



July 2, 2015

Jason Pinchback  
Texas General Land Office  
Stephen F. Austin Building  
1700 N. Congress Avenue  
Austin, TX 78701-1495

Via: EMail


RE: South Padre Island Beach User Fee Program

Dear Mr. Pinchback:

Enclosed please find copies of our State approved Beach Access Plan, Erosion Response Plan, and our recently Council approved Beach User Fee Plan. The City has officially incorporated the BUF plan into our Beach Access Plan as Appendix 2 as required by the 31 Texas Administrative Code 15.8(k).

If you have any questions regarding any information contained in this report, please do not hesitate to call me at (956) 761-8106.

Sincerely,



William A. DiLibero  
City Manager



## **South Padre Island's Beach Access Plan**

Erosion Response Plan.....	Appendix 1
Beach User Fee Plan.....	Appendix 2

**ORDINANCE NO. 05- 07**

**AN ORDINANCE OF THE TOWN OF SOUTH PADRE ISLAND, TEXAS, AMENDING CHAPTER 22 OF THE CODE OF ORDINANCES FOR THE TOWN OF SOUTH PADRE ISLAND (DUNE PROTECTION, BEACH RENOURISHMENT, AND BEACH ACCESS PLAN) IMPLEMENTING PROVISIONS) TO ALLOW AN EXCEPTION TO CONSTRUCTION SEAWARD OF THE HISTORIC BUILDING LINE; PROVIDING FOR SEVERABILITY AND REPEAL OF CONFLICTING ORDINANCES; PROVIDING A PENALTY NOT TO EXCEED \$500.00 FOR EACH OFFENSE; AND AUTHORIZING PUBLICATION IN CAPTION FORM.**

Whereas, the Beach and Dune Task Force has recommended approval of the proposed amendment to the *Dune Protection, Beach Renourishment, and Beach Access Plan* with Implementing Provisions which allows an exception to construction seaward of the Historic Building Line for Lots 1, 2, 3, & 4 of Block 156 at their January 24, 2005 meeting; and

Whereas, the Board of Aldermen has received the recommendation and justifications of the Beach and Dune Task Force regarding this matter; and

Whereas, the Board of Aldermen has provided a sixty (60) day review and comment period to the General Land Office and the Office of the Attorney General regarding the proposed plan, as required by law.

**NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF ALDERMEN OF THE TOWN OF SOUTH PADRE ISLAND, TEXAS:**

**SECTION 1:** Chapter 22 of the Code of Ordinances for the Town of South Padre Island is hereby amended and republished in its entirety as more fully set forth in Exhibit "A" hereto attached.

**SECTION 2:** This Ordinance repeals all portions of any prior ordinances or parts of ordinances of the Code of Ordinances in conflict herewith.

**SECTION 3:** Any violation of the above-amended Chapter 22 of the Town of South Padre Island may be punished by a fine not to exceed Five Hundred Dollars (\$500.00) for each offense, for each day such offense shall continue, and the penalty provisions of Section 21-1 of the Code of Ordinances is hereby adopted and incorporated for all purposes.

**SECTION 4:** If for any reason, any section, paragraph, subdivision, clause, phrase, word, or provision of this Ordinance shall be held unconstitutional by final judgment of a court of competent jurisdiction, it shall not affect any other section, paragraph, subdivision, clause, phase, word, or provision of this Ordinance, for it is the definite intent of this Board of Aldermen that every section, paragraph, subdivision, clause, phrase, word, or provision, hereof be given full force and effect for its purpose.

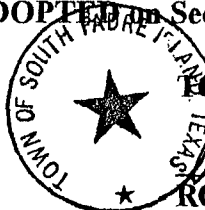
**SECTION 5:** This Ordinance shall become effective when published in caption or summary form according to law.


**PASSED, APPROVED, AND ADOPTED on First Reading, this 20<sup>th</sup> day of April 2005.**

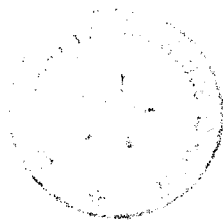
**PASSED, APPROVED, AND ADOPTED on Second Reading, this 4<sup>th</sup> day of May 2005.**

ATTEST:

  
JOYCE ADAMS, City Secretary



TOWN OF SOUTH PADRE ISLAND  
  
ROBERT N. PINKERTON, JR., MAYOR



# ***Town of South Padre Island***

## ***Dune Protection, Beach Renourishment, and Beach Access Plan***

### **HISTORY.**

**1959** The 2<sup>nd</sup> called session of the 56<sup>th</sup> Texas Legislature passed the **Texas Open Beaches Act** which guaranteed the public's right to use the beaches.

**1973** The 63<sup>rd</sup> Texas Legislature passed and enacted the **Dune Protection Act**, which allowed the Commissioner's Court of any county bordering the Gulf of Mexico and North of the Mansfield Ship Channel that has a barrier island or peninsula to establish a dune protection line on the Gulf Beach (Only Nueces and Brazoria counties established Dune Protection Lines) and the **Coastal Public Lands Management Act of 1973**, which set the stage for how, by whom, and for whom coastal public lands will be managed.

**July 25, 1979** The Town of South Padre Island Board of Aldermen pass Resolution No. 91 which set forth the Town's policy in regards to the enforcement by the Office of the Attorney General, under the direction of Mark White, of the Open Beaches Act, the Dune Protection Act, and other state and federal agencies' control of the Laguna Madre.

**September 3, 1981** Letter from John W. Fainter, Jr., First Assistant Attorney General, representing the State of Texas written to then-Mayor Glen McGehee, establishing a building line, commonly referred to as the Historic Building Line, for the Town of South Padre Island Beachfront Construction that would provide a minimum of two hundred feet of open beach above the mean low tide line according to then available data. The letter stated that the Attorney General could review the line and change it to ensure the protection of the State's open beaches. The line was located on a map (drawn by Chas R. Haile Associates, Inc., Consulting Engineers, Houston, Texas City, Corpus Christi, Nederland, and is dated March 1981) provided by the Texas Attorney General and is on file with the Public Works Department of the Town of South Padre Island.

**1989** At the request of the 71<sup>st</sup> Texas Legislature, the General Land Office began coordinating the development of a comprehensive coastal management plan.

**February 1991** The General Land Office, under the leadership of Garry Mauro, submits their Texas Coastal Management Plan to the 72<sup>nd</sup> Texas Legislature recommending that the Dune Protection Act be amended.

**June 7, 1991** Sections 61 & 63 of the Texas Natural Resources Code (i.e. the Open Beaches Act and the Dune Protection Act) were amended, requiring local governments along the entire Texas Coast to submit to more rigorous beach regulations as well as to develop and implement a Dune Protection Line, and Beach and Dune Management Plans.

**September 9, 1991** The Cameron County Commissioner's Court delegated to the Town the authority to establish and administer the dune protection line, and to implement a Dune Protection and Beach Access Plan within Town corporate municipal limits.

**September 18, 1991** The Town of South Padre Island Board of Aldermen passed a Resolution establishing the Town's Beach and Dune Task Force, whose charge it is to carry forth the State's Coastal Management Plan.

**November 11, 1991** First meeting of the Town of South Padre Island Beach and Dune Task Force.

**September 21, 1992** The first draft Dune Protection Ordinance was recommended for approval by the Beach and Dune Task Force of the Town of South Padre Island.

**October 13, 1992** The Town of South Padre Island Board of Aldermen approved, on second reading, the first draft of the Dune Protection Ordinance 161 - ***Dune Protection and Beach Access Plan*** (i.e. Chapter 22 of the Town's Code of Ordinances) and forwarded it to the GLO for review and approval.

**August 9, 1993** The Town of South Padre Island Board of Aldermen approved, on second reading, the amended Dune Protection Ordinance 161A - *Dune Protection and Beach Access Plan* (i.e. Chapter 22) and forwarded it to the GLO for review and approval.

**April 11, 1994** Ken Cross & Susan Theisen of the Environmental Protection Division of the Office of the Attorney General write a letter to then-City Manager Jim Chisholm detailing the Town's Public Beach Access plans from an April 7, 1994 workshop.

**May 18, 1994** The Town of South Padre Island Board of Aldermen approved, on second reading, the further amended Dune Protection Ordinance 161B - *Dune Protection and Beach Access Plan* (i.e. Chapter 22) and forwarded it, along with the Board-approved *Comprehensive Beach Management Plan* to the GLO for review and approval.

**October 5, 1994** The Town of South Padre Island Board of Aldermen approved, on second reading, the further amended Dune Protection Ordinance 161C - *Dune Protection and Beach Access Plan* (i.e. Chapter 22) and forwarded it, along with the Board-approved and revised, *Comprehensive Beach Management Plan* to the GLO for review and approval.

**January 9, 1995** The Town of South Padre Island Beach & Dune Task Force reviewed and recommended approval of the first *Beach and Dune Permit Application Guidelines*, an informational handout for applicants.

**July 1995** The General Land Office approved and certified the Town's *Comprehensive Beach Management Plan*. This plan allows for the following special provisions within the eroding section of the Town's beach: Padre Beach Section VIII and North: 1) Beach renourishment; 2) the construction of retaining walls if the applicant submits some type of financial guarantee to secure the removal of the wall; 3) mitigation of critical dunes on a 1:1 basis; 4) swimming pools will be allowed, but will not be considered "impervious"; and 5) the Town will submit annual reports monitoring the shoreline as well as quarterly progress reports on beach renourishment efforts.

**October 20, 1999** The Town meets with General Land Office staff, under the Direction of newly elected Commissioner, David Dewhurst, to discuss Town Beach and Dune concerns. This meeting prompts the request for comments to revise General Land Office Beach/Dune Rules as well as Town Beach/Dune Regulations.

**November 22, 1999** The Task Force recommends changes to the Town Board of Aldermen concerning the Town's *Dune Protection and Beach Renourishment and Beach Access Plan*.

**December 15, 1999** The Town responded to the GLO's request for comments on suggested amendments to the GLO Beach/Dune Rules, and gave preliminary approval to the proposed changes in Ordinance 99-20, amending Chapter 22, the Town's *Dune Protection, Beach Renourishment and Beach Access Plan*.

**August 14, 2000** The Town is informed that the GLO understood the December letter and enclosures to be in response to requests for comments regarding GLO Beach/Dune Rules and not a formal request to update the *Town of South Padre Island Dune Protection, Beach Renourishment and Beach Access Plan*.

**February 7, 2001** The Board of Aldermen for the Town of South Padre Island review and approve another draft of the *Town of South Padre Island Dune Protection, Beach Renourishment and Beach Access Plan* on which the Beach and Dune Task Force had been working since August 2000.

**February 8, 2001** The Town sends a copy of the draft plan to the GLO and the Office of the Attorney General requesting legal and technical advise on the proposed plan as allowed under §15.3(o) of the Beach/Dune Rules.

**July 11, 2001** The Town receives a response letter from the GLO regarding the proposed plan, stating their specific concerns and suggesting a meeting between Town representatives and State GLO staff.

**August 15, 2001** The date of the Town's response to the July 11, 2001 GLO letter. The Town requests a meeting between Town representatives and State GLO staff.

**November 8, 2001** A joint meeting between representatives of the Town and the GLO takes place here on the Island to view areas of concern along the beach as well as to discuss significant points within the proposed plan.

**January 28, 2002** The Beach and Dune Task Force review and recommend approval of the revised draft of the *Town of South Padre Island Dune Protection, Beach Renourishment and Beach Access Plan*.

**February 6, 2002** The Board of Aldermen approved, on First Reading, the revised draft plan and ordinance. Staff forwards a copy to the state agencies for review and comment.

**May 16, 2002** The date of response from the GLO office expressing concerns with the Town's proposed plan that warrant further discussion.

**June 26, 2002** The date of response from the Office of the Attorney General expressing concerns with the Town's proposed plan that warrant further discussion.

**September 18, 2002** Receipt by the GLO of the revised *Town of South Padre Island Dune Protection, Beach Renourishment and Beach Access Plan* for technical review.

**January 3, 2003** Jerry Patterson was sworn in as Land Commissioner of the Texas General Land Office.

**February 20 & 21, 2003** The Town meets with representatives of the General Land Office to discuss the February 14, 2003 written comments from the GLO and other additional changes to the plan to facilitate State certification of the Town's plan.

**April 28, 2003** The Beach and Dune Task Force recommend approval of the most recent draft with minor modifications.

**May 7, 2003** The Board of Aldermen review and approve the revised *Town of South Padre Island Dune Protection, Beach Renourishment and Beach Access Plan*.

**January 24, 2005** The Beach and Dune Task Force recommends the request to amend the *Town of South Padre Island Dune Protection, Beach Renourishment and Beach Access Plan* in order to allow the construction of a proposed retaining wall and townhouse development seaward of the Historic Building Line for Lots 1, 2, 3 & 4 of Block 156.

**February 2, 2005** The Board of Aldermen vote in support of the plan amendment to build seaward of the Historic Building Line for Lots 1, 2, 3 & 4 of Block 156 as shown in a survey exhibit included within the plan.

## RENOURISHMENT ACTIVITIES.

It was not until the late 1990's that the Town began significant beach renourishment efforts:

<u>Year</u>	<u>Material / source</u>	<u>Cubic Pay Yards</u>	<u>Total Cost of Project</u>	<u>Cost to EDC</u>
Feb. 1997	Dredge material / Brownsville Ship Channel	489,211	\$1,938,700	\$ 661,259
Feb. 1999	Dredge material / Brownsville Ship Channel	494,766	\$3,136,170	\$ 55,388
May 1999	Sand off Highway 100 North of Town	41,628*	TxDOT donated men & equip to clear rd.	\$ 22,565
Dec. 2000	Dredge material / Brownsville Ship Channel	366,886	\$2,277,893	\$ 177,314
Feb. 2001	Sand off Highway 100 North of Town	27,956*	TxDOT / GLO CEPRA	\$ 3,200
Jan. 2002	Sand off Highway 100 North of Town	23,895*	\$109,917 (\$4.60 / cu yd)	\$ 3,125
Nov. 2002	Sand off Highway 100	81,252*	TxDOT / GLO CEPRA	\$ 9,411

- Jan. 2003	North of Town			
Nov. 2002	Dredge material / Brownsville Ship Channel	306,402 (331,037= in-place yardage)	\$1,097,900	\$ 183,090
Dec. 2004- Jan 2005	Dredge material / Brownsville Ship Channel	261,600 (???= in-place yardage)	\$1,495,000	\$ 84,525

\* estimated yardages based upon Town count of 12 cubic yard trucks

The first renourishment effort in 1997 deposited sand on the northern portions of the Town beach 3.5 to 4.5 miles north of the Jetties between Padre South condominium complex north to the Suntide II condominium complex. The renourishment event in February of 1999 took place on the southern portion of the Town beach approximately 1.5 to 2.25 miles north of the Jetties between the Radisson Resort north to Padre Grand. The renourishment project in May 1999 occurred because TxDOT needed to clear the portion of Highway 100 north of Town that had been covered by beach sand that had blown over the road in order to allow property owners access to their property. This blown sand was loaded and deposited on the northern portion of the Town's beach from the Tiki and White Sands St. area south to the Inverness. The Town's portion of the costs involved paying for half of the dump trucks and for two of the four front-end loaders.

