FOLLOWS:

Section 1. That the Village Manager is hereby authorized to enter into Urban and  
Forestry Grant Memorandum of Agreements between the Village of Key Biscayne and the State  
of Florida Department of Agriculture and Consumer Services.

Section 2. That the Village Clerk is hereby directed to send a copy of this resolution  
to the Department of Agriculture and Consumer Services.

Section 3. This resolution shall take effect immediately upon adoption.

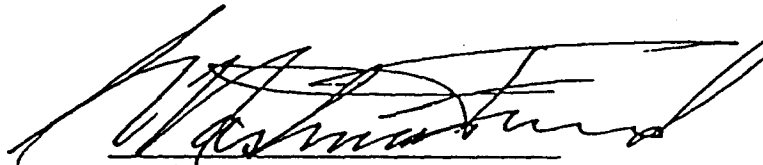
PASSED AND ADOPTED this 28th day of July, 1998.

ATTEST:

  
CONCHITA H. ALVAREZ, VILLAGE CLERK

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

  
RICHARD WEISS, VILLAGE ATTORNEY

  
MORTIMER FRIED, VICE MAYOR



# **ATTACHMENT B**

## **STATE OF FLORIDA**

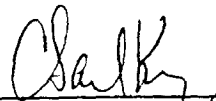
### **DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES**

#### **DRUG-FREE WORKPLACE PROGRAM - BIDDER CERTIFICATION**

**IDENTICAL TIE BIDS** - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.**
- 2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.**
- 3) Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1)**
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.**
- 5) Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.**
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.**

**As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.**



**VENDOR'S SIGNATURE**

# ATTACHMENT C

Page 1 of 2

## U. S. DEPARTMENT OF AGRICULTURE

### Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 7 CFR Part 3017, Section 3017.510, Participant's responsibilities. The regulations were published as Part IV of the January 30, 1989, Federal Register (pages 4722-4733). Copies of the regulations may be obtained by contacting the Department of Agriculture agency with which this transaction originated.

#### (BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Village of Key Biscayne  
Organization Name

Comprehensive Invasive Exotic Plant Management  
Pr/Award Number or Project Name Program

C. Samuel Kissinger

Name(s) and Title(s) of Authorized Representative(s)

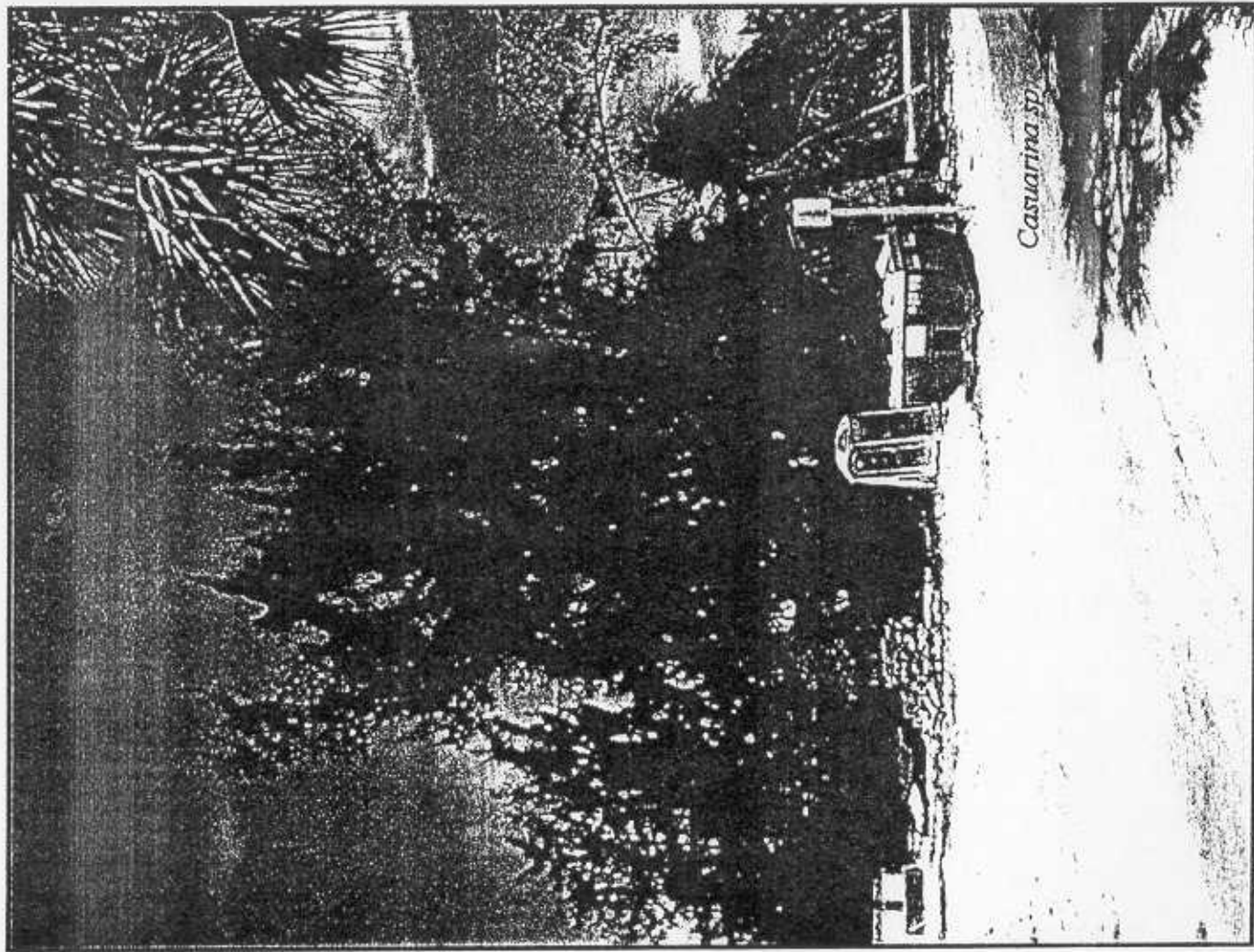
Signature(s)