The fourth renourishment activity, a dredging that began in December 2000, deposited sand on the north end of the island from the Bahia Mar south to roughly Starlight Circle beach access. The Federal Government paid the bulk of the costs for this activity (75%), the remaining 25% was split between the GLO via a CEPRAs fund (75% of the remaining 25%) and the Town (25% of the 25%). The fifth renourishment activity in February of 2001 again used sand that had blown over Highway 100 and deposited that sand in the northern portion of the Town's beach from the Tiki / Whitesands St. area south to the Inverness, overlapping slightly in the area of the recent dredging. In this particular beach renourishment activity, the Town was required only to pay for the rental of a front-end loader (\$3,200). TxDOT again used CEPRAs funds the Town had received to pay for the cost of hauling the sand to the beach. The renourishment activity in January 2002 was hoped to have been another GLO / TxDOT partnership within the CEPRAs program to move approximately 40,000 cubic yards of sand. However, the GLO could not finalize the necessary paperwork in time, and TxDOT cancelled the project after paying the total cost to move 23,895 cubic yards of sand, which was placed on the northern portion of the beach between the Tiki / Whitesands St. area south to the Inverness. The cost to the Town (EDC) for this last project was \$3,125 for the rental of one front-end loader.

In the fall of 2002 the Town began work on two renourishment activities. A cooperative partnership between the Town, Cameron County, the GLO through the CEPRAs program, the Port of Brownsville, and the USACE facilitated the beneficial use of dredge material from the Brownsville Ship Channel during the months of November and December of 2002. This project deposited 331,037 cubic yards of material between Neptune Circle Beach access (Lighthouse Condominiums) north to Gay Dawn Circle Beach Access. Meanwhile, during the months of November 2002, December 2002, and January 2003, the Town worked closely with TxDOT and the General Land Office through a second CEPRAs program project to move sand on Highway 100 onto the north end of the Town's beach, between the Inverness and the northern Town limits (La Quinta). These projects, combined, resulted in a noticeably wider beach on the north end of Town.



## EXISTING CONDITIONS.

The most critical coastal management issues facing the Town involve erosion, beach nourishment, dune protection, and beach access. Erosion has long been an identified problem within the Town's four (4) miles of beachfront.

- ❖ 1.6 miles of the Town's beach are eroding at rates averaging 8 feet/year. This area corresponds with Block #62 north to Andy Bowie Park. (University of Texas Bureau of Economic Geology, Open File Report 93-1).
- ❖ 2.4 miles of the Town's beach are accreting at rates averaging up to 2 feet/year. This area corresponds with Block #62 south to the Town's southern limits at Isla Blanca Park.

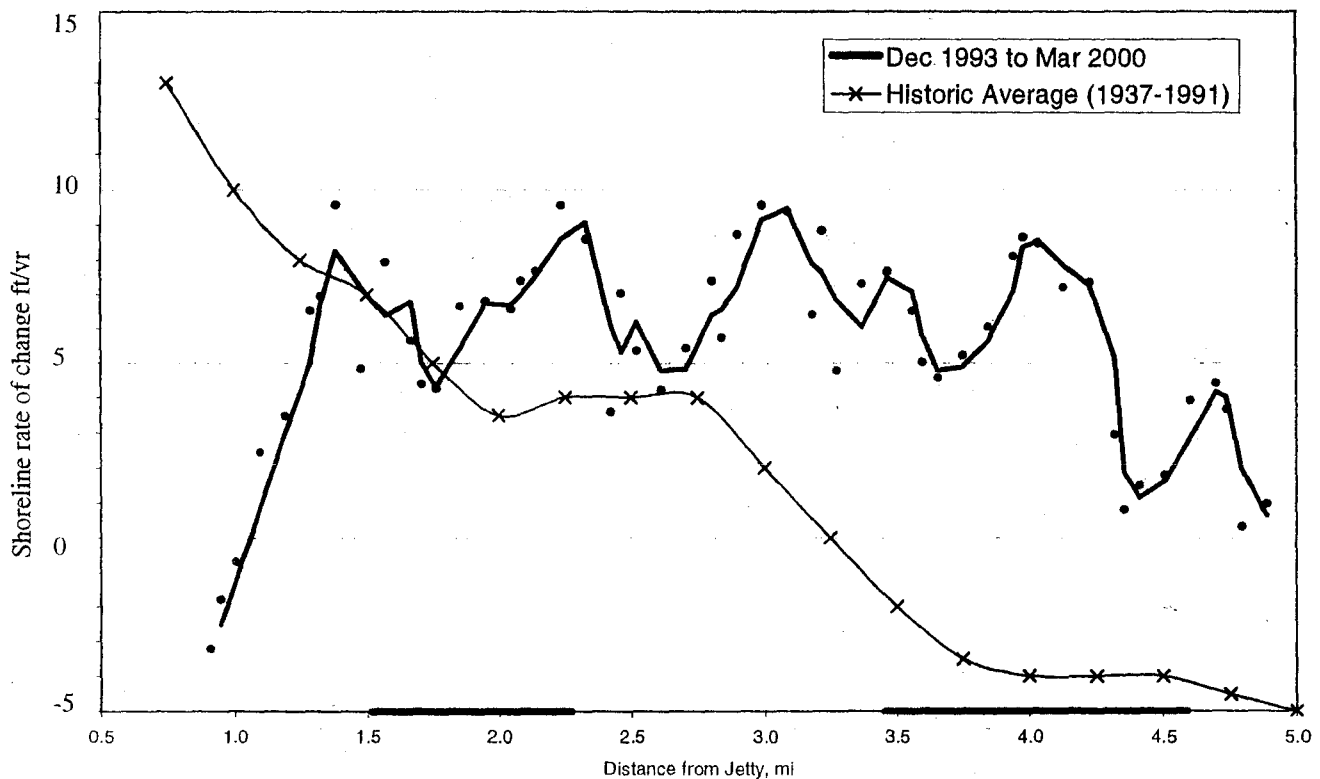


Figure 1. Shoreline rate of change over 4 mile segment of South Padre Island, December 1993 to March 2000.

Figure 1 above, taken from report J90239 prepared by Shiner Mosely and Associates, Inc. in April 2000, shows a comparison of the historic shoreline change along the four miles of beach on South Padre Island with the short-term erosion that has occurred from December 1993 to March 2000. In addition, Figure 1 shows the erosion rates at various locations along the Island in relation to two (2) beach renourishment efforts that took place.

In the historic sense, accretion has occurred to the South since the construction of the jetties, which have helped trap sand and keep it within the Padre Island sand system, and erosion has taken place at a higher rate beginning approximately 2.75 miles from the jetties. Short term erosion rates (Dec 1991 to March 2000), however, show a different trend: the very southern portion of the Town's beach is

eroding, the middle portion of the Island has seen sporadic accretion, and the northern-most portion of the Town's beach, although experiencing long-term erosion, the trend has reversed recently, at least since 1993, and accreted. This slowing of shoreline rates of change (i.e. erosion) and accretion of beach is assuredly due to the renourishment efforts that have taken place since 1997.

The general consensus is that the only realistic long-term solution, other than a building prohibition and retreat, is beach nourishment coupled with the building of dunes along the beachfront. The results of the Town's renourishment efforts, as shown by Figure 1 above, substantiate this consensus and show the positive results that beach renourishment efforts can provide. However, in planning these events, the Town must consider the tourist season and the type of visitors likely to be on the Island. The most desirable time of year for beach renourishment activities are the fall months of September through December, thereby dodging the spring and summer visitors, as well as the Winter Texan visitors who generally enjoy the Island during the months of January and February.

One practical source of beach nourishment material is from the maintenance dredging of the Brownsville Ship Channel which occurs about every two years:

- ❖ The distances from the dredge locations to the beach are within realistic pumping distances.
- ❖ The amount of dredge material within reasonable pumping distance appears to be more than required for nourishment – an average of 420,000 +/- cubic yards every 2 years or so.
- ❖ Maintenance dredging must occur and beach nourishment constitutes a positive use of this material, as compared to other alternatives.
- ❖ The dredge material is uncontaminated sand.
- ❖ The Federal Government has a program whereby they will pay 50% of the incremental cost of placing the material on the beach, if it can be shown that storm damage reduction benefits will offset the increased costs.
- ❖ The Town adopted Resolution No. 442 on December 1, 1993 supporting beach nourishment and requesting all Federal, State, and local entities to support, fund, and assist in expediting the nourishment of the beaches of South Padre Island, Texas.

The second practical source of beach nourishment material is from the sand that blows over Highway 100 north of Town.

- ❖ The distances from the location of the sand to the beach are realistic distances to haul sand and adequate access is available for the required machinery.
- ❖ The amount of sand material drifting over the highway varies from year to year, but has provided adequate volumes to replenish the northern portion of the Town's beach.
- ❖ A TxDOT mandate requires that public roads remain clear and beach nourishment constitutes a positive use of this material, as compared to other alternatives.
- ❖ The drift material is uncontaminated, beach-quality sand.

Detailed surveys of the beach within the Town's limits began in December 1993, and surveys of the beach have continued on a quarterly basis each year since. During the month of March, the entire length of the Town's beach is surveyed and in September, only 8000 feet of the Town is surveyed, as required by the agreement with the General Land Office. The first 1993 surveys revealed a number of characteristics:

- ❖ The beach topography has been extensively shaped by the regular scraping of debris to form "dunes". A substantial amount of sand is contained in such "dunes".
- ❖ Both topography and bathymetry differ greatly between accreting/stable areas and eroding areas.
- ❖ In December 1993, of the 4 miles of the Town's beachfront, approximately 2.8 miles (70%) had retaining walls. Of these 2.8 miles of retaining walls, 1.9 miles were located within accreting/stable areas, and 0.85 miles were located within eroding areas.

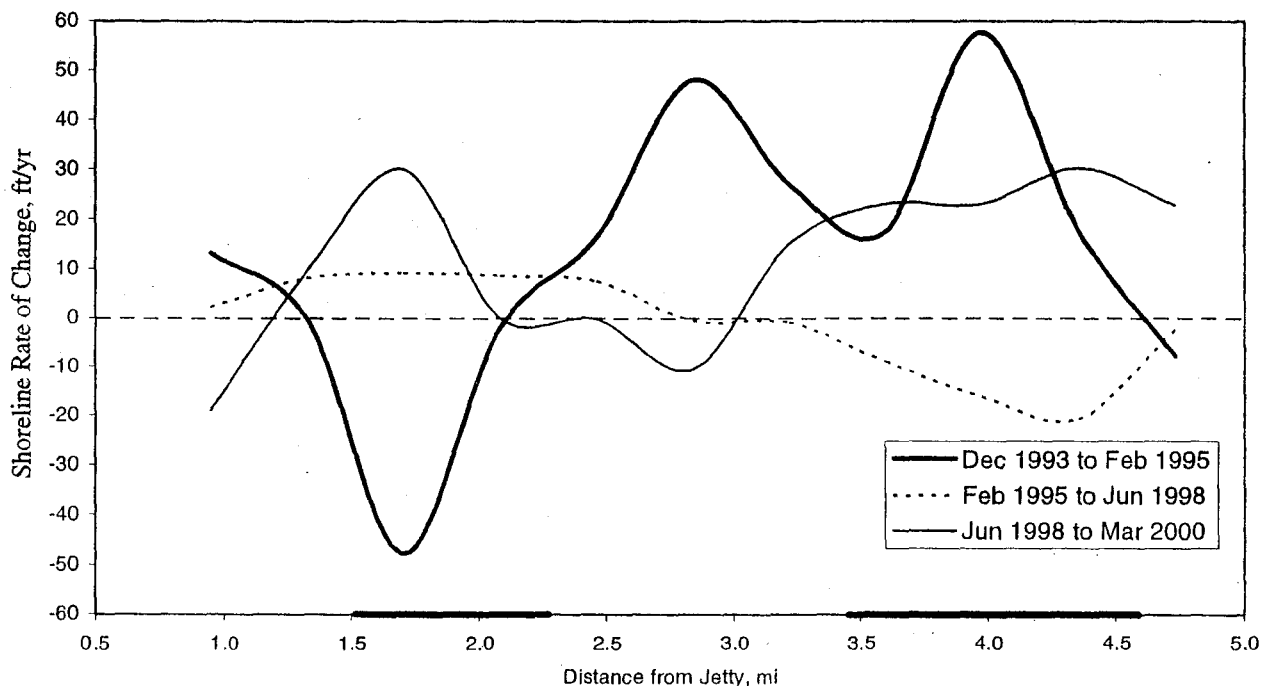


Figure 2. Shoreline Variability (rate of change) over 4 mile segment of South Padre Island.

Figure 2 above, also taken from report J90239 prepared by Shiner Mosely and Associates, Inc. in April 2000, shows the variability of the shoreline from December 1993 to March of 2000. "As can be seen in the figure, the rate of shoreline change is highly variable with high rates of accretion followed by high rates of erosion at the same location depending on the interval of time examined. Because of this high degree of variability, the average rate for the total survey period should not be the only rate considered in beach nourishment planning and design. These short-term undulations can cause the shoreline to periodically move within closer proximity to beachfront structures. The structures are then exposed to increased risk of storm damage, particularly along northern areas where the beach is

narrower and there is less of a buffer to dissipate wave energy.” (pg.4, Shiner, Mosely and Associates, Inc., *Report J90239*, April 2000.)

In October 2000 the Town had +/- 2775 linear feet of undeveloped beachfront property (~12 % of the 22,800 linear feet of beach) remaining. By January 2002, this number has diminished to +/- 2400 linear feet (i.e. 10.5%). The Town understands that the purpose of the General Land Office’s Beach Access/Dune Protection Rules (31 TAC §15.1 - 15.10) is to protect beach access and existing dunes from destruction caused by the development process, and when those conditions are threatened, the Town fully understands the need and rational to follow these regulations, but just a very small portion (10.5%) of the Town’s beachfront is undeveloped, and of that portion that is developed, most of it had been developed prior to the Town’s adoption of a Beach Management Plan in 1994.