8/11/98

Date

## **List of Figures and Maps**

1.     Figure 1     Picture of Australian Pine on West Mashta Drive, Key Biscayne, FL
  
2.     Figure 2     Picture of *Melaleuca* on West Wood Drive, Key Biscayne, FL
  
3.     Figure 3     Picture of *Scaevola* on Satinwood Drive, Key Biscayne, FL
  
4.     Map 1        The Island of Key Biscayne
  
5.     Map 2        The Village of Key Biscayne
  
6.     Map 3        The Comprehensive Street Tree Management Plan

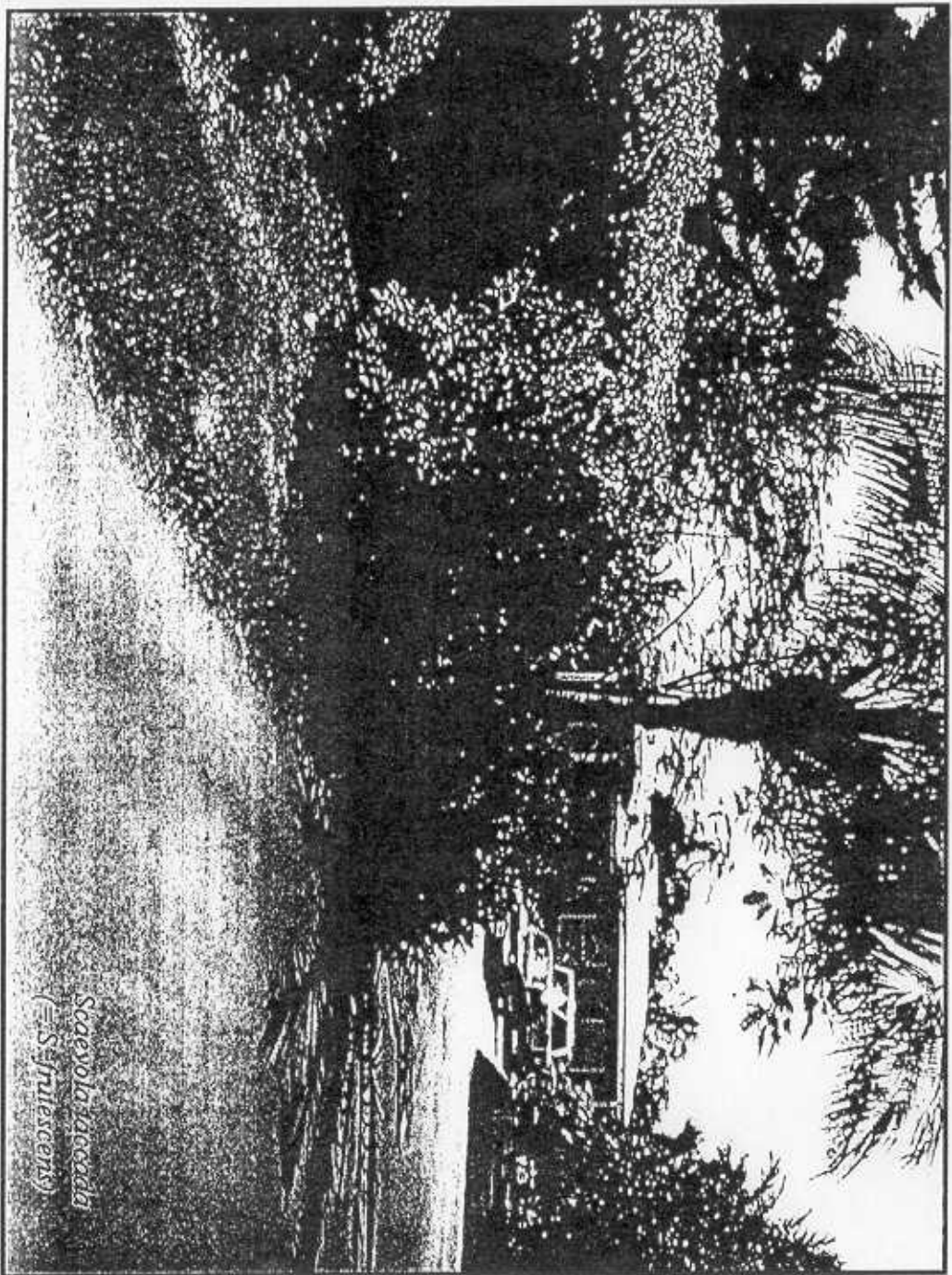


*Casuarina sp.*



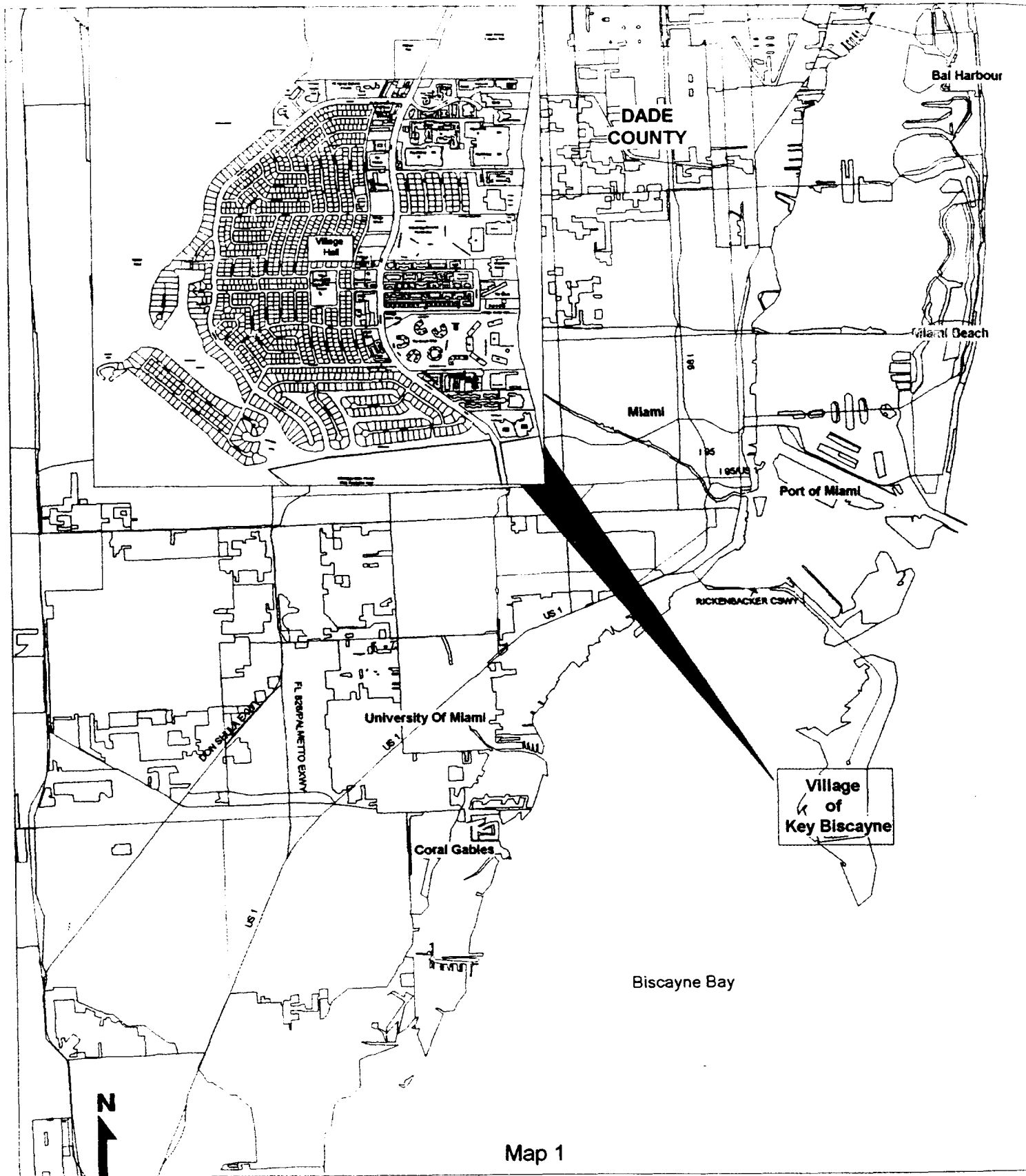


*Schefflera acinophylla*



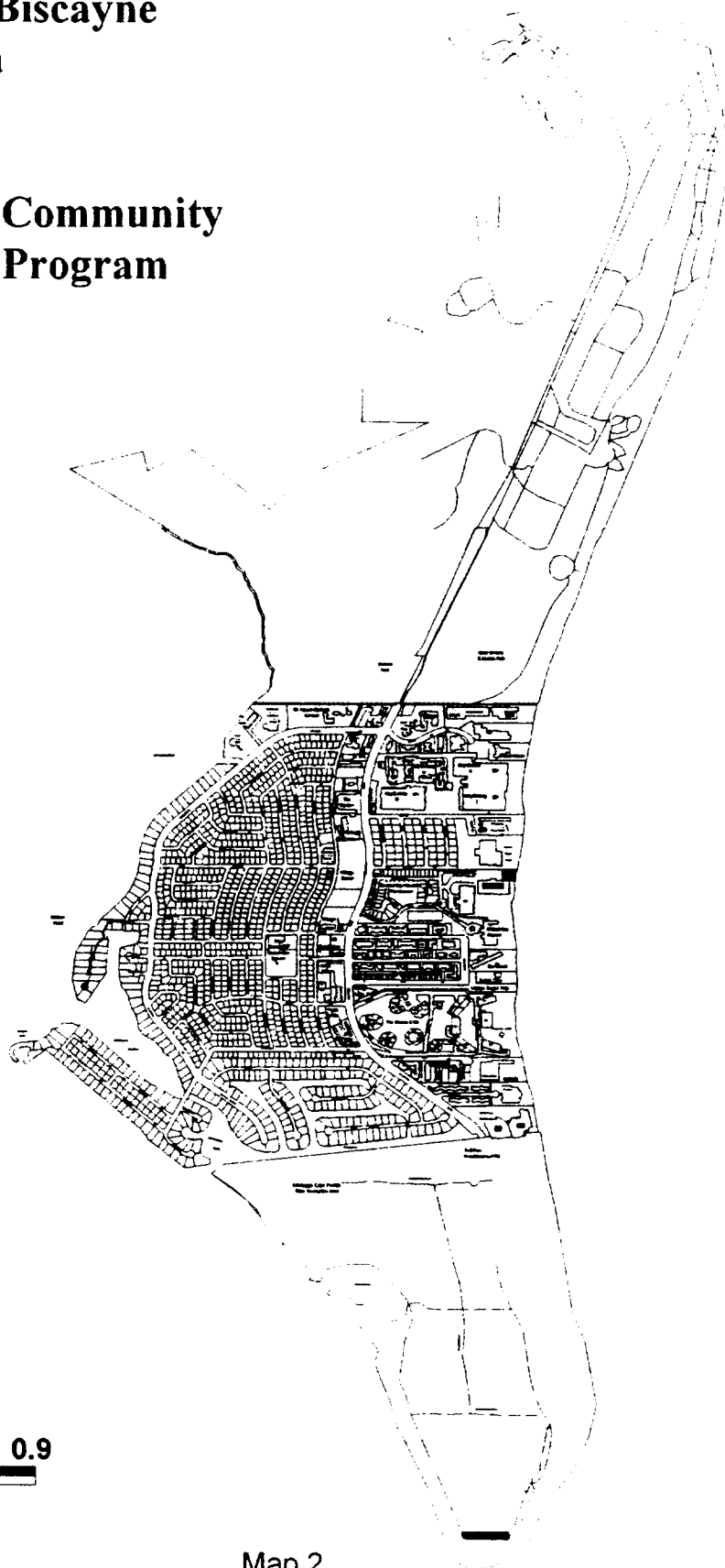
*Scaevola taccada*  
(= *S. frutescens*)

# Village of Key Biscayne, Florida



# **Village of Key Biscayne Florida**

## **Florida Urban and Community Forestry Grant Program**



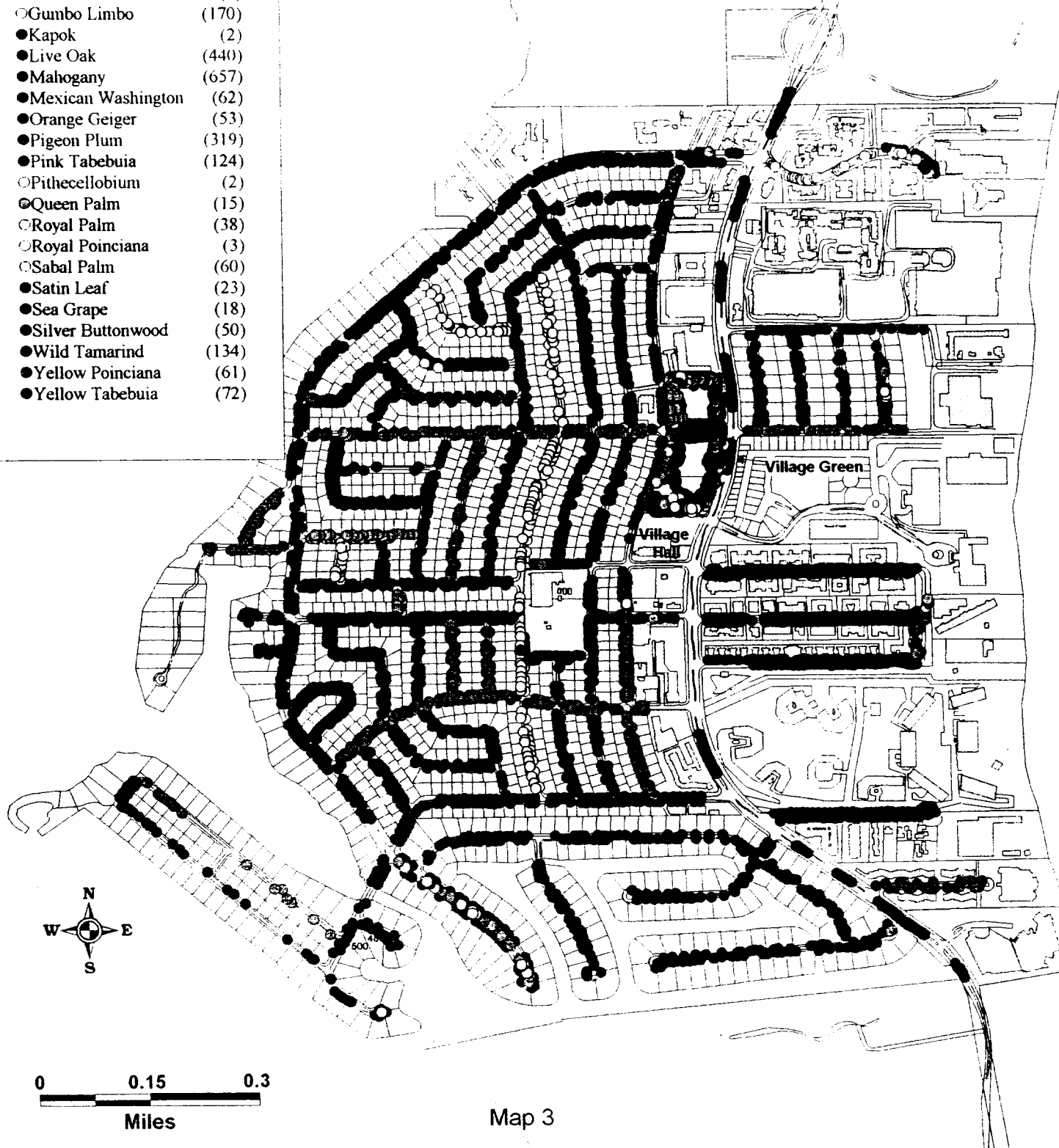
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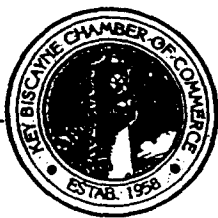
Map 2

# Village of Key Biscayne Street Tree System

● Coastal Cocoplum	(35)
● Coconut Palm	(1347)
● Green Buttonwood	(130)
● Guiana	(1)
○ Gumbo Limbo	(170)
● Kapok	(2)
● Live Oak	(440)
● Mahogany	(657)
● Mexican Washington	(62)
● Orange Geiger	(53)
● Pigeon Plum	(319)
● Pink Tabebuia	(124)
○ Pithecellobium	(2)
● Queen Palm	(15)
○ Royal Palm	(38)
○ Royal Poinciana	(3)
○ Sabal Palm	(60)
● Satin Leaf	(23)
● Sea Grape	(18)
● Silver Buttonwood	(50)
● Wild Tamarind	(134)
● Yellow Poinciana	(61)
● Yellow Tabebuia	(72)

## Florida Urban and Community Forestry Grant Program





# KEY BISCAINE CHAMBER OF COMMERCE

## Officers

Alicia Koenig, President  
Shayna Lopate, Vice President  
Joan McCaughan, 2nd V.P.  
Robert Brookes, Treasurer  
Nora Galego, Secretary

Pamela Kirkpatrick  
Executive Director

Francesca Vaccaro  
Membership Services

## Board of Directors

Adair Alspach, D.V.M.  
Antonio Aguirre  
Bob Bristol  
Bonnie Craiglow  
Bill Durham  
Robert Duzoglu  
Jim Eraso  
Pat Molinari  
Ani Nunez  
Rosemary Sala  
Burke Shaw

## Trustees

BellSouth  
Key Colony Realty  
Colonial Bank  
Fortune International Realty  
Galeria of Key Biscayne  
Grand Bay Resort  
L.D. Pankey Institute  
Lipton  
Mercy Hospital  
Northern Trust Bank  
Sonesta Beach Resort  
Stearns Weaver Miller, P.A.  
Stefano's  
SunTrust Bank  
The Ocean Club  
Trimac N.A. Inc.