The existing Beach and Dune Regulations, as well-intentioned as they are, do not adequately address the bulk of the Island’s need: an appropriate permitting process/procedure that takes into consideration the fact that most of the construction needs of the Town’s beachfront properties require only regular maintenance or landscaping activities – activities which do not require any form of disturbance east of the Town’s Historic Building Line, and would therefore have no impact on the dunes east of that line, the drainage of the property, or the public’s access to or use of the beach. The Town does not believe the original intention behind these regulations was to create a tedious permitting process for the maintenance of existing structures, but to protect the public’s right of free access to and along the beach, and the remaining undisturbed natural resources necessary in helping to protect and diminish the erosion of Texas beaches. The Town of South Padre Island strongly believes that this permitting process must balance the needs between the enhancement/construction of dunes with the property owners’ right to get over the dunes and to the beach as well as to have a clear view of the beach.

With the above in mind, and pursuant 31 TAC §15.3(a) of the General Land Office Beach/Dune Rules, which allows local governments to adopt and implement a beach/dune program consistent with the requirements of the Open Beaches Act, Dune Protection Act, and 31 TAC §§15.1-15.10 of the beach/dune rules, the Town of South Padre Island submits this revised *Beach Access, Dune Protection, and Beach Renourishment Plan* with attached local plan implementing provisions.

## **BEACH MANAGEMENT PLAN.**

The Town’s beach and dune management plan has five primary components:

### **1. Beach Access.**

The Town has provided twenty-four (24) public beach access points as defined in the Attorney General’s letter dated April 11, 1994 and has worked with the Texas Attorney General to develop a Beach Access Plan that includes both immediate and future action.

***Parking Improvements.*** The Town will provide head-in parking at the following unimproved cul-de-sacs: Ocean Drive, White Cap Circle, Riviera Circle, Treasure Island Circle, Gay Dawn Circle, Sapphire Circle, White Sands St., and Harbor St.

At the following partially improved cul-de-sacs, the Town will complete the paving necessary for parking: Gulf Circle, and Sea Island Circle.

The Town has provided additional access improvements which include: a) the marking of the designated parking areas on the South end of Gulf Blvd.; b) the realignment of certain portions of Gulf

Blvd. where conflict has occurred between public parking and private development; and c) studies regarding possible additional public infrastructure improvements at cul-de-sacs or other public access points.

**Signage.** The Town will install signs at all 24 cul-de-sacs as improvements are made. Signs will indicate improvements (i.e. handicap access), and may be phased in over time.

**Impacts of Future Development.** Future growth, especially along Gulf Blvd. has the potential to impact public parking. The Town will insure that any new development shall not interfere with and/or diminish public beach access, public beach use, and/or public parking.

**South End Access.** Access easements exist between the end of Gulf Blvd. and Isla Blanca Park. The Town has cooperated with the Attorney General to identify the owners of these easements.

**Dune Walkovers.** The Town has built dune walkovers to improve the access at the following beach access locations:

Beach Circle	Seaside Circle (handicap)	Blue Water Circle (handicap)
Moonlight Circle	Bouganvillea Circle	Poinsettia Circle
Neptune Circle (handicap)	Starlight Circle	Aquarius Circle
Aurora Circle (stairs)	Good Hope Circle	Fantasy Circle

The following beach access areas do not currently have walkovers, but the Town may install them depending on funding availability and need:

Harbor St. Circle	Ocean Drive Circle	Gulf Circle
Sea Island Circle	Surf Circle	White Cap Circle
Riviera Circle	Treasure Island Circle	Daydream Circle
Gay Dawn Circle	Sapphire Circle	White Sands

On November 1, 1995, the Board of Aldermen adopted the following policy concerning private dune walkovers:

“Private dune walkovers attached to private property will be discouraged. Because a single- or two-family dwelling will not generate pedestrian traffic sufficient to warrant a dune walkover, single- and two-family dwelling will not qualify for private dune walkovers. For multiple-family uses, their proximity to a public beach access will be the primary consideration in evaluating the necessity for a private dune walkover. In all cases, properties and/or developments with direct access to a public beach access will be expected to utilize that access and a separate private dune walkover will not be allowed.

At their October 23, 2000 meeting, the Beach and Dune Task Force expanded this policy to include:

“Since the idea of building dune walkovers makes no sense unless dunes exist to walk over, the Task Force will not recommend approval of applications for dune walkovers unless or until significant dunes exist on the beach side of the property to walk over, OR until the applicant submits plans to construct dunes, with vegetation, on the property east of the Historic Building Line. Part of the dune construction plans must address the width and height of the constructed dune. The Task Force will review the dune construction plan with the applicant and give feedback and suggestions. The Task

Force further encourages partnering between property owners in regards to dune construction and / or dune walkover construction and maintenance.”

## 2. Dune Ridge Construction.

A study conducted by Robert A. Morton, Bureau of Economic Geology, The University of Texas at Austin: *Beach and Dune Conditions at South Padre Island, Texas; Assessment and Recommendations*; 1993; (pp 33-34), states that dune complexes ten to twelve feet (10' – 12') in height above sea level and seventy-five to one hundred feet (75' – 100') in width at the base should “survive most large storms and minimize the beach-front damage most frequently caused by direct wave attack”. Therefore, the Town proposes a plan consistent with this philosophy in an effort to preserve and protect private property and the public beach. To be proactive in this matter, the Town will undertake efforts in cooperation with the General Land Office, TxDOT, the USCE and /or any other agency or program, to construct a continuous dune ridge along the entire length of the Town.

The Town proposes the following general approach in regards to its Dune Ridge:

- ❖ Allow the construction of private retaining walls, but not seawalls, landward of the dunes and the Historic Building Line. The only exception to this rule is that construction seaward of the Historic Building Line may take place in the area shown on the survey labeled “Exhibit B” for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X;
- ❖ Require financial guarantees by all those constructing private retaining walls behind the dunes;
- ❖ Construct a 75-100 ft wide dune system parallel to the shoreline and running the entire length of the Town. This dune ridge will be located between retaining walls within Town on the West, and the public beach on the East and average ten to twelve (10' – 12') feet in height above sea level;
- ❖ The Town will continue its program of raking/cleaning the beach, but should do so in a manner that will encourage and promote beach cleaning and dune construction while also coordinating this effort with property owners who appreciate this material. Long term remedies for beach cleaning rely on the cooperation between the Town and private property owners;
- ❖ Use a combination of existing sand in dunes presently seaward of existing walls and new beach nourishment material to build the dunes and to maintain a recreational beach seaward of the dunes;
- ❖ The Town promotes the recreational use of the beach and encourages, but does not require, these recreation activities to occur on the wet portion of the sand (recreational beach) east of the dune ridge and line of vegetation in an effort to protect the dunes and dune vegetation.
- ❖ The Town endorses the concept to enhance and improve the Town's continuous dune line and will allow property owners to haul in beach quality sand to construct dunes in barren and low-lying areas. And since vegetated dunes are a primary component to dune ridge stabilization and beach renourishment, revegetation of bare dunes /newly

constructed dunes with indigenous dune vegetation is strongly encouraged. Both activities can be accomplished with a City Manager or designee approved permit as long as the proposed activity does not restrict or interfere with the public's access to the beach or use of the beach at normal high tide.

- ❖ The Town endorses the concept of Town-sponsored activities to alter existing dune shape and size where a complete dune ridge construction plan has been reviewed and approved by the Town, the General Land Office, and the Office of the Attorney General. In such cases, the plan must meet the following criteria: 1) the height of the existing dune(s) is/are greater than fifteen feet (15') in elevation; 2) an affirmative demonstration can be made that substantial dunes would likely form naturally in the area of the proposed dune ridge construction project; 3) the project demonstrates equal or better protection with the proposed dune ridge construction plan; 4) the adjacent littoral property owner(s) provide written consent for the proposed dune ridge construction project; and 5) the adjacent littoral property is in compliance with previously issued and approved Beach and Dune permits;
- ❖ In such instances that the shape and / or size of the existing dune(s) are altered: 1) the Town shall ensure that all sand seaward of the Historic Building Line remains in the beach/dune system; 2) the height of the altered dunes seaward of the Historic Building Line can be no lower than ten foot (10') in elevation; 3) the altered dune(s) must be vegetated with indigenous dune vegetation and watered to stabilize the dune(s); and 4) the project shall not restrict or interfere with the public's access to the beach or use of the beach at normal high tide.
- ❖ The Town encourages cooperation and partnering between adjacent property owners in the maintenance of dunes/ dune heights as well as the design of dune walkovers in an effort to reduce the need and number for walkovers at every beach-front structure; and,
- ❖ The Town shall provide local funding with the ½ cent EDC sales tax and other sources.

NOTE: All Dunes Seaward of the Dune Protection Line are Critical Dunes.

### **3. Beach Nourishment.**

The Town will continue to undertake beach nourishment efforts, in cooperation with the General Land Office and the USCE under the Section 933 program and/or other appropriate program, to widen the beach in the eroding areas and to use a portion of these materials to construct a continuous dune ridge along the entire length of the Town. The Town, with the cooperation of TxDOT, will utilize the sand that drifts over Highway 100 as well as any other acceptable beach nourishment sources and resources.

The Historic trend of erosion (as seen in Figure #1) and the increase risk to beach-front structures associated with the temporary shoreline undulations (as seen in Figure #2), demonstrate that future renourishment projects should be concentrated north of Esperanza Street, along the northern portions of the Town's beaches. Placement of renourishment material south of Esperanza Street should probably be done if funding is not available for placement further north OR when funding is available

to renourish this area in addition to the northern beaches of the Town. However, the Town should continue to monitor the beach erosion pattern to assure that the southern portions of the Town's beaches are not neglected.

The Town recognizes that any long term remedy will have to rely on an ongoing Beach Nourishment Program that:

- ❖ Uses beach quality material from any and all acceptable sources.
- ❖ Since vegetated dunes are a primary component to dune ridge stabilization and beach renourishment, revegetation of bare dunes is strongly encouraged;
- ❖ Will require significant local funding even with the help of Federal Section 933, Coastal Erosion Planning & Response Act funds, and other federal grant programs; and
- ❖ The Town must comply with all applicable State and Federal laws.

The funding for Town Beach Renourishment projects may be provided by the existing ½ cent EDC sales tax; grants for which the Town may apply and receive; or, if required, additional revenue from the general fund and/or from a general obligation bond issue.

#### **4. Local Planning Policies and Guidelines.**

The Town's goal is to provide compliance under the state program, provide equal and consistent application of rules and regulations for all beachfront properties within the Town, and yet ~~protect the private property owner from extravagant permitting procedures for regular maintenance and landscaping activities.~~ In order to provide consistency regarding the local permitting procedure within Town limits, the Town will follow the additional policies and guidelines below:

##### *Major Regulatory Provisions.*

- ❖ Final authority over permits lies with the Board of Aldermen; however, the Beach and Dune Task Force has been established to make recommendations for Beach and Dune Protection Permits.
- ❖ The Dune Protection Line is designated as the east right-of-way of Gulf Boulevard and the extension north and south thereof or 1000 feet from Mean High Tide whichever is lesser.
- ❖ A Beach and Dune Protection Permit is required for activities seaward of the Dune Protection Line if such activities impact dunes or dune vegetation.
- ❖ Beach and Dune Protection Permits can be issued only if the action will not materially weaken any dune or dune vegetation, or increase flooding, etc. If damage cannot be avoided, then it must be minimized, and then any resulting damage must be compensated for by the permittee.
- ❖ Beach and Dune Protection Permits for construction are issued only if the proposed action will not interfere with the public access to the beach as provided for in the Open Beaches Act.



The special regulatory provisions under this Plan are structured to allow for compliance under the state coastal program.

***Special Provisions within the Town as provided by this Plan and these Policies.***

- ❖ No construction will take place seaward of the Historic Building Line, except as shown on the surveys labeled Exhibit "B" for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X.
- ❖ Property owners will be permitted to build retaining walls, but not seawalls, across the beach side of their property which may connect with adjacent walls subject to other requirements of State Law and the following conditions:
  - The property owner will be required to remove any wall that is exposed to substantial wave action for 20 days out of any 30 consecutive days except following major storm events (tropical storms, hurricanes, etc.) in which case, the owner will be given additional time to determine compliancy, as determined by the Town and State agencies;
  - Such removal will be at the property owner's expense;
  - The Town will require property owners to either agree to a deed covenant or other suitable financial guarantee acceptable to the Town to secure removal of the wall; and
  - If the property owner fails to remove the wall, the Town will remove the wall and assess the cost against the financial guarantee.

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- ❖ Swimming pools will be allowed to be installed with concrete, but their footprint will not count against the 5% impervious area allocation.
- ❖ Ecocreto, a pervious concrete, will be an additional allowable pervious material that beachfront property owners may use to reduce the amount of impervious surface within the dune protection area.
- ❖ Along the East Right of Way of Gulf Boulevard and seaward, all dunes are critical.
- ❖ Mitigation for any critical dune alteration will be required on a 1:1 basis with all material above the ten (10') foot elevation going East of the Historic Building Line (except for Lots 1, 2, 3, & 4 of Block 156, where the sand must be placed seaward of the retaining wall), preferably on the subject property.
- ❖ The Town will strive to undertake and fund beach nourishment in this area approximately every two years.
- ❖ The Town will continue to provide a semi-annual monitoring of the shoreline and beach (plus an additional post-hurricane monitoring) as well as progress reports on the beach nourishment efforts.
- ❖ In order to facilitate a continuous dune line, the Town may sponsor activities to alter dune shape and size as detailed under 2. Dune Ridge Construction on pages 11 through 13 of this plan.

❖ A primary goal of this Plan is to create an expedited permitting process whereby the City Manager or Designee of the Town of South Padre Island has the authority to issue permits for certain designated beach/dune related items without having property owners go through the extensive review period normally required for new construction. None of the following permits may be issued by the City Manager or designee if the proposed activities will: 1) increase or alter the footprint of the existing structure; 2) increase the impervious surface on the property; 3) adversely affect dunes or dune vegetation; or 4) impact the public's access to the beach or use of the beach at normal high tide along the beach. This expedited permitting process would be available for the following activities:

- 1) Maintenance activities of existing properties between the east right-of-way line of Gulf Boulevard to the Historic Building line that result in no net increase in impervious cover. (i.e. Property Maintenance Permits)
- 2) Minor construction projects on pre-developed properties between the east right-of-way line of Gulf Boulevard to the Historic Building Line that result in no net increase in impervious cover, and no increase in the footprint of existing structures such as installation/construction of fences, open wooden decks, spas, swimming pools, landscaping features, installation of sprinkler systems. (i.e. Property Maintenance Permits)
- 3) Special Event permitting for activities that occur on the public beach. The duration of this permit will be for no greater than thirty (30) consecutive days and the permitting procedure will be compatible with Town Special Event ordinance(s) as well as with normal beach and recreation activities, and is intended to include weddings, anniversaries, and other occasion parties; Spring Break-type activities which may require the construction of stages and towers; the setup of tents and inflatables for outdoor displays; as well as other sport-related events. These permits can be issued for special events seaward of the Historic Building Line but only if the action will not materially weaken any dune or dune vegetation, block access to or on the beach, or increase flooding. Copies of Special Events Permits issued by the Town will be sent to the General Land Office and the Office of the Attorney General for their files.
- 4) Town-sponsored beach re-nourishment activities;
- 5) Retaining Wall/Walkway Maintenance Permits to move sand that has accumulated within ten (10') feet of an established retaining wall or dune walkover if it is determined that the proposed activity: a) is purely maintenance of existing facilities and not new construction; b) has no impact; and c) does not cause any sand to be removed from the beach.