August 7, 1998

C. Samuel Kissinger  
Village Manager  
Village of Key Biscayne  
85 West McIntyre Street  
Key Biscayne, FL 33149

Dear Mr. Kissinger:

I would like to commend you and your staff on your proposal to the Urban and Community Forestry Grant Program.

Development of a comprehensive tree management program is greatly needed in our barrier island community. Native palms, trees and plants are better equipped to handle storm and hurricane conditions particular to this coastal community.

Our Chamber has actively advocated for sound programs that promote the eradication of invasive exotic species, planting of native species, maintenance of our natural environment, and community-wide education initiatives.

The Key Biscayne Chamber of Commerce strongly supports the program recommendations detailed in the Urban and Community Forestry Grant Program. Please let us know if the Chamber may be of assistance in implementing this excellent program.

Warm regards,

  
Pamela Kirkpatrick  
Executive Director

*THE CHAMBER MAKES IT HAPPEN*



## VILLAGE OF KEY BISCAINE

*Village Council*  
John F. Festa, *Mayor*  
Mortimer Fried, *Vice Mayor*  
Martha Fdez-León Broucek  
Gregory C. Han  
Hugh T. O'Reilly  
Michele Padovan  
Betty Sime

August 10, 1998

Dear Sir,

As an elected member of the Village of Key Biscayne and Chairman of the Local Planning Agency, I am in complete support of a Village Plan to remove the invasive exotic plant species on Key Biscayne. We are located between a state and county park both of whom have undertaken such a plan. By setting our example of removal of exotics from public land we hope to encourage the private sector to follow suit.

A grant award from the Urban & Community Forest Program will allow us to begin our program.

Thank you for your consideration.

Sincerely,

Betty Q. Sime  
Councilmember

BQS/adv

Dr. Henny Gröschel-Becker  
290 West Mashta Drive  
Key Biscayne, FL 33149

7 August 1998

Mr. Sam Kissinger, Village Manager  
Mr. James De Cocq, Assistant to the  
Village Manager  
Village of Key Biscayne  
85 West McIntyre Street  
Key Biscayne, FL 33149

Sirs:

I am pleased to write this letter of support for the establishment of an Exotic Plant Eradication Program for the Village of Key Biscayne. As a marine scientist, environmental educator, avid gardener, long-time advocate of responsible, sustainable development, and 12-year resident of the island, I believe this plan is urgently needed.

The Village, in its unique location between Miami-Dade County's Crandon Park and Bill Baggs Cape Florida State Park, should join the parks' efforts to eradicate invasive species and reestablish the native trees, shrubs, and other plants characteristic of upland and coastal barrier island environments. The first goal of the program, described in detail in the attached proposal, is identification of invasive exotic plant species in all public areas. This initial step, followed by replanting of native species and educational outreach in the community to encourage exotic plant removal in private lands, will improve the quality of life at many levels.

I encourage the Florida Urban and Community Forestry Grant Program to fund the Village's proposal to develop an exotic plant management program.

Sincerely,

A handwritten signature in cursive script, reading "Henny Gröschel-Becker".

Henny Gröschel-Becker, Ph.D



## **Appendix K**

### **South Florida Community - Urban Resources Partnership Pre-Proposal**

## Appendix K

### VILLAGE OF KEY BISCAIYNE



### SOUTH FLORIDA COMMUNITY- URBAN RESOURCES PARTNERSHIP PRE-PROPOSAL



September 1, 1998  
Village of Key Biscayne, Florida

ANYONE DESIRING ADDITIONAL INFORMATION OF THE CONTENTS OF THIS PACKET SHOULD CONTACT:

C. SAMUEL KISSINGER  
VILLAGE MANAGER  
VILLAGE OF KEY BISCAIYNE  
85 WEST MCINTYRE STREET  
KEY BISCAIYNE, FL 33149  
(305) 365-5514

**Appendix K**  
**TABLE OF CONTENTS**

ITEM	TAB
1. Basic Criteria	1
2. Request for Pre-Proposal	2
3. Pre-Proposal	3
Maps	
4. Location Map	4
5. Village of Key Biscayne	5
6. Comprehensive Street Tree Planting Project	6

**SOUTH FLORIDA COMMUNITY-URBAN RESOURCES PARTNERSHIP**  
**USDA SERVICE CENTER**  
6191 ORANGE DRIVE ♦ RM. 6183-Q  
DAVIE, FLORIDA 33314 ♦  
Phone (954) 792-1984 ♦ Fax (954) 792-3996

**PRE-PROPOSAL SELECTION CRITERIA**

**BASIC CRITERIA**

To be used to determine program eligibility.

1. Is the project in a, under serviced area? NO or  
Within an Enterprise Zone/Empowerment Zone (EZ) area? NO
2. Does the project have an on the ground, natural resources component? YES
3. Does the project have an educational component? YES
4. Does the project have community involvement? YES

**Project must meet three of four of the above criteria for further consideration.**

**Ranking Criteria**

To be used if proposals passing basic criteria exceed program capabilities.  
(10 points maximum each criteria)

1. Level of need for the project (may include project significance and community resources)
2. Project goals in line with URP program goals
3. Level of project collaboration (is partner in collaboration with other organizations)
4. Level of technical assistance needed or ability to provide technical assistance to other URP projects  
(projects needing less technical assistance should receive fewer points, 5 pts. min. If no tech assistance needed, except if partner has ability to provide assistance then rate that ability, 5 pts. min. if unable to provide technical assistance.)
5. Partners ability to complete project (Has partner completed similar projects or are basic resources available)
6. Level of benefit to the community. (Does the project provide measurable benefit to the community)
7. Level of benefit to natural resources (Does the project provide measurable benefit to natural resources)
8. Level of partner contribution (Is the partner able to obtain or have resources to provide matching funding or in-kind contribution. Projects with greater match receive more points 50%=5 pts.)
9. Level of target participants serviced (Does the project service youth, elderly or disadvantaged persons)
10. Overall project evaluation (Project feasibility, sustainability and applicability)

**SOUTH FLORIDA COMMUNITY-URBAN RESOURCES PARTNERSHIP  
USDA SERVICE CENTER**

**6191 ORANGE DRIVE ♦ RM. 6183-Q**

**DAVIE, FLORIDA 33314 ♦**

**Phone (954) 792-1984 ♦ Fax (954) 792-3996**

**DEFINITIONS**

**COLLABORATIVE EFFORT;** Work or project that are a joint effort of more than one organization or group. Partnership (The more partners involved the better.)

**COMMUNITY INVOLVEMENT;** Engaging the affected community in the project, including the process of project planning and implementation.

**COMMUNITY BASED/FOCUSED/DRIVEN;** Having the affected community as the main ingredient or starting point/be the center of activity/be caused and directed by.

**EDUCATIONAL COMPONENT;** Providing meaningful instruction or training to project participants or developing employable information materials in areas related to natural resource conservation.

**ON THE GROUND NATURAL RESOURCES PROJECT;** Project with physical component or containing actual site improvements or enhancements (projects on the ground)

**TECHNICAL ASSISTANCE;** providing project related information necessary for the successful completion of the project. (experienced groups sharing knowledge (becoming partners) encouragement, empowerment, providing service).

**UNDERSERVED COMMUNITY;** communities normally in need of government assistance to include racial and ethnic, inexperienced, economically challenged, educationally disadvantaged communities, Enterprise or Empowerment Zones.

**SOUTH FLORIDA COMMUNITY-URBAN RESOURCES PARTNERSHIP**  
**HEREINAFTER REFERRED TO AS SFCURP**  
**REQUEST FOR PRE-PROPOSAL**

The SFCURP is requesting pre-proposal submissions for its 1998 project cycle. SFCURP is seeking to implement partner community based, urban natural resource projects by providing technical assistance and partial funding. The desired projects will be community focused/based/driven, have an "on the ground" natural resources component and provide educational opportunities for urban communities within the SFCURP area. Projects are encouraged to form collaborative efforts with like-minded organizations, take advantage of technical assistance of the SFCURP and obtain substantial portions of project funding. The SFCURP project award is intended to be a springboard for long term sustainable efforts by providing a platform for building coalitions and a resource base within the community.

**Eligibility**

**Applicants must:**

- be a unit of state or local government, public or private nonprofit organization
- be within the SFCURP area

**Project must:**

- have an "on the ground" natural resources component
- have an educational component, linking people with natural resources
- be community focused/based/driven

**Project Awards:**

**Include:**

- technical assistance from government agencies, public and private organizations
- partial Federal funding

**Are:**

- generally one year in duration
- funded on a reimbursement basis

**Require:**

- at least a 50/50 match of Federal funds with local cash funding (or in-kind materials or services) greater proportion would be given a higher grade accordingly
- quarterly reporting of progress
- documentation of expenditures
- photographic documentation of activities and progress
- recognition of SFCURP in signage and publicity releases

**Procedure:**

To be considered for a 1998 SFCURP project award, complete the enclosed pre-proposal form and return to the South Florida Community-Urban Resources Partnership office by 9/1/98. Use only the sheets provided, do not submit additional sheets or letters of support. Faxed pre-proposal applications will be accepted.

**South Florida Community-Urban Resources Partnership**

**USDA Service Center**

**6191 Orange Dr., Room 6183Q**

**Davie, FL, 33314**

**Phone: (954) 792-1984 or (954) 584-1306**

**Fax: (954) 792-3996 or 792-4989**

**Application must be received by postmarked by 5:00 pm 9/1/98**

**SOUTH FLORIDA COMMUNITY-URBAN RESOURCES PARTNERSHIP  
USDA SERVICE CENTER, 6191 ORANGE DRIVE, RM 6181Q DAVIE, FL 33314**

**SFCURP Project #**

**PRE-PROPOSAL**

**Project Name:** Comprehensive Invasive Exotic Removal Plan and Native Outdoor Classroom Project  
(Please type or print legibly)

**Project Partner:** Key Biscayne Community School P.T.A. & Key Biscayne Chamber of Commerce

**Project Partner Address:** 328 Crandon Blvd., Suite 211, Key Biscayne, FL 33149

**Project Partner Phone Number:** (305) 361-5207

**Fax Number:** (305) 361-9411

**Organization Executive Director/President:** C. Samuel Kissinger, Village Manager

**Contact Person for Partner:** Fran Vaccaro & Pamela Kirkpatrick

**Contact Address:** 85 West McIntyre Street, Key Biscayne, FL 33149

**Phone Number:** (305) 365-5500

**Fax Number:** (305) 365-8936

**Project Address:** 130 West McIntyre St., Key Biscayne; and the Village of Key Biscayne, right-of-ways  
(enclose applicable map) See Tabs 4 & 5

<b>Congressional District(s):</b>	18
<b>Amount to Implement total Project:</b>	\$30,000
<b>Amount of SFCURP Funding Requested:</b>	\$10,000
<b>Amount Partner is Providing:</b>	\$10,000

1. a. Does the project have an on the ground, natural resources component? YES
- b. Does the project have an educational component? YES
- c. Does the project have community involvement? YES
- d. Is the project in a low income or distress area? NO Within an Enterprise/Empowerment Zone area? NO
- e. Is the project partner a non-profit organization, 510(3)(C)? PTA - YES; Chamber of Commerce - YES
- f. Has the partner previously submitted for SFCURP project? NO If yes, when? N/A
- g. Has the partner previously received an SFCURP project? NO If yes, is project completed? N/A

**2. Briefly describe the resource or community need for the project:** The Village of Key Biscayne is uniquely located on a barrier island between two parks: Miami-Dade County Crandon Park to the north and Bill Baggs Cape Florida State Recreation Area to the south. Both of these areas have undergone extensive plans to remove exotic plant species and control their future spread. Because the Village has not undergone such a program, it is acting as a "seed bank" for highly invasive exotic plants such as Australian pine (*Casuarina sp.*), Melaleuca (*Melaleuca quinquenervia*), and Scaevola (*Scaevola sericea*), etc. When exotic species invade a native habitat, they may cause drastic changes in the natural ecosystem. Exotics are often able to out-compete native species, causing changes in productivity, consumption, decomposition, water fluxes, nutrient cycling and loss, soil fertility, and erosion.

**3. Briefly list the goals of the project:** Policy 1.7.9 in the Master Plan, adopted by the Village Council on September 12, 1995, and approved by Florida Department of Community Affairs (DCA) on October 20, 1995, is to "enact and enforce land development regulations which prohibit the propagation and planting" of ~~invasive exotic species~~ <sup>Appendix A</sup> species. The Village of Key Biscayne wishes to build on its award-winning Comprehensive Street Tree Planting Project (Tab 6), and continue the adopted goal of the Village Council to eliminate invasive exotic plants while creating a native community forest that will attract native wildlife. The areas covered will include the right-of-ways within the Village and the area around the newly expanded Key Biscayne Community School. Private land will also be addressed by the production of a brochure that will allow residents to identify invasive exotic plant species, and offer suggestions for appropriate native replacement trees.

**4. Briefly describe the project's on ground, natural resources component:** Native plants have many beneficial characteristics which include: low maintenance (i.e., more cost-effective), environmentally friendly (i.e., requiring fewer pesticides and fertilizers due to natural adaptations), promote biodiversity and stewardship, provide food and shelter for native wildlife, restore regional landscapes, and prevent future exotic introductions. The Village hopes to replicate, as closely as possible, the historic plant communities and natural vegetative zonation of the island.

**5. Briefly describe the project's educational component:** The Village and its Partners plan to create an outdoor classroom around the community school that will include species native to Key Biscayne. Special attention will be given to replicating the native habitat of Key Biscayne in such a way that native animals will be attracted to this outdoor classroom, including: birds, mammals, reptiles, amphibians, and butterflies. Additionally, a brochure will educate our residents on the identification of invasive exotic species and why they are detrimental to our community. Also planned for the brochure is a section that will list techniques that residents may use to create habitats for native animal species, and a list of appropriate native vegetation.

**6. List any individuals or organizations that will collaborate in the project and briefly describe their involvement:** Key Biscayne Community School students will assist in the removal of invasive exotic species. They have previous experience with the removal of exotic plants from the dune systems on the beaches of Key Biscayne, and are therefore excellent candidates for such a project. The project partners, which include the P.T.A. and the Chamber of Commerce, will help the Village through various donations and in coordinating local businesses and Miami-Dade County Science Magnet School MAST Academy that will offer additional services to aid in our project.

**7. Briefly describe the project's implementation and schedule:** The project will begin with the identification and removal of invasive exotic plants within the public right-of-way and on school property. A plan will be developed to create an outdoor classroom for the school. The next priority is to replace the plants removed during the first part of this program with appropriate native species. Finally, a brochure will be developed that will aid residents in the identification of invasive exotic plants on their property, and give suggestions of appropriate native species.

**8. Briefly describe the project participants:** The Key Biscayne Community School is part of the Miami-Dade County Public School System. The school has just added two new wings, thereby making it an "Elemiddle" school that will eventually contain grades K through 8. Because construction is just now being completed, it is the perfect time to revegetate these areas. The P.T.A. and the Chamber of Commerce have a well-established history of working together in various projects.

**9. Briefly describe how the project will benefit the participants and the community:** Such a program will prove to be cost effective and beneficial to all those involved because it will halt the spread of invasive exotic species before their populations reach numbers that are cost prohibitive to remove. Also, due to their resistance to strong winds, exchanging native for exotic plants will reduce the amount of damage during windstorms. By making residents more aware of the energy-preservation characteristics of trees, the Village could increase energy saving, increase carbon sequestration (i.e., resulting in better air quality), and reduce storm water. This is especially important to a barrier island community that suffered \$2 million in damage in 1992 from Hurricane Andrew.

**10. Briefly describe how the project will benefit the area's natural resources:** When exotic species invade a native habitat, they may cause drastic changes in the natural ecosystem. Exotics are often able to out-compete native species, causing changes in productivity, consumption, decomposition, water fluxes, nutrient cycling and loss, soil fertility, and erosion. Some invading plants have even been found to increase the frequency of fires. Native species, on the other hand, have many beneficial characteristics which include: low maintenance (i.e., more cost-effective), environmentally friendly (i.e., requiring fewer pesticides and fertilizers due to natural adaptations), promote biodiversity and stewardship, provide food and shelter for native wildlife, restore regional landscapes, and prevent future exotic introductions.



**11. List sources for matching funds, including in kind contributions and amount of each:** The Village of Key Biscayne will match the \$10,000 grant with \$7,500 of in kind services (i.e., salary for environmentalists) and a cash payment of \$2,500 for additional materials for our Comprehensive Invasive Exotic Plant Management Program and the creation of a brochure. Additionally, the P.T.A. will contribute \$5,000 cash to the creation of the outdoor classroom, with the Chamber of Commerce donating \$10,000 of in kind services through the coordination of volunteers.

**12. Briefly describe the partner's ability to complete the project:** Students from the Key Biscayne Community School have helped the Village with exotic plant eradication within the dune systems of Key Biscayne. They have also done similar work in Bill Baggs Cape Florida State Recreation Area. Additionally, both the P.T.A. and the Chamber of Commerce have worked with the Village in the past, including the very successful comprehensive dune planting project that enlisted many local businesses and over 300 volunteers. Additionally, the Village has supported past projects with the P.T.A., including \$42,000 in 1993 for Curriculum development, and has pledged \$75,000 in matching funds to purchase computers for the new "Elemiddle" school.

**13. List any technical assistance needed to implement the project:** Any technical assistance necessary to complete this project will be available from the Village Public Works Department, the Office of the Village Manager, and the adjacent County and State Parks.

**Project Category:** (Number the subject(s) your project addresses in order of priority with 1 being the highest priority).

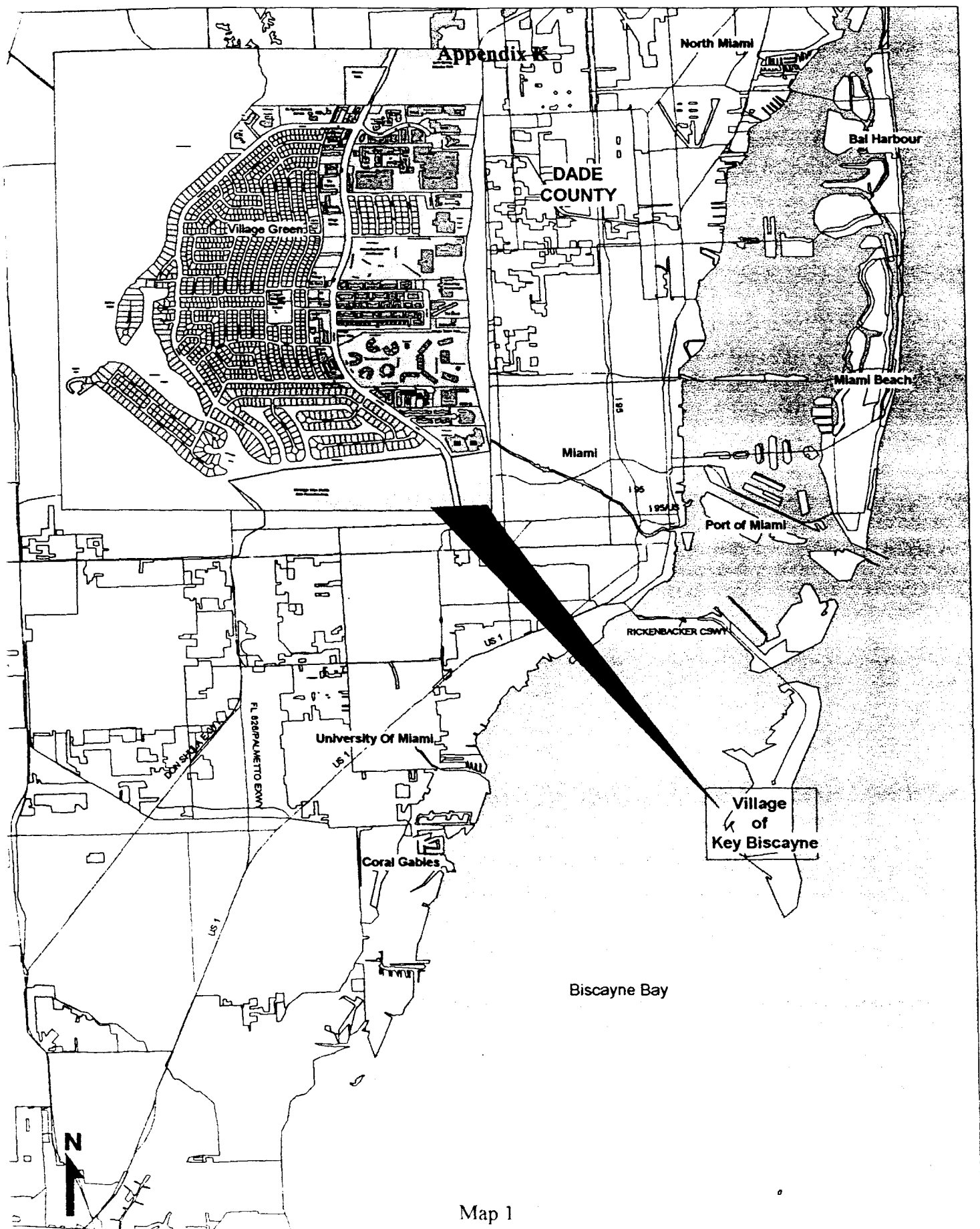
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<input type="checkbox"/> Environmental Justice	<input type="checkbox"/> Streambank & Canal, Lake Restoration	<input type="checkbox"/> Water Quality
<input checked="" type="checkbox"/> 1 Urban Forestry	<input type="checkbox"/> Open Space Enhancement	<input checked="" type="checkbox"/> 2 Environmental Education
<input type="checkbox"/> Neighborhood Cleanup	<input checked="" type="checkbox"/> 3 Community Garden	<input type="checkbox"/> Other, Please name

For further information, please call (954) 792-1984 or Fax (954) 792-3996

**SUBMIT ONLY THE PAGES PROVIDED  
DO NOT ATTACH ADDITIONAL PAGES OR LETTERS OF SUPPORT**

**SOUTH FLORIDA COMMUNITY-URBAN RESOURCES PARTNERSHIP  
USDA SERVICE CENTER, 6191 ORANGE DRIVE, RM 6181Q DAVIE, FL 33314**