##### **5. Compliance with Local and State Regulations.**

The Town will implement State mandated coastal management using the following approach:

All proposed actions within the Town will be handled in a manner consistent with this plan that will emphasize implementation of beach nourishment, required mitigation, and allow development in the interim with mandatory removal requirements if erosion reaches any walls. The Town will enforce the various components of this management plan by Ordinance - Chapter 22 of the Town of South Padre Island Code of Ordinances (attached) - as well as other rules and regulations referenced in the Plan and the Ordinance.

## **Responsibilities**

The successful implementation of The Town's Plan will require the concerted, cooperative effort of both the public and private sectors.

### ***Local Government***

- Seek renewed acceptance and certification under the State Coastal Program.
- Provide substantial, ongoing funding commitment.
- Enforce the agreed-upon codes and requirements.
- Agree to remove any walls that are subject to substantial wave action 20 days out of any 30 days (except following a major storm event, such as a hurricane or tropical storm) and adopt an ordinance requiring all property owners to agree to such a deed covenant or other financial guarantee.

### ***State Government***

- Approve the overall approach, including the Master Planned approach within the Town limits.
- Monitor local activities to insure compliance with overall agreements.
- Provide technical assistance and support for the beach nourishment project.
- Provide maintenance material from all available sources.

### ***Federal Government***

- Provide maintenance material from all available sources.
- Provide matching funds under USCE Section 933 Program, and other federal grant programs.
- Provide technical assistance in the planning and design of the Town's Beach Nourishment Program.

### ***Private Sector***

- Recognize that under current state law, the Town must meet State requirements, and support the Town in its dealings with the State.
- Accept that there will be a change in beachfront developments.
- Realize that costs will go up.
- Work with neighboring property owners to build and maintain a continuous dune line.

## CHAPTER 22

### DUNE PROTECTION, BEACH RENOURISHMENT, AND ACCESS PLAN IMPLEMENTING PROVISIONS

#### Sec. 22-1. DEFINITIONS.

For the purpose of this ordinance, the following words and terms as used herein are defined to mean the following:

“Beach Access and Use Plan” shall be that plan that is adopted by the Town of South Padre Island pursuant to 61.015 of the Texas Natural Resources Code (i.e. this document).

“Beach & Dune Protection Permit” means a permit that is required for all construction activities East of the Dune Protection Line, and which requires the full review and approval of the General Land Office, the Office of the Attorney General, the Beach and Dune Task Force, and the Board of Aldermen.

“Beach and Dune Task Force” means an advisory body consisting of seven (7) individuals appointed by the Board of Aldermen whose task shall be to review and make recommendations to the Board of Aldermen regarding Beach and Dune Protection permit applications and the Beach Access Plan.

“Coppice Mounds” means the initial stages of dune growth formed as sand accumulates on the downwind side of plants and other obstructions on or immediately adjacent to the beach seaward of the foredunes. Coppice mounds may be unvegetated.

“Construction” means causing or carrying out any building, bulk heading, filling, clearing, excavation, or substantial improvement to land or the size of any structure. “Building” includes, but is not limited to, all related site work and placement of construction materials on the site; however, “Building” does not include maintenance activities. “Filling” includes, but is not limited to disposal of dredged materials. “Excavation” includes, but is not limited to removal or alteration of dunes and dune vegetation and scraping, grading, or dredging a site. “Substantial improvements to land or the size of any structure” includes, but is not limited to creation of vehicular or pedestrian trails, landscape work (that adversely affects dunes or dune vegetation), and increasing the size of the structure.

“Critical Dune Area” means those portions of the beach/dune system as designated by the Texas General Land Office, that are located within 1,000 feet of mean high tide of the Gulf of Mexico that contain dunes and dune complexes that are essential to the protection of public beaches, submerged land, and State-owned land, such as public beaches and coastal public lands, from nuisance, erosion, storm surge, and high wind and waves. Critical dune areas include, but are not limited to, the dunes that store sand in the beach/dune system to replenish eroding public beaches. Specifically within the corporate municipal limits of the Town of South Padre Island, Critical Dune Areas encompass the undeveloped portions of the Town East of the right-of-way of Gulf Blvd. and the extension thereof, or 1000 ft West of mean high tide, whichever is lesser.

“Damage to Dunes” means any unauthorized alteration to dunes or dune vegetation.

“Designated Beach Access Areas” means all dedicated street rights-of-way abutting the Gulf of Mexico and any other dedicated beach access route(s) that may be designated as a beach access area.

“Dune” means a natural or man-made emergent mound, hill, or other ridge of sand either bare or vegetated, located on land which is adjacent to the waters of the open Gulf of Mexico.

“Dune Enhancement Permit” means a permit issued by the City Manager or designee after the applicant has satisfied the Town that the proposed activities will only elevate dune height and/or promote dune vegetation propagation; will not negatively impact or alter existing dunes and/or dune vegetation; and is consistent with the Town’s plan to create a continuous dune line.

“Dune Protection, Beach Renourishment, and Access Plan Ordinance” means Chapter 22 of the Town of South Padre Island Code of Ordinances.

“Dune Protection Line” means a line established within the Town of South Padre Island that shall be the East right-of-way of Gulf Blvd and a line extended therefrom to both the North and South boundaries of the Town, or a line 1,000 feet landward from mean high tide, whichever is lesser.

“Dune Ridge Construction” means those Town-sponsored and authorized activities involved solely with modifying the shape and/or size of dunes and/or dune vegetation east of the Historic Building Line. In those instances where dune heights and/or dune vegetation are proposed to be elevated and/or enhanced, the City Manager or designee is given the authority to permit the activity. However, in those instances where dune height(s) and/or dune vegetation is/are proposed to be reduced, the property owner will be required to submit an application for a Dune Ridge Construction Permit that will be reviewed and approved by the Town, the General Land Office, and the Office of the Attorney General.

“Erosion” is the wearing away of land or the removal of beach and/or dune material by wave action, tidal currents, littoral currents or deflation. Erosion includes but is not limited to horizontal recession and scour and can be induced by human activities.

“FEMA” means the Federal Emergency Management Agency of the United States Government. This agency administers the national Flood Insurance Program and the Flood Insurance Rate Maps.

“Foredune” means those dunes which offer the first significant means of dissipating storm generated wave and current energy ensuing from the open Gulf of Mexico. Because various heights and configuration of dunes may perform this function, no standardized physical description can be offered. However, where they occur, foredunes are distinguishable from surrounding dune types by their relative location and physical appearance. Foredunes are the first distinguishable, usually grass-covered stabilized large dunes encountered landward from the open Gulf of Mexico. Although they may be large and continuous, foredunes are typically hummocky and discontinuous, and are often interrupted by breaks and wash over channels.

“GLO” means the General Land Office of the State of Texas.

“Historic Building Line” shall mean that line established by the Texas Attorney General that indicates the buildable depth line for the construction of buildings or structures on or to the landward side of the line. The only exceptions to construction seaward of this line shall be that area designated in the survey labeled “Exhibit B” for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X. ~~Such~~ The Historic Building Line is located on a map (drawn by Chas R. Haile Associates, Inc., Consulting Engineers, Houston, Texas City, Corpus Christi, Nederland, dated March 1981) provided by the Texas Attorney General and is on file with the Public Works Department of the Town of South Padre Island. The line was intended to retain a minimum of two hundred feet of open beach above the mean low tide line according to then available data and is subject to change by the Attorney General to ensure the protection of the State’s open beaches.

“Line of Vegetation” means the extreme seaward boundary of natural vegetation which spreads continuously inland.

“Maintenance (Maintenance Activities)” means those activities involved with repairing and/or renovating existing structures and those that do not alter or increase the foot print of existing structures, increase the impervious surface on the property, impact the public’s access to or use of the beach, or adversely impact dunes and/or dune vegetation. Maintenance activities include, but are not limited to: repairing or replacing siding, steps, roofs, windows, doors, fences, sidewalks, landscaping. Maintenance activities will require a Property Maintenance Permit.

“Manufacture” means something made from raw materials by hand or by machine. (i.e. anything man-made).

“Practicable”. In determining what is practicable, the Town shall consider the effectiveness, scientific feasibility, and commercial availability of the technology or technique, as well as the cost of the technology or technique.

“Property Maintenance Permit” means a permit which is required for all maintenance activities East of the Dune Protection Line that can be issued by the City Manager or designee without the necessary review of the General Land Office, Office of the Attorney General, Beach and Dune Task Force, and the Board of Aldermen.

“Public Beach” means any beach bordering on the Gulf of Mexico that extends inland from the line of mean low tide to the natural line of vegetation bordering on the seaward shore of the Gulf of Mexico, or such larger contiguous area to which the public has acquired a right of use or easement to or over by prescription, dedication, or estoppel, or has retained a right by virtue of continuous right in the public since time in memorial as recognized by law or custom. This definition does not include a beach that is not accessible by a public road or ferry as provided in Section 61.021 of the Texas Natural Resources Code.

“Retaining Wall” means a structure designed primarily to contain material and to prevent the sliding of land.

“Retaining Wall / Walkway Maintenance” means those activities that result in the raking and/or moving of debris, litter, trash and non-vegetated sand that has accumulated in designated walkways or within ten (10) feet of an established retaining wall or fence. Retaining wall / Walkway maintenance activities shall not be construed to allow excavation, trimming or disturbance of natural dune formations seaward of the dune protection line or the removal of sand, either temporary or permanent, from the beach/dune system within the Town.

“Retaining Wall / Walkway Maintenance Permit” means a permit which is required for all retaining wall/walkway maintenance activities East of the Dune Protection Line that can be issued by the City Manager or designee without the necessary review of the General Land Office, Office of the Attorney General, Beach and Dune Task Force, and the Board of Aldermen.

“Structure” includes, without limitation, any building or combination of related components constructed in an ordered scheme that constitutes a work or improvement construction on or affixed to land.

“Seawall” means a manufactured embankment located along a shoreline designed and engineered specifically to withstand flooding and wave action. Seawalls are not authorized east of the Town’s Dune Protection Line.

“Town” means all area within the corporate municipal limits of the Town of South Padre Island, Texas.

“Washover” means local areas that channel hurricane flood tide across barrier islands and peninsulas into bay areas.

## **Sec. 22-2. GENERAL PROVISIONS**

A. The Board of Aldermen does hereby establish the Beach and Dune Task Force whose charge it shall be to identify problems, develop goals and objectives, and develop a strategy plan to give advice and to make recommendations to the Board of Aldermen on the *Dune Protection, Beach Renourishment and Access Plan* and for the renourishment of the beach within the Town.

B. The Town of South Padre Island shall endeavor to protect the dune system and the foredune line within the corporate municipal limits of the Town. The foredunes offer protection and provide a buffer against storms, and will keep sand in the beach dune system.

(1) The Town, when considering any Beach and Dune Protection Permit, shall strive to avoid any damage and destruction to dunes, and in particular the foredunes and the foredunes ridge to the maximum extent practical. The foredunes and the foredune ridge are the primary focus of protection; however, they depend on the backdunes for preservation. The backdunes upon which the foredunes and the foredune ridge depend shall be protected by the same standard that protects the foredunes and foredune ridge. Therefore, damage and destruction to backdunes that actively exchange sand with and extend vegetation to foredunes and the foredune ridge shall be avoided to the maximum extent practicable.

(2) Every dune in the beach/dune system is linked to and dependent upon the other dunes for survival. Therefore, the backdunes that do not directly protect and preserve foredunes and the foredune ridge shall be protected to the maximum extent practicable.

(3) Hurricane storm surge is the most destructive element on the Texas coast. As this is particularly true for South Padre Island, where elevations are low and continuous dunes are lacking, it is recognized and established that the primary focus is to protect the foredune area and the foredune ridge. At the same time, protection of all dunes East of the Dune Protection Line will continue.

C. The Town of South Padre Island recognizes the importance of beach renourishment to stabilize and protect the public beach. The significance of tourism and its contribution to the economy reinforce the necessity to renourish our most precious resource--the beach. The Town of South Padre Island shall provide for the renourishment of our beach and appropriate the resources necessary to accomplish this project. The Town of South Padre Island shall develop a dune system in front of all properties to offer a protection from severe storm and beach erosion.

D. The Town of South Padre Island will not abandon, relinquish or convey any right, title, easement, right-of-way, street, path or other interest that provides existing or potential beach access, unless an alternative equivalent or better beach access is first provided consistent with the Town's *Dune Protection, Beach Renourishment and Access Plan*.

### **Sec. 22-3. BEACH AND DUNE TASK FORCE-APPOINTMENT**

The Board of Aldermen may appoint seven (7) individuals to serve on the Beach and Dune Task Force. The appointment of individuals shall be for two (2) year terms, such terms to be staggered, and all terms shall expire on September 30 of the year said members term is scheduled to expire or until their successor is appointed. The Task Force shall elect one of the members as Chairperson, and the Chairperson may not make or second motions and may only vote to break a tie vote and if the Chairperson is absent the members shall appoint a temporary Chairperson to preside at the meeting. The Board of Aldermen may remove any appointee to the Beach and Dune Task Force at anytime. The initial members appointed by the Board of Alderman shall have three (3) members appointed for a one (1) year term and four (4) members appointed for a two (2) year term, and thereafter all appointments will be for a two year term.

#### **Sec. 22-3.1 MEETINGS.**

The Beach and Dune Task Force shall conduct all its meetings in a public setting and shall follow all of the procedures required by the Open Meetings Act in the conduct of all its business.

#### **Sec. 22-3.2 GUIDELINES.**

The Beach and Dune Task Force has adopted general guidelines as stated within this plan for the construction of a continuous dune line based upon a 1993 study conducted by Robert A. Morton: *Beach and Dune Conditions at South Padre Island, Texas; Assessment and Recommendations* (Bureau of Economic Geology, The University of Texas at Austin). Additional specifications and/or guidelines



for the preservation and enhancement of dunes shall be consistent with the above 1993 study as well as *Dune Protection and Improvement Manual for the Texas Gulf Coast* (as published and amended by the General Land Office).

**Sec. 22-4. DUNE PROTECTION LINE**

A. The Board of Aldermen does hereby establish a Dune Protection Line. Such line shall be the East right-of-way line of Gulf Boulevard and a line extended therefrom to both the North and South boundaries of the Town, or 1,000 feet landward of the mean high tide, whichever is lesser. The Dune Protection Line is applicable to all areas within the corporate municipal limits of the Town and no area seaward of the Dune Protection Line within the Town is exempt from this Chapter.

B. The Dune Protection Line is also depicted on the Historic Building Line Map dated March 1981, which Map is also the same Map furnished to the Town by the Office of the Texas Attorney General and is on file with the Public Works Department of the Town of South Padre Island, Texas. The map shows the East Right-of-Way line of Gulf Boulevard as that line is extended to both the North and South boundaries of the Town. The East Right-of-Way line of Gulf Boulevard is tied to specific monuments on Gulf Boulevard and the existing monuments are referenced to the Texas State Plan Coordinate System.

C. The Dune Protection Line is a "moving" line changing with shoreline changes, and subject to modification. The Dune Protection Line shall be reviewed at least every five (5) years to determine if the line is adequately located to achieve the purpose of preserving critical dune areas. In addition to the five-year review, the Town will review the adequacy of the Line within Ninety (90) days after a Tropical Storm or hurricane affects the beach within the Town limits.

**Sec. 22-5. FOREDUNE LINE.**

The Town of South Padre Island shall endeavor to enhance and/or establish a foredune line within the corporate municipal limits of the Town. Such line will offer protection and be used as a buffer against storms and will keep sand in the beach/dune system.

**Sec. 22-6. TOWN PERMIT EXEMPTIONS.**

The activity of the Town shall at all times be consistent with the Town's mission of preserving and enhancing the beach and public beach accesses located within the Town of South Padre Island. In order to promptly and adequately address the needs of the public, the Town of South Padre Island will not be required to obtain a permit for the following activities:

A. Cleaning and grooming of the beaches within the Town that does not damage dunes and/or dune vegetation.

B. Town designated public beach access dune walkover construction, clearing and maintenance activities.

C. Town-sponsored beach renourishment projects.

D. Town-sponsored dune ridge construction projects that solely involve bringing in more beach quality sand for dune ridge construction and/or the planting of indigenous dune vegetation neither activity of which adversely impact existing dunes or dune vegetation, or the public's access to or use of the beach.

E. The use of Town vehicles (police, public works or emergency vehicles) on the Beach.

**Sec. 22-7. PERMITS AND APPROVALS REQUIRED.**

A. An applicable permit is required for all construction, maintenance, dune management activities and/or retaining wall / walkway maintenance East of the Dune Protection Line. A permit must be obtained from the Town prior to any activity. Failure to acquire a permit prior to any construction activity East of the Dune Protection Line is subject to penalty as is or may be provided in this or any other ordinance of the Town. Such penalty for failure to acquire a permit when necessary can result in a fine, removal, restoration, and/or remediation orders.

B. Permits issued pursuant to this Chapter shall be accompanied by a permit fee established by the Board of Aldermen. The Board of Aldermen may establish and/or modify fees for the issuance of any permits mentioned within this Chapter 22 by resolution.

**Sec. 22-8 CITY MANAGER OR DESIGNEE AUTHORIZED PERMITS.**

A. The following permits under this Sec. 22-8 may be authorized directly by the City Manager or designee and are not required to be reviewed or approved by the Beach and Dune Task Force, the General Land Office, or the Office of the Attorney General. The City Manager or designee may authorize permits under this Section 22-8 only if the proposed activity will not:

- (1) increase or alter the footprint of an existing structure;
- (2) increase the impervious surface on the property;
- (3) adversely affect dunes or dune vegetation; and /or
- (4) obstruct the public's access to or use of the beach.

B. The City Manager or Designee may request whatever information as may be necessary to determine the extent and nature of the activities prior to approving such activity. Such information must include the name of the property owner and/or the owner's representative. An on-site inspection with the owner, owner's representative or the individual who will be responsible for undertaking the proposed activities of the permit may be requested by the City Manager or Designee.

C. The City Manager or Designee will determine the expiration date of the permit depending on the nature of the activity, but under no circumstance will the permit be applicable for greater than six (6) months from the original date of permit approval.

D. In the event that the City Manager or Designee denies an applicant's request, the applicant may appeal the decision to the Beach and Dune Task Force. In so doing, the applicant will need to submit to Town staff a copy of all information necessary to completely understand the nature of the situation for submission to the Task Force. The Task Force can then make a recommendation that will be forwarded to the Board of Aldermen for final review and approval.

**Sec. 22-8.1 BEACH SPECIAL EVENTS PERMITTING.**

The Town must approve all beach special events activities prior to the commencement of such activities. The Board of Aldermen or the City Manager may designate a Special Events period [length of time] and permits may be granted during such period for setting up temporary outdoor facilities both on beachfront properties and seaward of the Town's Historic Building Line established by the Attorney General of Texas. A Beach Special Events Permit is only valid for the specific Special Events period [length of time] and not for any other Special Events period. Each Special Events period requires a separate permit. These permits shall be granted with special conditions and requirements as the City Manager or his designee may believe is necessary to preserve the public beaches and the general health and safety of the users thereof. A copy of the permit issued by the Town will be forwarded to the General Land Office and the Office of the Attorney General for their files no later than five (5) days from the date the Town issued the permit. Any person desiring to set up any type of temporary facility during the Special Event period on the beach shall comply with the following:

- A. No facility or manufacture may be set up in a manner to destroy dunes and/or vegetation.
- B. No outdoor facility or manufacture may be set up that will impair public access to the beach or use of the public beach.
- C. Any applicant obtaining Special Event permit will provide whatever sanitary facilities that the Town believes are reasonably necessary as a result of the number of people being attracted to the Special Event Activities.
- D. The permit will specifically describe the facilities being set up and what will be left in place overnight and shall comply with all requirements of the Building Department that pertain to safe installations. Any application for permit must either be signed by the beachfront property owner or have a letter of consent from the beachfront property owner for the applicant seeking the permit.
- E. No sales of any nature may take place on the beach (seaward of the Historic Building Line).

**Sec. 22-8.2 RETAINING WALL / WALK WAY MAINTENANCE.**

All retaining wall/walkway maintenance activities must be approved by the Town prior to undertaking such maintenance activities.

A. The City Manager or Designee may require modifications to the retaining wall/walkway maintenance activities to ensure that such activities do constitute property maintenance activities and do not damage dunes and/or dune vegetation.

B. If the City Manager or Designee issues a permit for retaining wall/walkway maintenance activities, any and all sand that will be moved and/or removed from the designated walkways and/or retaining walls must be used to establish and/or enhance the foredune line. The City Manager or

Designee will work with the owner, owner's representative and/or permittee to determine the placement of the sand.

**Sec. 22-8.3 VEHICLE ACCESS.**

The Town of South Padre Island prohibits vehicular access to the public beaches, except for public safety, emergency vehicles, beach maintenance equipment, and permitted vehicles. The City Manager or Designee may permit vehicle access to the beach in coordination with permitted construction and/or property maintenance activities; however, a separate vehicle access permit and fee will be required.

**Sec. 22-8.4 PROPERTY MAINTENANCE.**

The Town must approve all property maintenance activities East of the Dune Protection line prior to undertaking such activities. If the City Manager or Designee determines that the activity conforms to the requirements as set forth in Section 22-8 above, then the City Manager or Designee may issue a permit for the property maintenance activities. The City Manager or Designee may require modifications to the property maintenance activities to ensure that such activities conform to the requirements.

**Sec. 22-9 TOWN SPONSORED DUNE RIDGE CONSTRUCTION PERMITS.**

A. The Town endorses the concept of Town-sponsored activities to alter existing dune shape and size where a complete dune ridge construction plan has been reviewed and approved by the Town. In the event that a specific property owner wishes to alter dunes seaward of their retaining wall, that property owner may present a plan to Town staff that includes the pertinent items and information as necessary to completely understand and review the application. Once complete, staff will forward the plan to the Beach and Dune Task Force, who will in turn provide a recommendation to the Board of Aldermen for review and consideration. The Board of Aldermen will determine if the Town wishes to approve and sponsor such activity.

B. The Town may approve and/or sponsor dune ridge construction activities only if it finds as a fact, after a full investigation, that the particular project as proposed, meets the criteria below. Failure to meet any one of these criteria will result in a finding of material weakening or material damage and the Town shall not approve the application for the dune ridge construction activity as proposed.

- (1) the height of the existing dune(s) is/are greater than fifteen feet (15') above sea level;
- (2) an affirmative demonstration can be made that substantial dunes would likely form naturally in the area of the proposed dune ridge construction project;
- (3) the project demonstrates equal or better protection with the proposed dune ridge construction plan;

- (4) the adjacent littoral property owner(s) provide written consent for the proposed dune ridge construction project;
- (5) the adjacent littoral property is in compliance with previously issued and approved Beach and Dune permits;
- (6) the Town shall ensure that all sand seaward of the Historic Building Line (or in the case of Lots 1, 2, 3 & 4 of Block 156, PB X, seaward of the retaining wall) remains in the beach/dune system;
- (7) the height of the altered dunes seaward of the Historic Building Line (or in the case of Lots 1, 2, 3 & 4 of Block 156, PB X, seaward of the retaining wall) can be no lower than ten feet (10') above sea level;
- (8) the altered dune(s) must be vegetated with indigenous dune vegetation and watered to stabilize the dune(s); and
- (9) the project shall not restrict or interfere with the public's access to the beach or use of the beach at normal high tide.

C. If the Board of Aldermen approve and sponsor such activity, the Town will forward the plan, with appropriate and pertinent information and the expected time frame from beginning of the project to completion, to the General Land Office and the Office of the Attorney General for their review and approval. These state agencies shall have fifteen (15) working days from receipt of the proposed dune ridge construction application to review, and provide comments to the Town.

## **Sec. 22-10 BEACH & DUNE PROTECTION PERMITS**

For all other construction activities East of the Dune Protection Line, or any activity that impacts dunes and/or dune vegetation within the Dune Protection area not already addressed by the permits mentioned in the preceding Sections, an application for a Beach and Dune Protection permit will be required.

A. Staff will review any submitted application within a minimum of ten (10) working days to determine its completeness. A Beach and Dune application shall contain the items and information set forth in 31 TAC §15.3(s)(4). [18 Tex Reg. 661, starting at 696]

B. If the Beach and Dune application is determined to be complete, the staff shall forward the application and the development plan to the General Land Office and the Attorney General no less than ten (10) working days prior to acting on the development plan. The General Land office and the Attorney General may submit comments on the proposed construction to the Town of South Padre Island.

C. After reviewing the application for completeness, the City Manager or Designee shall forward the application to the Beach and Dune Task Force. The Task Force shall review the application and make recommendations to the Board of Aldermen on all Beach and Dune Protection Permit requests. The Task Force shall have up to six (6) weeks to review permit applications and

forward a recommendation to the Board of Aldermen. The Board of Aldermen shall grant or deny a permit within four (4) weeks of receiving a recommendation from the Task Force. The Board of Aldermen may make modifications to and/or overturn a recommendation of the Task Force with a majority vote of the Board of Aldermen.

D. The Town may approve a permit application only if it finds as a fact, after a full investigation that the particular conduct proposed will not materially weaken any dune or materially damage dune vegetation or reduce the effectiveness of any dune as a means of protection against erosion and high wind and water. In making the finding as to whether such material weakening or material damage will occur, the Town shall use the following technical standards. Failure to meet any one of these standards which is not adequately mitigated as provided for herein will result in a finding of material weakening or material damage and the Town shall not approve the application for the construction as proposed.

- (1) The activity shall not result in the potential for increased flood damage to the proposed construction site or adjacent property.
- (2) The activity shall not result in runoff or drainage patterns that aggravate erosion on or off the site.
- (3) The activity shall not result in significant changes to dune hydrology.
- (4) The activity shall not disturb unique flora or fauna or result in adverse effects on dune complexes or dune vegetation.
- (5) The activity shall not significantly increase the potential for washovers or blowouts to occur.

E. The Town shall consider the following items and information when determining whether to grant a permit:

- (1) All comments submitted to the Town by the General Land Office and the Office of the Attorney General;
- (2) Cumulative and indirect effects of the proposed construction on all dunes and dune vegetation within critical dune areas or seaward of a dune protection line;
- (3) Cumulative and indirect effects of other activities on dunes and dune vegetation located on the proposed construction site;
- (4) The pre-construction type, height, width, slope, volume, and continuity of the dunes, the pre-construction condition of the dunes, the type of dune vegetation, and percent of vegetation cover on the site;

(5) The local historic erosion rate as determined by the University of Texas at Austin, Bureau of Economic Geology, and whether the proposed construction may alter dunes and dune vegetation in a manner that may aggravate erosion;

(6) The applicant's mitigation plan for any unavoidable adverse effects on dunes and dune vegetation and the effectiveness, feasibility, and desirability of any proposed dune reconstruction and revegetation;

(7) The impacts on the natural drainage patterns of the site and adjacent property;

(8) Any significant environmental features of the potentially affected dunes and dune vegetation such as their value and function as floral or fauna habitat or any other benefits the dune and dune vegetation provide to other natural resources;

(9) Wind and storm patterns including a history of washover patterns;

(10) Location of the site on the flood insurance rate map;

(11) Success rates of dune stabilization projects in the area.

(12) Mitigation: The Town shall strive to balance the objective of dune protection and preservation while recognizing a property owner's right to reasonable development of private property. The permit application review process shall consider mitigation proposals or options to reduce the disturbance and/or loss of dune(s) if the property owner/applicant can demonstrate that all reasonable efforts to avoid the disturbance and/or loss of dune(s) are impractical. It is recognized and established that the primary focus of dune protection is to protect the foredune area while at the same time desiring to afford reasonable protection of all dunes East of the Dune Protection Line. The mitigation sequence shall be used as a decision-making basis for granting Beach and Dune Protection Permits. Mitigation is an acceptable method to insure the continued stability of the beach. It does allow for the construction of hard structures and surfaces within the permitted area so long as at no time will the structures come in routine contact with wave action. The removal of sand from permitted areas adjacent to dunes and replenishing the beach system is specifically provided for and encouraged. If a sand dune on a lot needs to be moved or leveled for construction, it must be moved and re-constructed East of the Historic Building Line (or in the case of Lots 1, 2, 3 & 4 of Block 156, PB X, seaward of the retaining wall). The mitigation sequence consists of the following steps:

- a. Avoid damage to dunes, including man-made alteration of dunes or the beach profile, removal or destruction of vegetation, and removal of sand from the dunes. Permits allowing damage to dunes shall only be issued where there is no practicable alternative to the proposed activity, proposed site, or proposed methods for conducting the activity.
- b. Minimize damage to dunes. If an application for a Beach and Dune Protection permit or beachfront construction certification proves to the city that damage to

dunes and/or dune vegetation is unavoidable, a permit allowing the unavoidable damage may be issued provided that there is a permit condition requiring that the damage shall be minimized to the greatest extent practicable.