# Village of Key Biscayne, Florida



Map 1

**Village of Key Biscayne  
Florida**

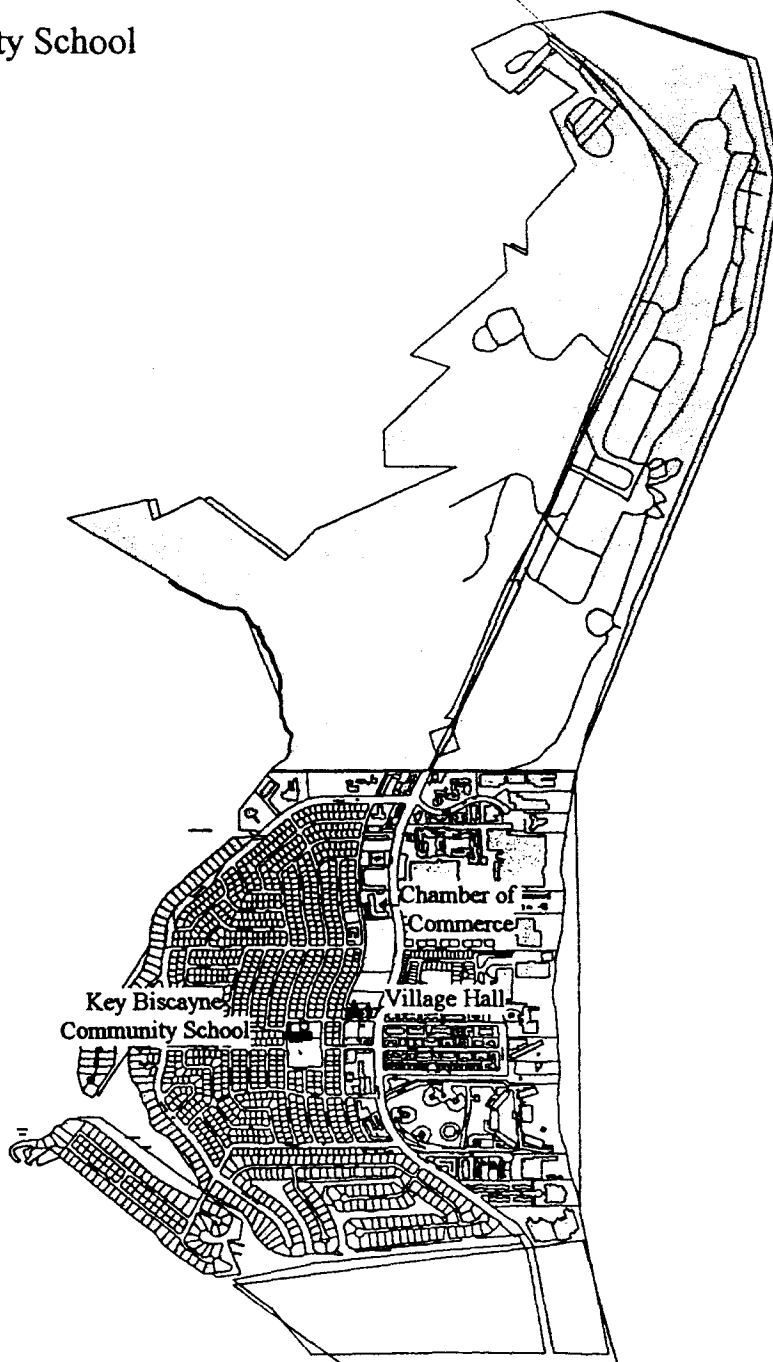
**1998 South Florida Community  
Urban Resources Partnership  
Grant Program**

**Project Partners:**

- Chamber of Commerce
- Key Biscayne Community School
- MAST Academy
- Village Hall

**Appendix K**

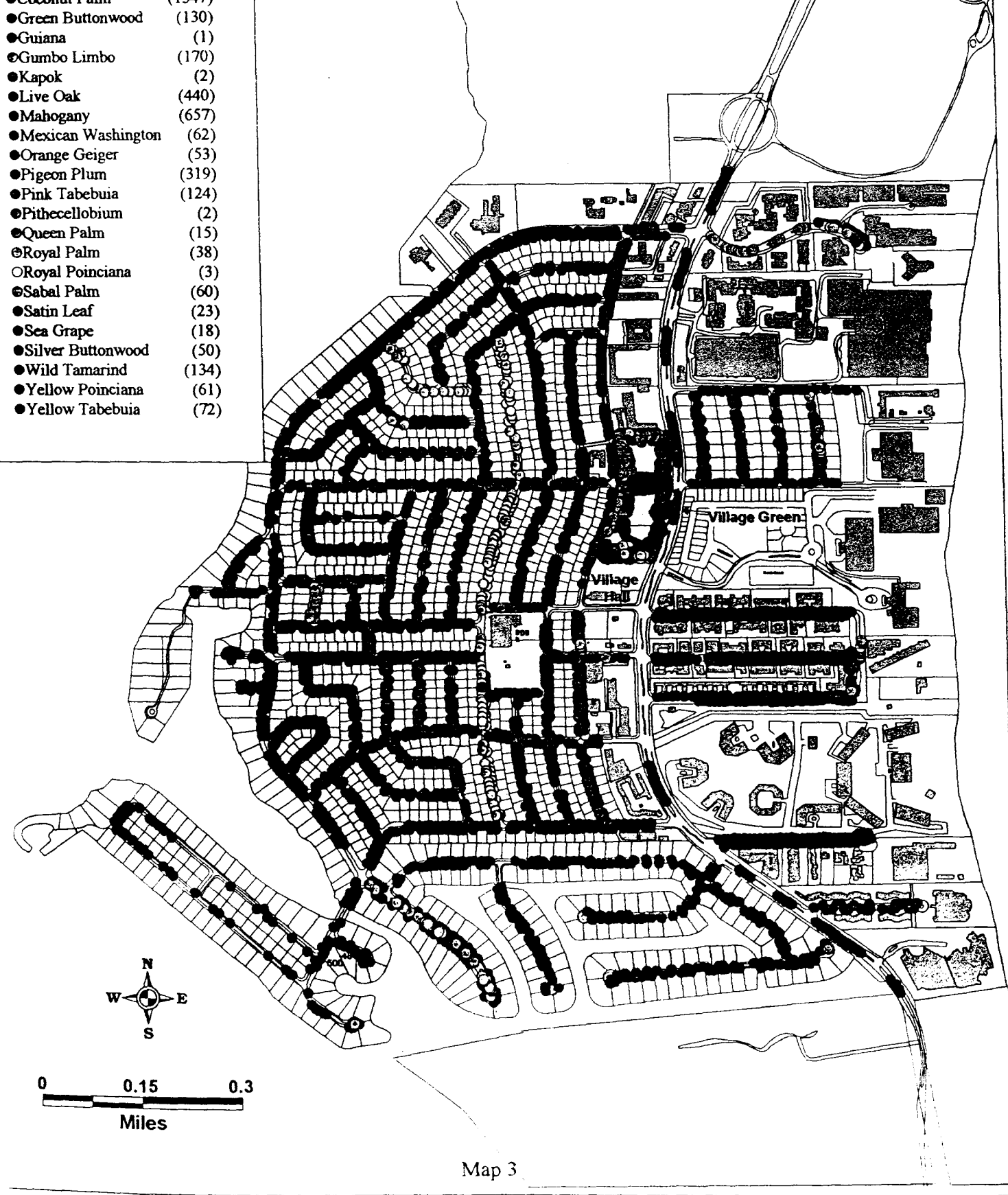
← MAST Academy



# Village of Key Biscayne Street Tree System

●Coastal Cocoplum	(35)
●Coconut Palm	(1347)
●Green Buttonwood	(130)
●Guiana	(1)
●Gumbo Limbo	(170)
●Kapok	(2)
●Live Oak	(440)
●Mahogany	(657)
●Mexican Washington	(62)
●Orange Geiger	(53)
●Pigeon Plum	(319)
●Pink Tabebuia	(124)
●Pithecellobium	(2)
●Queen Palm	(15)
●Royal Palm	(38)
○Royal Poinciana	(3)
●Sabal Palm	(60)
●Satin Leaf	(23)
●Sea Grape	(18)
●Silver Buttonwood	(50)
●Wild Tamarind	(134)
●Yellow Poinciana	(61)
●Yellow Tabebuia	(72)

## Comprehensive Street Tree Planting Project



Map 3

## **Appendix L**

### **Miami-Dade County Site Plan Review Consideration and Landscape Ordinance**

Chapter 18A

**DADE COUNTY LANDSCAPING ORDINANCE\***

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\*Editor's note—Ord. No. 95-222, § 2, adopted Dec. 5, 1995, repealed former Ch. 18A, relative to landscaping, and enacted a new Ch. 18A to read as herein set out. The provisions of former Ch. 18A derived from Ord. No. No. 67-75, § 3, adopted Oct. 17, 1967. Ord. No. 70-5, § 1, adopted Jan. 28, 1970; Ord. No. 73-58, § 1, adopted June 5, 1973; Ord. No. 82-68, § 1, adopted July 20, 1982 and Ord. No. 95-215, § 1, adopted Dec. 5, 1995.

Cross reference—Diseased palm trees, Ch. 11D.

**Sec. 18A-1. Short title and applicability.**

(A) *[Title.]* This ordinance shall be known and may be cited as the "Dade County Landscape Ordinance."

(B) *Applicability.*

- (1) This ordinance shall be a minimum standard and shall apply to both the incorporated and unincorporated areas, and in the unincorporated area shall be enforced by the County and in the incorporated areas shall be enforced by the municipalities; provided, any municipality may establish and enforce more stringent regulations as such municipality may deem necessary; and in the event the provisions hereof are not enforced within any municipality, the County shall enforce same.
- (2) The provisions of this ordinance shall be considered minimum standards and shall apply to all public and private development when a permit is required, except for the following:
  - (a) Existing attached and detached single family and duplex dwellings, including any future additions or expansions shall be exempt from the provisions of this ordinance.
  - (b) *Bona fide agricultural activities.* Any portion of property not receiving an agricultural classification and assessment pursuant to Section 193.461 Florida Statutes, shall comply with the requirements of this ordinance.
- (3) Existing development as defined in Section 18A-3(N) shall only be required to comply with the street tree requirements of Section 18A-6(C)(2) and parking lot buffers of Section 18A-6(I). This requirement shall not apply to existing attached and detached single family and duplex dwellings pursuant to subsection (2)(a) above. Parking lot buffer will not be required if inadequate area exists which will cause the elimination of any required parking pursuant to County or municipal code. The provisions of this subsection shall only apply where a building permit is required for

external alterations or where a paving permit is required for expansion of parking areas. Routine maintenance such as re-roofing and painting shall not be considered external alterations.

(Ord. No. 95-222, § 2, 12-5-95)

**Sec. 18A-2. Purpose and intent.**

It is the intent of this ordinance to establish minimum landscape standards for Incorporated and Unincorporated Dade County that enhance, improve and maintain the quality of the landscape, and to:

- (A) Promote xeriscape principles through the use of drought-tolerant landscape species, grouping of plant material by water requirements, the use of irrigation systems that conserve the use of potable and nonpotable water supplies and restrictions on the amount of lawn areas.
- (B) Use landscape material, specifically street trees, to visually define the hierarchy of roadways, and to provide shade and a visual edge along roadways.
- (C) Prevent the destruction of the community's existing tree canopy and promote its expansion.
- (D) Provide for the preservation of existing natural forest communities and specimen sized trees in conformance with Section 24-60, as may be amended from time to time; re-establish native habitat where appropriate, and encourage the appropriate use of native plant material in the landscape.
- (E) Promote the use of trees and shrubs for energy conservation by encouraging cooling through the provision of shade and the channeling of breezes, thereby helping to offset global warming and local heat island effects through the added absorption of carbon dioxide and reduction of heat islands.
- (F) Contribute to the processes of air movement, air purification, oxygen regeneration, ground water recharge, and stormwater runoff retention, while aiding in the abate-

ment of noise, glare, heat, air pollution and dust generated by major roadways and intense use areas.

- (G) Improve the aesthetic appearance of commercial, industrial and residential development through the use of plant material, thereby protecting and increasing property values within the community, and protecting designated historic landscapes.
- (H) Reduce the negative impacts of exotic pest plant species and prohibit the use of noxious exotic plants which invade native plant communities.
- (I) Promote the use of trees to protect and buffer the effects of high winds on structures.
- (J) Promote the concept of planting the right tree or plant in the right place to avoid problems such as clogged sewers, cracked sidewalks and power services interruptions.