- c. Compensate for all damage to dunes. Unavoidable damage to dunes and dune vegetation shall be compensated for by the creation of new dunes, the enhancement of existing dunes, and/or the repair of the damaged dunes as well as the planting of indigenous vegetation. The new, enhanced, and/or repaired dunes shall strive to be superior or equal to the damaged dunes in their ability to protect the community from potential flood damage, to support indigenous flora and fauna, and to protect the adjacent beach from erosion. The creation of new dunes as described by Dr. Morton in front of hard structures shall be 10 feet to 12 feet (above sea level) and 75 feet to 100 feet in width or consistent with a plan approved by the Town of South Padre Island. A property owner may be authorized to use plants other than native plants to enhance the stability of newly created dunes.
- d. Compensation efforts shall be continuous and concurrent with the construction until the new, enhanced and/or repaired dunes and dune vegetation is equal or superior to the damaged dune and dune vegetation. However, in no event shall the compensation process take more than two years. After two years, the permittee shall be liable for penalties if compensation is incomplete, unless natural causes have prevented the same.

F. Unless otherwise specified within the permit and approved by the Board of Aldermen, Beach and Dune Protection Permits expire after two (2) years, at which time the applicant will need to reapply if the activity has not been completed.

#### **Sec. 22-10.1 BEACH & DUNE PROTECTION PERMITTING PROCESS.**

Any applicant for a Beach and Dune Protection Permit shall be subject to the following review requirements to determine if said activities affect adversely public access to and use of the public beach, and no permit shall be issued unless all of the review requirements have been met;

A. The Town shall review the proposed development plan and the General Land Office's comments and the Attorney General's comments or other information it considers useful to determine consistency with the Beach Access and Use Plan.

B. Any development of property seaward of the Dune Protection line, including but not limited to areas adjoining a designated beach access area, must demonstrate that such development shall not interfere with and/or diminish public beach access, public beach use and/or public parking.

C. If the proposed construction is recommended to be permitted by the Town of South Padre Island, the application shall also be reviewed for the compliance with the Beach Access and Use Plan and if the proposed activity will affect adversely public access to and use of the public beach.

D. The Town of South Padre Island, after considering all appropriate information, shall make



the determination and shall certify that the construction as proposed either is consistent or inconsistent with the Beach Access and Use Plan, in which case the Town of South Padre Island must specify how the construction is inconsistent with the Plan or how it will affect adversely public access to, and use of, the public beach.

E. The Town of South Padre Island may include in the permit any reasonable terms and conditions it finds necessary to assure adequate public beach access and use rights consistent with Chapter 61 of the Texas Natural Resources Code. If the proposed activity will impair existing beach access, then the applicant must provide equivalent or better access.

F. There shall be no construction or erection of a permanent structure seaward (East) of the Historic Building Line as depicted on the Map on file with the Public Works Department of the Town of South Padre Island, except for that area designated in the survey labeled "Exhibit B" for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X.

#### **Sec. 22-11. COMPLIANCE WITH OTHER LAWS.**

A. Permits may not be issued if the proposed activity is determined to be in violation of Chapters 61 and/or 63 of the Natural Resources Code or any other state, local and federal laws related to the requirements of the Dune Protection Act and Open Beaches Act.

B. Permits may not be issued if the proposed activity is determined to be in violation of the GLO beach access/dune protection rules (31 TAC §§15.1 - 15.10), except as may be authorized by the Comprehensive Beach Management Plan of the Town provided for in this Chapter.

C. A violation of any law(s) related to the requirements of the Dune Protection Act and Open Beaches Act is a violation of this Chapter.

#### **Sec. 22-12. ADMINISTRATIVE RECORD.**

A. The Town shall compile and maintain an administrative record which demonstrates the basis for each final decision made regarding the issuance of permits pursuant to this Chapter. The administrative record shall include copies of the following:

- (1) All materials the Town received from the applicant as part of or regarding the permit application.
- (2) The transcripts, if any, or the minutes and/or tape of the Town's meeting(s) during which a final decision regarding the permit was made; and
- (3) All comments received by the Town regarding the permit, if any.

B. The Town shall keep the administrative record for a minimum of three years from the date of a final decision on a permit. The Town shall send to the General Land Office or the Office of the Attorney General, upon request by either agency, a copy of those portions of the administrative record that were not originally sent to those agencies for permit application review and comment. The record must be received by the appropriate agency no later than 10 working days after the Town receives the

request. The state agency reviewing the administrative record shall notify the appropriate permittee of the request for a copy of the administrative record from the Town. Upon request of the permittee, the Town shall provide to the permittee copies of any materials in the administrative record regarding the permit that were not submitted to the Town by the permittee (i.e. the permit application) or given to the permittee by the Town (i.e. the permit).

**Sec. 22-13. BUILDING PERMIT REQUIRED.**

If a permit is granted pursuant to this Chapter, the applicant must also obtain a Building permit from the Town of South Padre Island for the proposed activity subject to compliance with all other ordinances and codes of the Town, including, but not limited to the Master Flood Hazard Prevention Ordinance.

**Sec. 22-14. VOIDABLE PERMITS.**

Any permit issued by the Town under this Chapter shall be voidable under the following circumstances:

A. The permit is inconsistent with this Chapter or with State law at the time the Permit was issued.

B. A material change occurs after the permit is issued.

C. A permittee fails to disclose any material fact in the application.

D. The Town shall require that a permittee apply for a new permit in the event of any material changes. Material changes include human or natural conditions that have adversely affected dunes, dune vegetation, or beach access and use that either:

(1) did not exist at the time the permittee prepared the original permit application;  
or

(2) were not considered by the Town making the permitting decision because the permittee failed to provide information regarding the site condition in the original application for a permit.

E. A permit automatically terminates in the event the construction comes to lie within the boundaries of the public beach by artificial means or by action of storm, wind, water, or other naturally influenced causes. Nothing in the permit shall be construed to authorize the construction, repair, or maintenance of any construction within the boundaries of the public beach at any time.

**Sec. 22-15. BEACH ACCESS AND USE PLAN.**

A. The Town of South Padre Island shall utilize all dedicated street right-of-ways abutting the Gulf of Mexico for public beach access. The Town shall endeavor to enhance public beach access through the utilization of twenty-four (24) street cul-de-sacs along the Town beaches, and through the dedication of private land and/or the acquisition of private land for purposes of providing public beach

access. The Board of Aldermen may provide through the course of budgeting the Town's financial resources, funds to improve and/or enhance public beach access points or public recreational facilities. The Town may build or require dune walkovers for beach access whenever practicable.

B. The Town's Beach Access plan is contained in the Town's comprehensive beach management plan: *The Town of South Padre Island's Dune Protection, Beach Access, and Beach Renourishment Plan*.

**Sec. 22-15.1 SIGNAGE.**

The Town of South Padre Island shall provide beach access signs and will adopt uniform signage requirements as may be required by any State or Federal regulations.

**Sec. 22-16. APPEAL FROM DECISION OF THE BOARD OF ALDERMEN**

Any person aggrieved by a decision of the Board of Aldermen may present to any District Court in Cameron County, Texas a duly verified petition, setting forth that the decision is illegal, in whole or in part, and specifying the grounds of the illegality. The petition must be presented to the court no later than the 20th day after the day on which the Board renders the decision.

**Sec. 22-17. ACTS PROHIBITED.**

It shall be unlawful for any person to do any of the following acts:

- A. To undertake any construction activity East of the Dune Protection Line without a Beach & Dune Permit.
- B. To undertake any Retaining wall / Walkway maintenance activities without a permit.
- C. To violate conditions of any permit issued under this ordinance.
- D. To remove sand from the Beach system within the Town located East of the Dune Protection line.
- E. To remove sand, dirt or earthen materials from the Town limits unless the same is contaminated.
- F. The construction of seawalls.
- G. To violate any other provisions of this ordinance.

**Sec. 22-18. PENALTIES**

Any person convicted of a violation of any provision of this Chapter shall be fined in an amount not to exceed Five Hundred Dollars (\$500.00) as provided by Sec. 21-1 of Chapter 22 of the Code of Ordinances and each day that the violation continues shall be a separate violation.

**Sec. 22-19. APPROVAL.**

Pursuant to 31 TAC §15.3(o) of the General Land Office Beach/Dune Rules, which allows local governments to amend their Beach/Dune Plan in a manner consistent with the requirements of the Open Beaches Act, Dune Protection Act, and 31 TAC §§15.1-15.10 of the beach/dune rules, the Town of South Padre Island formally submits this amended and revised *Dune Protection, Beach Access, and Beach Renourishment Plan* with attached revised local implementing provisions for review and approval.

The prior Comprehensive Beach Management Plan that addressed dune protection, beach access and beach nourishment, and which the Town Board of Aldermen adopted by Ordinance No.161C, dated September 1994, is hereby replaced and superceded by this *Dune Protection, Beach Renourishment, and Access Plan* dated May 7, 2003 and is hereby approved and incorporated herein for all purposes.

The Town has submitted this Ordinance as amended (Chapter 22 of the Code of Ordinances of the Town of South Padre Island) to the General Land Office and the Office of the Attorney General pursuant to Chapters 61 and 63 of the Natural Resources Code and rules enacted pursuant thereto.

Appendix 1  
Erosion Response Plan

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# City of South Padre Island

## Erosion Response Plan

Submitted to the  
Texas General Land Office  
In Compliance with  
31 TAC 15.17

Approved for Submission  
June 20, 2012

Prepared by:  
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## TABLE OF CONTENTS

### 1. OVERVIEW

- 1.1. Purpose
- 1.2. Jurisdictional Scope
- 1.3. Requirements - TNRC §33.607, 31 TAC §15.17
- 1.4. Process for Review, Approval & Implementation
- 1.5. ERP Shoreline Data Sources

### 2. CURRENT SHORELINE MANAGEMENT PRACTICES

- 2.1. Periodic Nourishment/Beneficial Use
- 2.2. Dune Enhancement/Dune Planting Program
  - 2.2.1. 2010/11 Plantings
  - 2.2.2. 2011/12 Plantings
  - 2.2.3. Volunteers report
- 2.3. Seaweed Management
  - 2.3.1. Goal
  - 2.3.2. Circumstances Warranting Seaweed Relocation
  - 2.3.3. Timing
  - 2.3.4. Location and Beach Conditions
  - 2.3.5. Seaweed coverage
- 2.4. Management of Relocated Seaweed

### 3. EXISTING SHORELINE CONDITIONS

- 3.1. Beach & Beach Profile
  - 3.1.1. Shoreline change rates
  - 3.1.2. Annual volume losses and gains
  - 3.1.3. Areas of Concern
    - 3.1.3.1. Hot Spots
    - 3.1.3.2. Developed & Undeveloped Beachfront Tracts
    - 3.1.3.3. Vulnerability
- 3.2. Dune Complex & Uplands
  - 3.2.1. Location, elevation & depth
  - 3.2.2. Vegetative cover
  - 3.2.3. Dune hotspots and wash over areas
  - 3.2.4. Conclusions
- 3.3. Beach Access Handbook (Attachment A)

### 4. DESIRED SHORELINE CONDITIONS

- 4.1. Beach & Beach Profile
-



- 
- 4.1.1. Goal: Beach Depth & Elevation
  - 4.1.2. Sand Volume & Sources
  - 4.1.3. Methods
  - 4.1.4. Estimated Annual Cost
  - 4.2. Dune Complex & Uplands
    - 4.2.1. Goal: Location, Elevation, Depth & Vegetative Cover
    - 4.2.2. Sand Volume & Sand Sources
    - 4.2.3. Methods
    - 4.2.4. Estimated Annual Costs
  - 4.3. Beach Access Points
    - 4.3.1. Access Enhancement Goals
    - 4.3.2. Walkovers & Mobi-mats
    - 4.3.3. Conceptual Walkways & Footpaths
    - 4.3.4. Estimated Annual Cost
  - 5. SEMI ANNUAL PRE-STORM MONITORING PROGRAM
    - 5.1. Goal – Maintain FEMA Reimbursement Eligibility
    - 5.2. Frequency, Method and Location
    - 5.3. Output Report/Recordkeeping
    - 5.4. Estimated Annual Cost
  - 6. EROSION RESPONSE PLAN FOR SPI CITY LIMITS
    - 6.1. Setbacks
    - 6.2. Prohibition On Construction Seaward of Setback Line
    - 6.3. Exemptions from Setback Line
    - 6.4. Requirements for Exempt Construction
    - 6.5. Procedures to Preserve Public Access
    - 6.6. Procedures for Dune Protection & Enhancement
    - 6.7. Criteria for Voluntary Acquisition or Buyouts
  - 7. CONCEPTUAL FUNDING STRATEGY FOR ERP

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## SOUTH PADRE ISLAND EROSION RESPONSE PLAN

### 1.0 OVERVIEW

Recognizing the long-term benefits of effective shoreline management, the City of South Padre has elected to prepare and implement an Erosion Response Plan.

#### 1.1 Purpose

In accordance with state law, the City of South Padre Island has elected to prepare an Erosion Response Plan. In general, the purpose of this plan is to explore means and methods to reduce the public expenditures due to damage to property and infrastructure that can result from shoreline change, erosion, and storm conditions.

In 2009, the Texas Legislature passed House Bill 2571 which mandated that each coastal community develop an Erosion Response Plan (ERP). While this legislative directive is “voluntary,” cities and counties that fail to prepare an ERP are ineligible for state assistance under certain grant programs such as the Coastal Erosion Planning and Response Act. It is in the best interest of the City to develop an ERP in accordance with the statute and the regulatory requirements found in Texas Natural Resources Code, §33.607 and Chapter 31, Texas Administrative Code, §15.17 et. seq.

#### 1.2 Scope of the Plan

In this plan, the City of South Padre Island has elected to address erosions and storm risks within the current City boundaries. Subsequent editions of the ERP may be added to address potential risks in the undeveloped areas north of the City in what is called its “extraterritorial jurisdiction” or ETJ. The City recognizes that Cameron County currently has principal jurisdiction over beach and dune matters in the ETJ, however, because it is likely the City will annex portions of the ETJ in the future, development in this area may lead to significant financial exposure to the City and its taxpayers from poor development practices and predicted storm damage and shoreline erosion.

#### 1.3 ERP Requirements

The detailed requirements for local Erosion Response Plans are set forth in Chapter 31 Texas Administrative Code, §15.17. In general, the rules require that the ERP address the following elements:

- Construction setback limits
- Prohibitions on construction seaward of the setback line
- Exemptions from the setback line
- Requirements for exempt construction
- Procedures to preserve public access
- Procedures for protection and enhancement of dunes
- Criteria for voluntary acquisition or buyout

- 
- Post-Storm recovery plans

#### 1.4 Process for ERP Development, Adoption and Certification

The process for the development, adoption, and certification of the City's ERP is set forth in the General Land Office (GLO) rules governing the program. Local governments are charged with the responsibility to develop an ERP in draft form for submission to the state no later than July 2011.