(Ord. No. 95-222, § 2, 12-5-95)

### Sec. 18A-3. Definitions.

The definitions contained in Chapters 24 and 33, Code of Metropolitan Dade County, Florida, shall apply to this ordinance except as otherwise changed herein:

- (A) *Accessways*: The maximum width of an accessway through the perimeter landscaped strip to an off-street parking or other vehicular use area shall be determined according to the Public Works Manual, Part I, Standard Details. No more than one (1) two-way accessway shall be permitted for any street frontage up to one hundred (100) lineal feet or no more than two (2) one-way accessways shall be permitted for any street frontage up to one hundred (100) lineal feet, such standards to be applicable to any property under one (1) ownership. Where such ownership involves over one hundred (100) feet of street frontage, one (1) additional two-way or two (2) additional one-way drives may be permitted for each additional one hundred (100) feet of frontage or major fraction thereof. The bal-

ance of such street frontage not involved with accessways shall be landscaped in accordance with the provisions of this chapter.

- (B) *Automatic irrigation system*: An irrigation system with a programmable controller or timing mechanism.
- (C) *Bonafide agricultural activities*: Land used for the growing of food crops, nurseries for the growing of landscape material, the raising of livestock, horse farms, and other good faith agricultural uses, except any portion of the property not eligible for agricultural exemption.
- (D) *Buffer, perimeter landscape*: An area of land which is set aside along the perimeter of a parcel of land in which landscaping is required to provide an aesthetic transition between different land uses and to eliminate or reduce the adverse environmental impact, and incompatible land use impacts.
- (E) *Colonnade*: A roof or building structure, extending over the sidewalk, open to the street and sidewalk, except for supporting columns or piers.
- (F) *Common open space*: Area required as open space under Chapter 33 for various zoning districts.
- (G) *Controlled Plant Species*: Those plant species listed in the Landscape Manual which tend to become nuisances because of their ability to invade proximal native plant communities, but which, if located and cultivated properly may be useful or functional as elements of landscape design.
- (H) *Diameter at breast height (DBH)*: Diameter of a tree's trunk measured at a point four and one-half (4½) feet from where the tree emerges from the ground at natural grade. In the case of multiple-trunk trees, the DBH shall mean the sum of each trunk's diameter measured at point or points four and one-half (4½) feet from where the tree emerges from the ground at natural grade.
- (I) *Differential operation schedule*: A method of scheduling an irrigation system to apply



- different quantities of water, and/or apply water at different frequencies as appropriate, for different hydrozones.
- (J) *Dissimilar land uses*: Proximate or directly associated land uses which are contradictory, incongruous, or discordant such as higher intensity residential, commercial or industrial uses located adjacent to lower intensity uses.
- (K) *Drip line*: An imaginary vertical line extending from the outermost horizontal circumference of a tree's branches to the ground.
- (L) *Duplex dwelling*: A residence building designed for, or used as the separate homes or residences of two (2) separate and distinct families, but having the appearance of a single family dwelling house. Each individual unit in the duplex shall comply with the definition for a one family dwelling.
- (M) *Effective destruction*: Effective destruction shall mean cutting down, girdling, damaging of root system, or pruning not in accordance with the most recent American National Standards Institute (ANSI) A-300 Standard Practices for Tree Care Operations.
- (N) *Existing development*: Existing development shall mean a site with structures that were legally approved through the issuance of a certificate of use and occupancy or a certificate of completion as of the effective date of this ordinance.
- (O) *Geologic feature*: a natural rock or mineral formation.
- (P) *Ground cover*: A dense, extensive growth of low-growing plants, other than turfgrass, normally reaching an average maximum height of not more than twenty-four (24) inches at maturity.
- (Q) *Hatracking or topping*: The removal within a one (1) year period, of more than one-third ( $\frac{1}{3}$ ) of a tree's living canopy, or the removal of any branch three (3) inches or greater in diameter at any point other than the branch collar.
- (R) *Heat island*: An unnaturally high temperature microclimate resulting from radiation from unshaded impervious surfaces.
- (S) *Hedge*: A landscape barrier consisting of a continuous, dense planting of shrubs, not necessarily of the same species.
- (T) *Irrigation plan*: A plan drawn at the same scale as the landscape plan, indicating location and specification of irrigation system components and other relevant information as required by this ordinance.
- (U) *Irrigation system*: A system of pipes or other conduits designed to transport and distribute water to keep plants in a healthy and vigorous condition.
- (V) *Landscape feature*: Trellis, arbor, fountain, pond, garden sculpture, garden lighting, decking, patio, decorative paving, gazebo and other similar elements.
- (W) *Landscape material*: Plants such as grass, ground cover, shrubs, vines, hedges, trees and non-living material such as rocks, pebbles, sand, mulch, or decorative paving materials.
- (X) *Landscape plan*: A plan indicating all landscape areas, existing vegetation to be retained, proposed plant material, landscape features, planting specifications, and all other relevant information in compliance with this ordinance.
- (Y) *Lawn area*: An area planted with lawn grasses.
- (Z) *Manual irrigation system*: An irrigation system in which control valves and switches are manually operated rather than operated by automatic controls.
- (AA) *Mixed use*: A mixture of land uses such as provided in Traditional Neighborhood Development (TND), Planned Area Development (PAD), and Planned Development (PD).
- (BB) *Moisture sensor switch*: A device which has the ability to switch off an automatic irrigation controller after receiving a determined amount of rainfall.
- (CC) *Mulch*: Non-living organic materials customarily used in landscape design to retard

erosion, weed infestation, and retain moisture and for use in pathways and play areas.

- (DD) *Multifamily residential development*: Any residential development other than attached or detached single family or duplex.
- (EE) *Multiple single family developments*: Attached and detached single family developments that are planned as a total project and not as a single family unit on a single lot.
- (FF) *Native habitat*: An area enhanced or landscaped with an appropriate mix of native tree, shrub and groundcover species that resembles a natural forest community in structure and composition or is naturally occurring, and is smaller than the size threshold for inclusion as a natural forest community.
- (GG) *Native plant species*: Plant species with a geographic distribution indigenous to all or part of Dade County. Plants which are described as being native to Dade County in botanical manuals such as, but not limited to, "A Flora of Tropical Florida" by Long and Lakela and "The Biology of Trees Native to Tropical Florida" by P. B. Tomlinson, are native plant species within the meaning of this definition. Plant species which have been introduced into Dade County by man are not native plant species.
- (HH) *Native plant community*: A natural association of plants dominated by one or more prominent native plant species, or a characteristic physical attribute.
- (II) *Natural forest community*: All assemblages of vegetation designated as Natural Forest Communities on the Dade County Natural Forest Community Maps and approved by the Board of County Commissioners, pursuant to Resolution No. R-1764-84 and further defined in Section 24-3 of the Dade County Code.
- (JJ) *Net lot area*: For the purpose of this ordinance, net lot area shall be the area within lot boundaries of all lands comprising the site. Net lot area shall not include any portion of the abutting dedicated streets, alleys, waterways, canals, lakes or any other such dedications.
- (KK) *One family dwelling*: A private residence building used or intended to be used as a home or residence in which all living rooms are accessible to each other from within the building and in which the use and management of all sleeping quarters, all appliances for sanitation, cooking, ventilating, heating or lighting are designed for the use of one family only.
- (LL) *Plant material zone (hydrozone)*: A grouping of plant material with similar water requirements.
- (MM) *Prohibited plant species*: Those plant species listed in the Landscape Manual which are demonstrably detrimental to native plants, native wildlife, ecosystems, or human health, safety, and welfare.
- (NN) *Shrub*: A self-supporting woody perennial plant normally growing to a height of twenty-four (24) inches or greater, characterized by multiple stems and branches continuous from the base.
- (OO) *Site plan*: A comprehensive plan drawn to scale indicating appropriate site elevations, roadways, and location of all relevant site improvements including structures, parking, other paved areas, ingress and egress drives, landscaped open space and signage.
- (PP) *Specimen tree*: A tree with any individual trunk which has a DBH of eighteen (18) inches or greater, but not including the following:
  - (1) All trees listed in Section 24-60(4)(f);
  - (2) Non-native fruit trees that are cultivated or grown for the specific purpose of producing edible fruit, including, but not limited to, mangos, avocados, or species of citrus;
  - (3) Non-native species of the genus *Ficus*, and

- (4) All multitrunk trees in the palm family, except *Accelorrhapha wrightii* which have a minimum overall height of fifteen (15) feet.
- (QQ) *Stabilized lawn area*: An area of ground underlain with structural support in the form of grass pavers or stabilized soil prepared to withstand the load of intended vehicular use, such as automobiles, fire trucks and garbage trucks.
- (RR) *Street tree*: A single trunk tree of a species typically grown in Dade County and normally maturing to a height of at least twenty (20) feet and having a minimum clear trunk of four (4) feet at time of planting and eight (8) feet at maturity. Such street trees shall be placed on an average spacing of thirty-five (35) feet on center along roadways.
- (SS) *Tree canopy cover*: The aerial extent of the branches and foliage of a tree.
- (TT) *Tree survey*: a drawing at the same scale as the site plan sufficient to provide the following information:
- (1) The location, plotted by accurate techniques, in relation to existing development, of all existing trees of a four (4) inch DBH or larger including those which are proposed to be removed, relocated or preserved.
  - (2) Provide in tabular form on the tree survey the following information:
    - (a) The scientific and common name of each tree, each of which shall be numbered.
    - (b) The diameter at breast height (DBH) of each tree or if a multiple trunk tree, the sum DBH for all trunks.
    - (c) An estimate of the height, canopy cover, and physical condition of each tree, and whether specimen tree(s) exist on site.
    - (d) The boundaries of any native plant communities including any Natural Forest Community that exists on site, as determined by the Department of Environmental Resources Management.
- (UU) *Temporary irrigation systems*: A system including surface distribution elements (hose, pipe, etc.) which may be easily removed when landscape is established.
- (VV) *Understory*: The complex of woody, fibrous, and herbaceous plant species that are typically associated with a natural forest community, native plant community, or native habitat.
- (WW) *Vegetation required to be preserved by law*: Portions of a site, including but not limited to specimen trees, natural forest communities and native vegetation which are clearly delineated on site plans, plats, or recorded restrictions, or in some other legally binding manner that are to be protected from any tree or understory removal or effective destruction and maintained without any development.
- (XX) *Vehicular use area*: A hard surface area designed or used for off-street parking and/or an area used for loading, circulation, access, storage, including fire trucks, garbage trucks, or display of motor vehicles.
- (YY) *Vine*: A plant with a flexible stem which normally requires support to reach mature form.
- (Ord. No. 95-222, § 2, 12-5-95)

#### Sec. 18A-4. Plans required.

(A) *General*. Landscape plan(s) and where required, an irrigation plan pursuant to Section 18A-4(D), shall be approved by the Department of Planning, Development and Regulation, or by the corresponding department(s) in the municipalities, prior to the issuance of any building permit or paving for new parking areas or expansion of existing parking areas.

#### (B) *Landscape plans*.

- (1) *Existing development*: Landscape plans as may be required for existing development may be prepared by the owner or the owner's representative.
- (2) *New one family or duplex dwelling*: The landscape plan submitted for new one family or duplex dwellings may be in the form

of a plot plan or drawing prepared by the owner or the owner's representative, provided however, developments requiring site plan approval pursuant to administrative site plan review or public hearing by Chapter 33 shall meet the requirements of subsection 18A-4(B)(3)

- (3) *All other new development:* The landscape plan for other new development other than provided for in subsections (1) and (2) above, shall be prepared by, and bear the seal of, a landscape architect licensed to practice in the State of Florida, or by persons authorized to prepare landscape plans or drawings by Chapter 481, Florida Statutes. Landscape plans shall be submitted with the initial master plan submitted for the development. Such plans shall:
- (a) Be drawn to scale, including dimensions and property boundaries.
  - (b) Include a tree survey as may be required at the same scale as the other landscape plan(s).
  - (c) Delineate existing and proposed structures, parking spaces, or other vehicular use areas, access aisles, sidewalks, driveways, signs, the location of utilities and easements, including the height of any utility lines on the property or adjacent properties, and similar features.
  - (d) Designate name, location, size, and quantity of living plant material proposed to be installed, or preserved in accordance with the requirements of this ordinance and Section 24-60 of the Code.
  - (e) Identify and describe the location and characteristics of all non-living landscape materials to be used.
  - (f) Show all landscape features, areas of vegetation required to be preserved by law, including but not limited to trees, specimen trees, natural forest communities, native habitats, wetland preservation and geologic features in context with the location and outline of exist-

ing and proposed buildings, fences, and other structural improvements upon the site.

- (g) Indicate method(s) to protect trees and native plant communities during construction.
- (h) Include a tabulation clearly displaying the relevant statistical information necessary to evaluate compliance with the provisions of this ordinance including net lot area; building coverage; amount of open space as may be required by Chapter 33; quantity, size, and species of trees to be planted or preserved, or relocated; quantity, size, and species of all other plant material to be planted, preserved, or relocated; square footage of paved areas; and such other information as may be required to make a determination that the landscape plan meets the requirements of this Code.

(C) *Tree survey.* A tree survey shall be provided for sites with existing trees of four (4) inches DBH or greater. Within municipalities, surveys shall be verified by the department(s) or board(s) as deemed appropriate by the municipality.

(D) *Irrigation plans.* An irrigation plan shall be submitted if a sprinkler system is required by Chapter 33, or as required in the individual municipalities or where an irrigation system is to be provided regardless of code requirements. Where a landscape plan is required, an irrigation plan shall be submitted concurrently.

- (1) For a new one family or duplex dwelling the irrigation plan may be indicated on a plot plan or a separate drawing prepared by the owner or the owner's agent indicating area(s) to be irrigated, location and specifications of lines and heads and pump specifications.
- (2) All other development other than those provided in a subsection (1) above shall:
  - (a) Be drawn on a base plan at the same scale as landscape plan(s),
  - (b) Delineate landscape areas and major landscape features, and hydrozones if applicable,

- (c) Delineate existing and proposed structures, parking areas or other vehicular use areas, access aisles, sidewalks, driveways, the location of utilities and easements, and similar features,
- (d) Include water source, design operating pressure and flow rate per zone, total volume required for typical depths of application, and application rate.
- (e) Include locations of pipes, controllers, valves, sprinklers, back flow prevention devices and electrical supply.

(Ord. No. 95-222, § 2, 12-5-95)

#### **Sec. 18A-5. Tree removal and preservation.**

Tree removal permits or natural forest community vegetation removal permits are required prior to the removal of trees, specimen trees, or any vegetation in a natural forest community, respectively, pursuant to Section 24-60 of the Code of Metropolitan Dade County. The Dade County Department of Environmental Resources Management is responsible for administering and enforcing these provisions.

(Ord. No. 95-222, § 2, 12-5-95)

#### **Sec. 18A-6. Minimum standards.**

The following standards shall be considered minimum requirements for all landscape and/or irrigation plans unless otherwise indicated:

##### **(A) *Lawn area (turf).***

- (1) Grass areas shall be planted in species well adapted to localized growing conditions in Dade County. Grass areas may be sodded, plugged, sprigged or seeded except that solid sod shall be used in swales or other areas subject to erosion, and providing that in areas where other than solid sod or grass seed is used, overseeding shall be sown for immediate effect and protection until coverage is otherwise achieved.

- (2) Stabilized grassed area used for parking and/or areas used for organized sports, playgrounds or picnic areas as may be approved at public hearing, if required, shall not be counted toward the maximum permitted lawn areas. Grassed areas used for organized sports at schools and public parks shall not count toward the maximum permitted lawn area.
- (3) For all residential and mixed uses in the unincorporated area, lawn area shall be limited to a maximum of forty (40) percent of the required landscaped open space as required in Chapter 33. In those residential zoning districts where landscaped open space is not specified, excluding EU-S, EU-1, EU-1C, EU-2, AU or GU lawn areas shall be restricted to a maximum of thirty (30) percent of the net lot area. For residential uses having EU-S, EU-1, EU-1C, EU-2, AU or GU zoning designation, lawn area shall be restricted to a maximum of fifty (50) percent of the net lot area.
- (4) For all office, commercial, and industrial uses, lawn area shall be limited to a maximum of twenty (20) percent of the required landscaped open space as required in Chapter 33.
- (5) In municipalities, the maximum amount of lawn area for residential and mixed uses shall be limited to a maximum of forty (40) percent of the landscaped open space required in the individual municipal code(s). In those residential and mixed use zoning districts where landscaped open space is not specified, lawn areas shall be restricted to a maximum of thirty (30) percent of the net lot area. Commercial, office and industrial uses shall be limited to a maximum of twenty (20) percent of the open space required by the individual municipalities. Where landscape open space is not specified, lawn

area shall be restricted to a maximum of twenty (20) percent of the net lot area less the area covered by buildings.

(B) *Irrigation.*

- (1) All newly-planted and relocated plant material shall be watered by temporary or permanent irrigation systems until such time as they are established.
- (2) Irrigation shall be prohibited within native plant communities and natural forest communities.
- (3) Irrigation systems shall be designed to allow differential operation schedules for high and low water requirement areas.
- (4) Irrigation systems shall be designed and maintained with heads which do not overthrow to impervious surfaces.
- (5) Low trajectory heads, and/or low volume water distributing or application devices, shall be used. Aerial irrigation systems shall be permitted for areas planted with grass, trees, and/or shrubbery which are one-half ( $\frac{1}{2}$ ) acre or larger in size.
- (6) Gray (non-potable) water shall be used where approved systems are available.
- (7) Automatic irrigation systems shall be capable of being switched to manual during rainy periods, and manual irrigation systems shall be equipped with automatic shutoff devices.
- (8) To avoid operation of the system during periods of increased rainfall, a moisture sensor switch shall be required on all irrigation systems equipped with automatic controls. The moisture sensor switch shall be adjusted to the soil type and set to turn off the irrigation system when a maximum of one-half ( $\frac{1}{2}$ ) inch of rain has fallen.

- (9) Irrigation systems shall be timed to operate only during hours and on days permitted under Chapter 32 of the Code.

- (10) If an irrigation system is not provided, a hose bib shall be provided within seventy-five (75) feet of any landscape area.

(C) *Trees.*

- (1) *Tree size.* All trees, except street trees, shall be a minimum of ten (10) feet high and have a minimum diameter at breast height (DBH) of two (2) inches at the time of planting except that thirty (30) percent of the tree requirement may be met by native species with a minimum height of eight (8) feet and a minimum DBH of one and one-half ( $1\frac{1}{2}$ ) inches at time of planting.
- (2) *Street tree size and spacing.* Street trees shall have a clear trunk of four (4) feet, an overall height of twelve (12) feet and a minimum DBH of two (2) inches at time of planting and shall be provided along all roadways at a maximum average spacing of thirty-five (35) feet on center. Where trees are planted on private property, they shall be placed within seven (7) feet of the edge of the dedicated right-of-way or within seven (7) feet of the edge of the roadway and/or inside edge of a sidewalk on private roads. Street trees are not required when a colonnade open to the public is located within four (4) feet of the edge of the roadway. The thirty-five (35) foot average spacing requirement for multiple single family units such as zero-lot-line and townhouse shall be based on the total lineal footage of roadway for the entire project and not based on individual lot widths.
- (3) *Minimum number of trees.* Within Unincorporated Dade County, the minimum number of trees shall be required as follows:

## DADE COUNTY LANDSCAPING ORDINANCE

§ 18A-6

<i>Land Use or Zoning District</i>	<i>Number of Trees Required Per Net Acre or per lot</i>
GU Interim*	9 trees per Acre of net lot area
AU Agriculture**	
<hr/>	
Single Family	3 per lot
Residential and Duplex	
RU-1	
RU-1M(a)	
RU-1M(b)	
RU-1Z	4 per lot
RU-2	3 per lot
<hr/>	
Clustered Developments	
RU-TH	28 trees per acre of net lot area
<hr/>	
Estate Use	9 trees per acre of net lot area
EU-M	
EU-S	
EU-1	
EU-2	
EU-1C	
<hr/>	
Multi-family Residential	28 trees per acre of net lot area
RU-3	
RU-3M	
RU-3B	
RU-4L	
RU-4M	
RU-4	
RU-4A	
<hr/>	
Office	28 trees per acre of net lot area
RU-5	
RU-5A	
OPD	
<hr/>	
Commercial	22 trees per acre of net lot area
BU-1	
BU-1A	
BU-2	
BU-3	

*Land Use or  
Zoning District*

*Number of Trees Required  
Per Net Acre or per lot*

Industrial

15 trees per acre of net lot area

IU-1

IU-2

IU-3

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IU-C

22 trees per acre of net lot area

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Miscellaneous Zoning Districts and Land Uses

Planned Developments

28 trees per acre of net lot area

Planned Area Developments

28 trees per acre of net lot area

Private Educational Facilities

28 trees per acre of net lot area

Traditional Neighborhood Development

28 trees per acre of net lot area (See TND for additional requirements)

All other zoning districts

28 trees per acre of net lot area and/or uses not listed including the Governmental Property District.

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\*Use dependent on character of neighborhood, otherwise EU-2 standards apply.

\*\*Residential, five (5) gross acres.

(4) Grassed areas that are to be used for organized sports such as football and soccer or other similar sports or playgrounds, that are clearly identified on a site plan specifically for active sports activities or playgrounds, shall not be counted toward calculating tree requirements.

(5) Trees shall be planted to provide shade to residential structures of a height of thirty-five (35) feet or less. All exterior air conditioning units, except for air conditioning units placed on the roof, shall be shaded by trees and/or shrubs.

(6) Palms of a ten (10) foot minimum overall height at time of planting, or of a minimum DBH of three (3) inches at time of planting shall count as a re-

quired tree on the basis of two (2) palms-per tree. No more than thirty (30) percent of the minimum tree requirements may be met by palms.

(7) Existing trees required to be preserved on site by law and that meet the requirements of Section 18A-6(C), may be counted toward fulfilling the minimum tree requirements.

(8) Prohibited and controlled tree species shall not be counted toward fulfilling minimum tree requirements. Prohibited trees shall be removed from the site.

(9) Thirty (30) percent of the required trees and/or palms shall be native species.



- (10) No more than twenty (20) percent of the native tree requirements shall be Sabal Palmetto (Cabbage) Palm.
  - (11) When trees are planted within the right-of-way, the owners of land adjacent to the areas where street trees are planted must maintain those areas including the trees and sod. A covenant executed by those owners is required, or a special taxing district must be created to maintain these areas. Where the State, County or municipality determines that the planting of trees and other landscape is not appropriate in the public right-of-way, they may require that said trees and landscape be placed on private property.
  - (12) Required street trees and trees for shading of structures shall be counted toward the minimum tree requirements.
  - (13) Consideration shall be given to the selection of trees, plants and planting site to avoid serious problems such as clogged sewers, cracked sidewalks, and power service interruptions.
  - (14) Municipalities shall meet all the above requirements in the corresponding zoning districts or land use categories of the particular municipality.
- (D) *Shrubs and hedges.* Shrubs shall be a minimum of eighteen (18) inches in height when measured immediately after planting. Hedges, where required, shall be planted at a maximum spacing of thirty (30) inches on center, and maintained so as to form a continuous, unbroken and solid visual screen within a maximum of one (1) year after time of planting. Shrubs and hedges shall not be necessarily of the same species. Shrubs shall be provided at a ratio of seven (7) per required tree. Thirty (30) percent of the shrubs and hedges shall be native species.
- (E) *Vines.* Vines shall be a minimum of twelve (12) inches in length immediately after planting and may be used in conjunction with fences, screens, or walls to meet physical barrier requirements as specified.
- (F) *Ground covers.* Ground cover plants used in lieu of grass, in whole or in part, shall be planted in such a manner as to present a finished appearance and reasonably complete coverage within one (1) year after planting. Ground cover may be substituted for thirty (30) percent of the required shrubs at a rate of three (3) ground cover plants per shrub.
- (G) *Mulch.* Weed-free mulch shall be applied in a minimum two (2) inch layer under and around all planting areas.
- (H) *Buffers between dissimilar land uses.* Where dissimilar land uses exist on adjacent properties, and where such areas will not be entirely visually screened by an intervening building or structure from abutting property, that portion of such area not so screened shall be provided with a buffer consisting of a six (6) foot wall or fence with a life expectancy of at least ten (10) years, or a hedge which normally grows to a minimum height of six (6) feet. Where chain link fencing is used, a hedge shall also be required. All shrubs used as a buffer shall be a minimum of thirty (30) inches in height at time of planting, and shall be planted at a maximum spacing of thirty-six (36) inches on center. Said buffer shall form a continuous screen between the dissimilar land uses within one (1) year after planting. Buffers screening dissimilar uses shall include trees planted at a maximum average spacing of thirty-five (35) feet on center within a minimum five (5) foot landscaped strip.
- (I) *Parking lot buffers.* All parking lots adjacent to a right-of-way or private street shall be screened by a continuous hedge and/or three (3) foot high wall with a seven (7) foot landscaped strip incorporating said hedge and/or wall on private property. Hedge material shall be a min-

imum height of eighteen (18) inches at time of planting with a maximum spacing of thirty (30) inches on center.