Upon submission to the state, the GLO will review the Draft ERP and provide comments to the City. The City will then have the opportunity to undertake necessary and appropriate revisions to the Draft, leading to the submission of a Final ERP. Once in final form, the City will be required to include the Plan as an appendix to its existing Beach Access and Dune Protection Plan.

Following local adoption, the GLO will review the ERP for final certification in accordance with state procedures. To do so, the GLO is required to propose an administrative rule to either reject or certify the City's plan. The proposed certification is published in the *Texas Register* followed by a minimum of 30-day public comment period. Assuming acceptable public comments and compliance with all regulatory requirements, the GLO can then move forward with final certification of the City's ERP in the form of a final administrative rule. The certification process may require up to 180 days to complete.

Once certified, the City is then required to move forward with amendments to its Beach Access and Dune Protection Plan and ultimately to implementation of the certified ERP. This completes the adoption, approval, and certification process.

#### 1.5 ERP Shoreline Data Sources

In developing its City's ERP, the City relied on three principal data sources: (1) the University of Texas Bureau of Economic Geology (UT-BEG); (2) the Texas General Land Office; and (3) data available through the City's beach management program archives.

Shoreline change rates, beach profiles, and projected shoreline positions were obtained from the UT-BEG. From the GLO, the City obtained the 2009 Texas Coastwide Erosion Response Plan, which includes substantial data and information necessary for the local plan, LIDAR elevation data, and updated aerial photography of the City's shoreline. Finally, the City compiled data on previous beneficial use projects, updated shoreline profiles, dune enhancement projects, and cost estimates for various shoreline management activities. No new survey data was collected in the field during the course of developing this ERP.

## 2.0 CURRENT SHORELINE MANAGEMENT PRACTICES

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## 2.1 Periodic Nourishment/Beneficial Use

For more than ten years, the City has worked with the U.S. Army Corps of Engineers to place sand dredged from the federally maintained Brazos Santiago Pass on its beaches. This beneficial use project is a critical component of the City's shoreline management program and will remain a cornerstone of the ERP.

Table 1 shows the history of beneficial use projects within the City, beginning in 1997 and extending through March 2011. The beneficial use projects are shaded in orange and constitute the largest source of sand volume placed on the beach during the reporting period. Over the 14 years, total sand volume placed reached 2,774,390 cubic yards.

Project costs for all efforts identified totaled \$18,885,015, with the City assuming \$1,636,832 of the cost. The remaining costs were paid by the state or federal government, depending on the specific project type and the financial arrangements made among the parties.

<b>Table 1: City of South Padre Island Renourishment History</b>					<b>Note: Beneficial Use Projects are in Orange</b>	
<i>Project Date</i>	<i>Sand Source</i>	<i>Project Location</i>	<i>Project Length (ft)</i>	<i>Fill Volume (cu yds)</i>	<i>Cost of Project</i>	<i>Cost to City</i>
Feb 1997	Dredge Brownsville Ship Channel	3.5 - 4.5 mi from Jetties; Padre S north to Suntide	8,100	489,211	\$1,938,700	\$661,259
Feb 1999	Dredge Brownsville Ship Channel	1.5 - 2.25 miles from Jetties; Radisson N to Padre Grand	4,600	494,766	\$3,136,170	\$55,388
May 1999	Highway 100 Sand	Tiki south to Inverness	3,200	41,628	\$48,500	\$22,565
Dec 2000	Dredge Brownsville Ship Channel	Bahia Mar S to Starlight Circle beach access	5,200	366,886	\$2,277,893	\$177,314
Feb 2001	Highway 100 Sand	Tiki south to Inverness	3,200	27,956	\$107,200	\$3,200
Jan 2002	Highway 100 Sand	Tiki south to Inverness	3,200	23,895	\$109,917	\$3,125
Nov 2002- Jan 2003	Highway 100 Sand	La Quinta/City limits S to Inverness	3,800	81,252	\$37,644	\$9,411
Nov 2002	Dredge Brownsville Ship Channel	Neptune Circle N to Gay Dawn Circle	2,400	306,402	\$2,946,400	\$183,210
Dec 2003	Highway 100 Sand	La Quinta/City limits south to Inverness	3,800	53,560		
Nov 2004 - Jan 2005	Dredge Brownsville Ship Channel	Neptune Circle N to Gay Dawn Circle	1,200	261,600	\$1,495,000	\$84,525
Feb - Mar 2007	Highway 100 Sand	La Quinta/City limits S to Good Hope Circle	4,400	71,045	\$432,133	\$108,033
Feb - Mar 2008	Highway 100 Sand	La Quinta/City limits S to Inverness	3,800	100,178	\$528,545	\$132,136
Dec 2008 - Mar 09	Dredge Brownsville Ship Channel	Gay Dawn Circle to White Sands	2,200	406,000	\$5,600,000	\$139,938
Mar 2009	Highway 100 Sand	White Sands to La Quinta/ City Limits	900	50,011	\$226,913	\$56,728
Mar 2010	Dredge Brownsville Ship Channel	Parkshore to N of La Quinta	2500	130,000	\$1,839,222	\$138,750
Mar 2011	Dredge Brownsville Ship Channel	Northern City Limits	2500	367,000	\$4,017,000	\$600,000
Totals				2,774,390	\$18,885,015	\$1,636,832

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## 2.2 Dune Enhancement/Dune Planting Program

In 2009, the City initiated a Dune Enhancement and Planting Program to respond to dune losses following Hurricane Dolly and Hurricane Ike. This program has evolved and grown to become an integral element of the City's shoreline management program and a cornerstone of the Erosion Response Plan described in this report.

The preservation and restoration of the dune line provides many benefits to the City and its residents. Land Commissioner Jerry Paterson succulently articulated the value of dunes in the agency's *Dune Protection Manual*:

“The Texas Coast is an environmental and economic treasure composed of interlocking, interdependent ecological systems. Coastal sand dunes are a crucial part of that system. Dunes serve not only as vital habitat for numerous native plants and animals, but an irreplaceable recreational resource upon which humans must tread lightly.”

Most beachfront property owners today understand that the dune line provides an effective natural barrier to erosion, flooding, and storm damage that protects public and private property, including inland infrastructure. In addition, visitors appreciate that the dune system provides habitat for local plants and animals. It is generally well understood that healthy dunes create a “sand savings account” for the beach itself. While a seawall or other hard structures can undermine the beach -- because they focus and refract wave energy back to the sandy beach -- a healthy dune system can better absorb wave energy and provide a source of sand to the beach when it is under wave attack. Sand that is stored in the dunes is beneficial to the function and stability of the beach. During storms, dune sand can be redistributed down the beach face by wave attack and erosion, where summer currents can move it back to beach face. This “sand cycle” is well described in the *GLO Dune Protection Manual*:

“During a storm, high-energy waves flatten the beach. Waves washing against the base of the foredunes erode sand, undermining and collapsing the seaward dune face. In severe storms, the dune face commonly recedes several yards — in extreme cases as much as 100 yards — leaving a steep cliff. Sometimes dunes are completely destroyed. Retreating waves carry the eroded sand offshore and deposit it just seaward of the surf zone in large bars. This process of dune erosion and sand movement dissipates much of the energy of storm waves. Sandbars also dissipate storm wave energy by causing waves to break further offshore.

If the supply of sand remains constant, the natural exchange between the beach, dunes, and offshore areas will repair and rebuild dunes to a height

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and width determined by local conditions. However, the loss of vegetation that traps and holds sand makes the beach and dunes more susceptible to wind and water erosion, thus inhibiting their recovery from storms. Bays, channels, marshes, and grass flats behind the weakened foredune are exposed to storm-surge flooding and to accumulation of windblown sand.” (*Dune Protection Manual*, Chapter 2, page 5).

Starting in 2008, the City of South Padre Island, in cooperation with the South Texas Surfrider Foundation South Texas Chapter and University of Texas Brownsville (UTB), initiated a pilot project to harvest dune plants for dune restoration projects following Hurricanes Dolly and Ike. Harvested plants were transported to the UTB greenhouse where they were propagated and eventually replanted on the City’s dunes as part of the post-hurricane recovery effort. While this modest pilot program planted a few thousand plants here and there, it demonstrated that the parties could cooperatively work together and that dune plantings could be successfully completed, leading to a more organized and comprehensive effort.

### 2.2.1 2010/11 Plantings

In 2010, the City developed a more aggressive dune-planting schedule with the goal of 8,000 to 10,000 plants per planting event. Planting projects started in December 2010 and were scheduled once a month through May 2011, with the specific goal of installing approximately 50,000 plants along the most narrow and vulnerable sections of the City’s beaches. As the program expanded, property owners and homeowner associations raised concerns that the dune enhancement/planting projects could elevate the dunes, blocking the view from ground-level condos or rooms. However, but constructively working through these issues, many of these concerns have been resolved. Many property owners recalled that even though Hurricane Ike made landfall in the Galveston, Texas area, more than 300 miles to the north, the storm produced significant storm surge and dune damage in South Padre Island. Presently, there is greater appreciation for the dune enhancement/planting program and increasing landowner demand for projects along the City’s beachfront.

The dune enhancement and planting program has been successful. Over the last year, the vegetation planted by the volunteers has become more established and, most importantly, monitoring has shown that the root systems have extended into the dunes, increasing their stability. Starting in December 2010, the City hosted one Saturday morning volunteer planting events each month until May. In all, more than 400 volunteers have participated in the program from various organizations including students from South Texas College and the University of Texas at Brownsville, Texas Master Naturalists, winter visitors, island locals, and students from school districts across the Rio Grande Valley. More than 350 local elementary school kids from the 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade levels have participated through school field trips to the beach where they were taught the importance of the dunes and given a chance to help plant dune vegetation.

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Since the program's inception, the City purchased more than \$21,000.00 of dune plants and, with the help of the volunteers, was able to substantially reduce its installation costs. To date, volunteer have donated approximately 2,100 man-hours to the program, saving the City approximately \$50,000.00 in labor costs.

### 2.2.2 2011/12 Plantings

The City and the Surfrider Foundation South Texas Chapter hosted 7 volunteer events and school field trip for the 5<sup>th</sup> graders of a local elementary. Together a total of 50,000 indigenous plants were planted in bare areas that were low in elevation and vulnerable.

### 2.2.3 Volunteer Reports

The value of these dune enhancement/planting projects goes beyond the number of volunteers, the plants installed, or even the size of the dune area restored. Certainly, the projects have a positive environmental, ecological and even economic impact, as difficult as it may be to quantify these benefits. Through this program, the City and its partners are also changing the community's ethic and enhancing the public's understanding of beach and dune system. The City has brought together disparate groups from around the region and given them an opportunity to invest their time and energy in the betterment of South Padre Island's beaches. In the process, these volunteers are educated about the function and value of a healthy beach/dune system. Participants unavoidably gain a vested interest in the protection and maintenance of the island's beaches and dunes, an investment that cannot be measured in dollars or statistics. The SPI Dune Enhancement and Planting Program has helped create a more educated, caring, and motivated beach community and it is hoped the participating volunteers will share their knowledge and their desire to protect our local beaches with others for many years to come.

## 2.3 Seaweed Management

Over the years, the City has developed a set of guidelines governing seaweed management on the beach. These guidelines have originated through practice and experience and are generally consistent with sound practice. However, given the significant influx of seaweed that can occur during the Spring months, the City seeks to maximize the benefits to the dune system by improving its seaweed and beach maintenance practices.

### 2.3.1 Goal

The goal of the City's seaweed management program is to limit damage to the beach dune system from raking activities and promote the formation of a continuous dune system along the City's developed beachfront. The presence of seaweed along the beach is not detrimental to the condition of the shoreline itself but can be a nuisance



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to beach visitors. In general, the City will seek to limit seaweed raking and mechanical beach manipulation to circumstances clearly warranting the relocation of seaweed.

Harvesting the Sargassum/other seaweeds for placement of coppices and dunes is a beneficial and valuable practice. Sargassum relocation from the beach, however, should conform to the City's management and scheduling requirements.

### 2.3.2 Methods for Sargassum Relocation

When relocating Sargassum from above the high-tide line, care should be taken to separate the seaweed from the sand substrate, i.e., with hay rakes (tine equipped) or sand sifting machinery rather than with bulldozer blades. Doing so will allow the surface sand, deposited there by the surf, to keep in service as a supply source for both the dunes, by wind-driven sand, and for nearshore berms and terraces. This dynamic of exchange back and forth between the beach and the nearshore serves to maintain a proper sand budget for both tiers. Removing sand along with the Sargassum and even more so with hauling beach sand to supplement dune elevation, subtracts some supply from the equation. While wind does move beach sand landward regularly, relocation of sand unauthorized by the Coastal Resources Manager should be prohibited.

### 2.3.3 Location & Timing of Seaweed Relocation.

The City seeks to limit the location and timing of its seaweed management practices to those areas that warrant seaweed relocation mechanically and to the seasonal demand of the beach. Within the City Limits all areas are highly used by the public since all beach areas are in front of condominiums and hotels. Areas that have a higher demand are generally more appropriate for seaweed relocation than rarely used stretches of the shoreline.

Weather forecasts and tides are always considered when determining the whether to relocate seaweed or to wait.

### 2.3.4 Seaweed Coverage.

The City seeks to limit seaweed relocation to circumstances where seaweed coverage and deposition interfere with the public's use and enjoyment of the beach. This subjective decision is a matter of judgment and can be exercised by the Mayor, City manager, Public Works Director, or the Coastal Resources Manager.

## 2.4 Management of relocated Seaweed.

In the course of the year, the City relocates thousands of cubic yards of seaweed on the beach. This volume constitutes a significant resource, as it is excellent dune building material. The City's intent is to maximize the benefits that can be obtained

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by effectively using the raked seaweed to rebuild the dunes, fill in gaps, and raise the elevation of portions of the backbeach that lead to washouts and inundation. These areas are typically vegetated through the dune volunteer program to encourage seaward migration of the vegetation line.

The City is continually adapting its beach maintenance practices to use the most up to date information available.