- (J) *Landscaped areas in parking lots.* All parking lots shall be required to provide ten (10) square feet of landscaped area for each parking space. Said space may be placed anywhere within a parking lot subject to landscape plan review as provided herein. This requirement is in addition to any applicable required open space as provided in Chapter 33 of the Code of Metropolitan Dade County or applicable municipal code. Any planting area shall be a minimum of twenty-five (25) square feet.
- (K) *Plant quality.* Plants installed pursuant to this Code shall conform to, or exceed, the minimum standards for Florida Number One as provided in the most current edition of "Grades and Standards for Nursery Plants, Part I and II," prepared by the State of Florida Department of Agriculture and Consumer Services.
- (L) *Prohibited and controlled plant species.* Prohibited species shall not be planted and shall be removed from any site which is subject to the requirements of this ordinance. Controlled species shall not be planted within five hundred (500) feet of a Natural Forest Community or native habitats as defined herein.
- (M) *Pruning.* Hatracking or topping shall not be permitted providing that crown reduction in excess of one-third ( $\frac{1}{3}$ ) of a tree's living canopy shall be permitted for the following site conditions:
  - (1) If a tree interferes with utility lines or utility structures.
  - (2) If a tree has a crown dieback of greater than one-third ( $\frac{1}{3}$ ).
  - (3) If a tree has storm damage.
- (N) *Tree destruction.* The effective destruction of trees designated to be planted, preserved, or relocated under the provisions of this ordinance shall not be permitted.

(Ord. No. 95-222, § 2, 12-5-95; Ord. No. 97-90, § 1, 6-17-97)

#### Sec. 18A-7. Landscape plan review criteria.

In the unincorporated area all landscape plans shall be reviewed by the Department of Planning, Development and Regulation, and where existing trees or natural forest communities are involved, the Department of Environmental Resources Management. In the case of a municipality, landscape plans shall be approved by the department(s) or board(s) as deemed appropriate within the municipality. Landscape plans shall be reviewed in accordance with the following goals and objectives and the guidelines and illustrations provided in the Landscape Manual:

- (A) Landscape design shall enhance architectural features, relate structure design to the site, visually screen dissimilar uses and unsightly views, reduce noise impacts from major roadways and incompatible uses, strengthen important vistas and reinforce neighboring site design and architecture.
- (B) Existing specimen trees, native vegetation (including canopy, understory, and ground cover) and Natural Forest Communities shall be preserved to the maximum extent possible and all requirements of Section 24-60 of the Code.
- (C) In order to conserve water, the plan shall demonstrate an emphasis on the use of drought-tolerant species. Plants with similar water requirements shall be grouped together to reduce the amount of water necessary for irrigation.
- (D) The plan shall include the use of native plant species in order to re-establish an aesthetic regional quality and take advantage of the unique diversity and adaptability of native species to the environmental conditions of South Florida. Where feasible, the re-establishment of native habitats shall be incorporated into the landscape plan.
- (E) Trees and shrubs shall be used to reduce energy consumption by shading buildings and paved surfaces.

- (F) Street trees shall be used to shade roadways and provide visual order. Where feasible, selected species shall be used to establish a road hierarchy by defining different road types.
- (G) Plant species appropriate to a site's particular conditions shall be used. Special attention shall be given to the use of appropriate

species under or over utility lines, and near native plant communities and near septic tanks and sewer lines. Adequate growth area shall be provided for all plant materials. Trees shall not encroach at a distance greater than ten (10) feet from any overhead utility line at maturity.

- (H) Landscaping shall be designed in such a way as to provide safe and unobstructed views at intersections of roadways, driveways, recreational paths and sidewalks in accordance with Section 33-11 of the Code.
- (I) Historic landscapes and landscape features designated by local, State or federal governments shall be preserved.

(Ord. No. 95-222, § 2, 12-5-95)

#### **Sec. 18A-8. Certificate of compliance.**

(A) A certificate of compliance in the form of a letter bearing the original letterhead of the designing firm and licensing number shall be submitted to and approved by the Department of Planning, Development and Regulation prior to issuance of any final Certificate of Use and Occupancy or Certificate of Completion. The Certificate of Compliance shall contain a statement, signed and sealed by the landscape architect or by person(s) authorized to prepare plans by Chapter 481, Florida Statutes, who prepared the approved plans, that the landscape and irrigation plans have been implemented and that all requirements of this ordinance have been met. Any changes or substitutions to the approved plan shall be approved by the original designing firm prior to the implementation of said changes and substitutions. All changes or substitutions to the approved plan shall be noted on all copies. Changes and substitutions of plant material shall be of similar quality, quantity and size, as originally approved and shall be in compliance with the intent and requirements of this ordinance.

(B) For a new single family, duplex residence on its own lot or applicable existing development, the owner or owner's agent may certify in writing that landscape and irrigation have been installed according to approved plan(s).

(C) The Department of Planning, Development and Regulation shall have the right to

inspect all projects for compliance prior to issuance of a certificate of use and occupancy or certificate of completion.

(D) Municipalities are not required to establish a certificate of compliance procedure.  
(Ord. No. 95-222, § 2, 12-5-95)

#### **Sec. 18A-9. Committee of Landscape Adjustment.**

(A) In unincorporated Dade County, the members of the Executive Council of the Developmental Impact Committee or their designees shall constitute the Committee of Landscape Adjustment.

(B) The Committee of Landscape Adjustment, upon receipt of an application for adjustment of landscaping requirements shall have the authority and duty to consider and act upon such application. The application shall be filed on forms prescribed by the County, executed and sworn to by the owner or tenant of the property concerned, or by authorized agents as evidenced by written power of attorney, and accompanied by a fee for processing of the application, as provided by administrative order.

(C) In the application, the applicant shall state clearly and in detail what adjustment of landscaping requirements are being requested and the reasons such adjustments are warranted, and shall accompany the application with such supplementary data, such as sketches, surveys and statistical information as is deemed necessary to substantiate the adjustment.

(D) The Committee of Landscape Adjustment may approve, modify or deny the requested adjustment, but shall approve or modify such request only if it determines that approval of any adjustment would not be contrary to the public interest and would be in keeping with and would preserve the intent of this ordinance. The Committee of Landscape Adjustment shall not consider requests for variance from the requirements of Chapter 24, the Dade County Environmental Protection Code, including specimen tree and natural forest community variance requests. Any such requests shall be made according to the provisions of Sections 24-48 and 24-49 of the

Code. Additionally, the Committee of Landscape Adjustment shall not have authority to modify or adjust any part of Chapter 33 of the Dade County Code.

(E) Committee of Landscape Adjustment shall meet on a regular basis to act on pending application(s), and shall post their decision in the form of a short, concise statement of the action taken on a conspicuous bulletin board that may be seen by the public at reasonable times and hours in the office of the Department of Planning, Development and Regulation.

(F) Within fourteen (14) days after posting of decision, but not thereafter, any decision of the Committee of Landscape Adjustment may be appealed to the appropriate Community Zoning Appeals Board as prescribed in Chapter 33 for appeals of administrative decisions; otherwise, it shall become final.

(G) The Community Zoning Appeals Boards or the Board of County Commissioners shall have the authority to grant adjustment from this chapter as part of a zoning application.

(H) Each municipality may establish or assign an existing board, committee, or other similar body to review adjustments and to establish criteria for landscape adjustment.

(Ord. No. 95-222, § 2, 12-5-95; Ord. No. 97-16, § 1, 2-25-97)

#### **Sec. 18A-10. Landscape Manual.**

The Department of Planning, Development and Regulation, in cooperation with other County departments shall prepare a landscape manual and make the same available to the public. The landscape manual shall be adopted by resolution of the Board of County Commissioners. Said manual shall provide an illustrative interpretation of the standards provided herein and suggested guides for landscaping in accordance with the above standards.

(Ord. No. 95-222, § 2, 12-5-95)

#### **Sec. 18A-11. Landscape maintenance.**

(A) An owner is responsible to ensure that landscaping required to be planted pursuant to this ordinance, or the ordinances which were in

effect prior to the effective date of this ordinance, is: (1) installed in compliance with the Landscape requirements; (2) maintained as to present a healthy, vigorous, and neat appearance free from refuse and debris; and (3) sufficiently fertilized and watered to maintain the plant material in a healthy condition.

(B) If any tree or plant dies which is being used to satisfy current landscape code requirements, such tree or plant shall be replaced with the same landscape material.

(Ord. No. 95-222, § 2, 12-5-95)

#### **Sec. 18A-12. Enforcement.**

(A) The Dade County Department of Planning, Development and Regulation shall withhold issuance of a final certificate of use and occupancy or certificate of completion until a certificate of compliance has been approved.

(B) The Department of Planning, Development and Regulation shall have the right to inspect the lands affected by this ordinance and to issue cease and desist orders and citations for violations.

(C) Failure to install or maintain landscaping according to the terms of this ordinance shall constitute a violation of this Code. Also, failure to plant, preserve, or maintain each individual tree shall be considered to be a separate violation of this Code. Each day in which either landscaping or individual trees are not installed or maintained according to the terms of this ordinance shall constitute a continuing and separate violation of this Code.

(D) In the municipalities, enforcement shall be performed by the Department within the municipality as may be deemed appropriate by the municipality, and in the event the provisions hereof are not enforced within the municipality, the County shall enforce same.

(Ord. No. 95-222, § 2, 12-5-95)

#### **Sec. 18A-13. Conflicts with other ordinances or regulations.**

If this chapter conflicts with other ordinances or regulations, the more stringent limitation or requirement shall govern or prevail to the extent of the conflict.

(Ord. No. 95-222, § 2, 12-5-95)

**Sec. 18A-14. Sunset provisions.**

This ordinance shall stand repealed three (3) years from its effective date.

(Ord. No. 95-222, § 4, 12-5-95)

**Editor's note**—Provisions enacted by § 4 of Ord. No. 95-222 have been included herein at the discretion of the editor as § 18A-14, under the authority of § 5 of said ordinance.

**Sec. 18A-15. Effective date.**

This ordinance shall become effective seventy (70) days after the date of enactment provided however this ordinance shall not apply to projects for which prior to the effective date of this ordinance: (1) an application for a building permit has been filed; (2) a building permit has been issued and is in effect; (3) the Zoning Appeals Board or Board of County Commissioners has by resolution approved a project site plan; (4) a site plan which has received administrative site plan approval; or (5) a zoning application has been filed prior to February 8, 1996 that includes detailed site and landscape plans.

(Ord. No. 95-222, § 6, 12-5-95)

**Editor's note**—Provisions enacted by § 6 of Ord. No. 95-222 have been included herein at the discretion of the editor as § 18A-15, under the authority of § 5 of said ordinance.