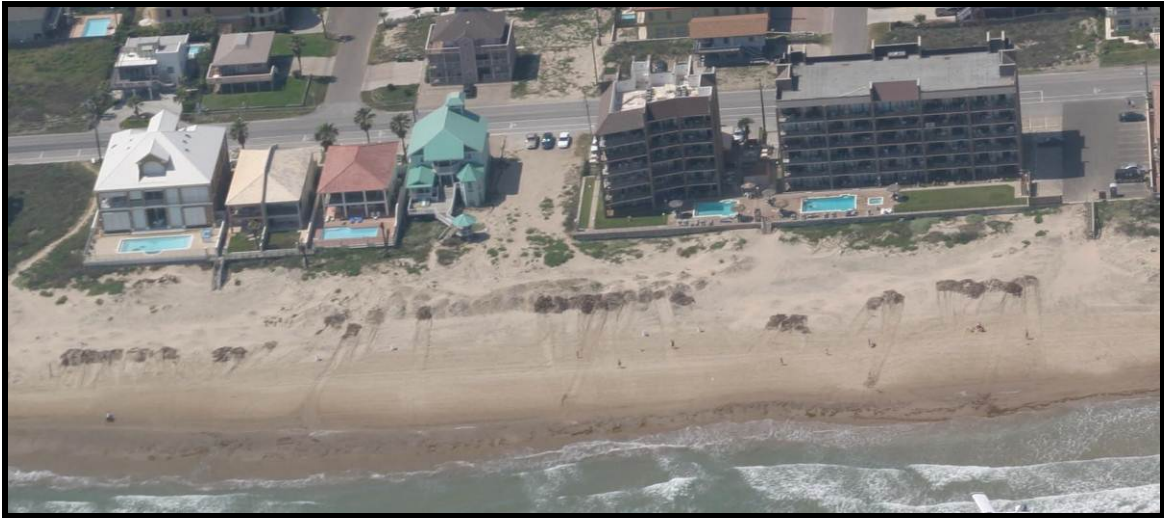


Photo 1 - Typical Seaweed Management showing deposition of seaweed on upper beach (*Photograph by Nancy Marsden, March 10, 2007*)

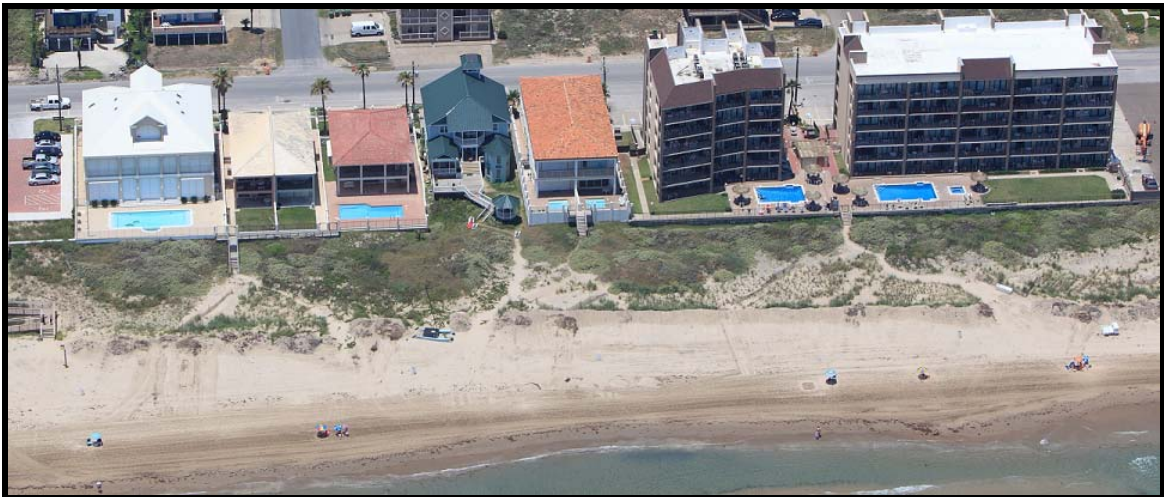


Photo 1b- Same section of beach from above showing the results of the City's seaweed management and volunteer plantings programs. (*Photograph by Richard Stockton, May 2012*)

### 3.0 EXISTING SHORELINE CONDITIONS

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The purpose of this section is to generally describe the shoreline conditions that exist within the jurisdiction of the City of South Padre Island. In general, the assessment is divided into three broad subject areas: (§3.1) the Beach and Beach Profile, (§3.2) the Dune System, and (§3.3) Beach Accessways.

### 3.1 Beach and Beach Profile

The Gulf of Mexico shoreline is a continuous, sandy beach/dune system within the City and extending to the south and north of the City. To the south, about 1 mile of beach separates the City portion of the beach from the north jetty of the Brazos Santiago Pass, a deep-draft federal navigation channel. To the north, over six miles of undeveloped beach, most of which is within the City's extraterritorial jurisdiction (ETJ), separates the northerly City limit from the southerly limit of the Padre Island National Seashore.

About 5.5 miles of sandy beaches lie between the southerly and northerly City limits, including about 0.75 miles within Andy Bowie County Park near the north end of City. Virtually all of the property immediately landward of the beach is developed with the exception of the county park.

Construction of the navigation jetties at Brazos Santiago Pass in 1935 has caused profound changes to the beach/dune system in the City. The jetties as well as the deep-draft channel act as barriers to both northward and southward longshore transport of sand along the beach and in the submerged nearshore.

Over the long term (years to decades), more sand travels toward the north than to the south at this point along the Gulf shoreline. As a result, construction of the jetties caused sand to accumulate on the south side of the south jetty, while the beach to the north of the north jetty was starved. Initially, this resulted in a rapid retreat of the Gulf shoreline in the southerly part of the City. City beaches are also adjusting to ongoing sea level rise by migrating landward and upward over the long term.

After significant initial shoreline retreat during a period of adjustment to the new conditions with the jetties and channel, the beach to the north of the jetties became sheltered such that sand arriving from the north now becomes trapped in the jetty's shadow. Shoreline retreat in the southerly end of the City has effectively ceased and seaward advance has now been documented. The northerly portion of the City still experiences shoreline retreat, with a more or less stable shoreline segment in between (see Figure 1).

City streets and individual property lines were laid out decades ago, such that changes in the beach location due to shoreline advance and retreat have affected the depth of the beach/dune complex between the Gulf of Mexico and the beachfront development.

It is apparent when viewing the present shoreline location relative to streets and developed properties that the shoreline has rotated in a counterclockwise direction about a point roughly three miles north of Brazos Santiago Pass. Cross-shore beach

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surface profiles extending from the dunes out into deep water and taken at intervals along the beach appear to be very similar from the south end of the City to the north end, even though the profiles are migrating seaward (south end) or landward (north end) over time such that the effects of development on the landward ends of the profiles are quite different.

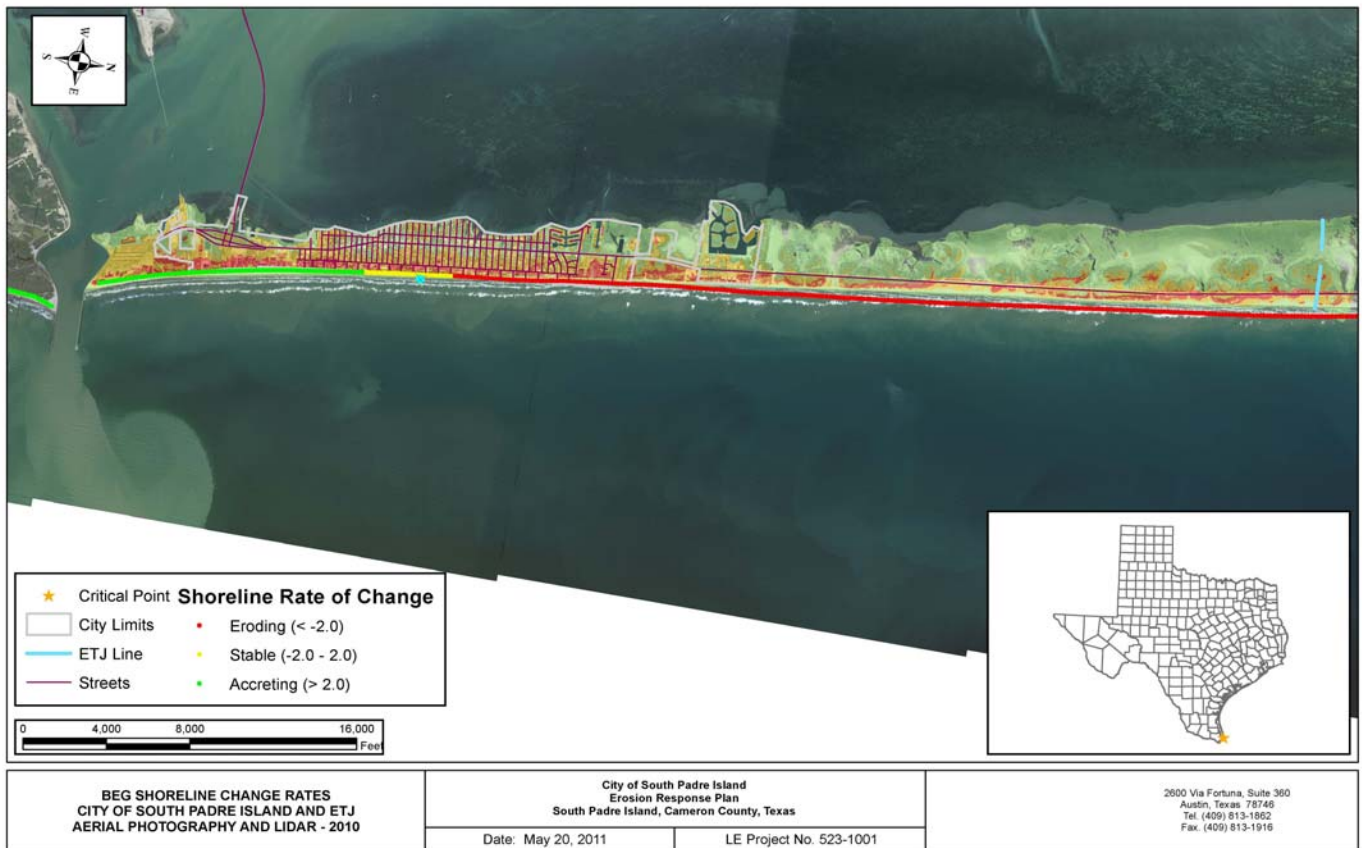
### 3.1.1 Shoreline change rates

The State of Texas has designated the University of Texas—Bureau of Economic Geology (BEG) as the official repository of statewide shoreline change information. BEG mapped historical shorelines using data beginning with charts from the mid-19<sup>th</sup> Century, to 20<sup>th</sup>-Century aerial photography, to 21<sup>st</sup> Century Lidar. Longterm average annual rates of shoreline change were determined based on comparisons of these historical shorelines. The determinations generally do not consider the physical processes causing shoreline change; rather, they are only indications of past rates of such change.

Along the Texas coast, there is considerable variability in actual shoreline change rates from year to year. A typical cycle consists of a large storm-induced retreat followed by months and sometimes years of recovery during relatively benign wave conditions. Shoreline locations also vary seasonally, typically exhibiting winter retreat and summer advance.

For purposes of this Erosion Response Plan, the beaches within the City are divided into three zones based on BEG analyses (see Figure 1):

- (1) The Southerly Zone of Accretion (green) -- average annual shoreline advance in excess of +2 ft, a shoreline reach roughly 12,000 feet in length;
- (2) The Central Zone of Stability (yellow) -- average annual shoreline change of -2 ft to +2 ft, a shoreline reach roughly 4,000 feet in length; and
- (3) The Northerly Zone of Erosion (red) -- average annual retreat of greater than -2 ft, a shoreline reach roughly 11,000 feet in length.



**Figure 1: SPI accreting, Stable, and Eroding Zones**

### 3.1.2 Annual volume losses and gains

Data regarding the magnitude of sand deficits and surpluses at locations along the City beachfront is useful to inform any discussion of reasonable alternative actions to address shoreline retreat and reduce future public expenditures due to erosion and storms. The BEG shoreline change rates provide an excellent basis for a planning-level estimate of the volume (quantity) of sand needed to offset some or all of the sand deficit within the City, (including the effect of sea level rise) that results in shoreline retreat.

Knowledge of volume requirements leads directly to cost estimates of sand management strategies. Once these strategies can be viewed in dollar terms, they can be compared to the costs of dissimilar alternative strategies such as land purchases or constraints placed upon development or post-disaster reconstruction.

To the extent that the ERP is by definition intended to address the effects of erosion, the southerly accreting beach is not an obvious focal point of planning efforts. Dune resilience and public access issues in the accreting area are addressed elsewhere in the ERP. However, it is important to understand the extent of sand accretion in this area as a potential resource for combating sand deficits and shoreline retreat in

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areas further to the north while acknowledging potential equity issues that may arise depending on the response approach being considered.

The notion of an annual volume change is useful for planning and cost estimating, but to reiterate the discussion of shoreline change rates, the mechanism of change is generally not a steady gain or loss of sand. Rather, episodes of large changes are separated by potentially long periods of recovery to equilibrium. That equilibrium may be (and generally is) a gradual gain or loss over the long term. These mechanisms should be kept in mind during the development of response measures.

Planning-level estimates of average annual volume change were developed using typical beach profiles taken in the accreting (south), stable (central), and eroding (north) zones of the City beachfront and translating them landward or seaward. This simple estimation approach is appropriate in the context of the ERP level of effort and is not the result of an original, rigorous analysis of coastal processes. For ease of comparison, quantities are broken down to cubic yards of sand per foot of beach (cy/ft) throughout the ERP. This unit can be multiplied by a selected dollar amount per cubic yard (\$/cy) to arrive at a cost per foot of alongshore beach length (\$/ft).

- In the accreting zone, where average annual shoreline advance ranges from 2 ft to about 10 ft, the average annual increase in sand volume ranges from 2 cy/ft to 11 cy/ft.
- The stable zone, by definition, does not have an average annual accretion or erosion quantity.
- In the eroding zone, where average annual shoreline retreat ranges from -2 ft to about -5 ft (within the City limits), the average annual decrease in sand volume ranges from 2 cy/ft to 5 cy/ft.

Note that the effects of sea level rise are captured within the BEG rates and do not need to be added to the calculations based on the BEG rates.

In the three figures below (designated 2a, 2b and 2c), typical areas are shown in each of the three beach sections – accreting, stable and eroding.



In Figure 2a, it is apparent that sufficient beach depth exists for a dune system and dune elevations can reach +14 feet or greater. Beach conditions in the accreting

area are thus conducive to dune restoration, enhancement and replanting.




Figure 2b depicts a typical section of the beach/dune system in the stable area. Here, dunes are typically narrower than those found further south and dune



elevations are usually lower. The lack of dune walkovers results in the proliferation of footpaths through the dunes and fragmentation of the system.



<b>REPRESENTATIVE TOPOGRAPHY ERODING AREA</b>	<b>City of South Padre Island Erosion Response Plan South Padre Island, Cameron County, Texas</b>		 2600 Via Fortuna, Suite 360 Austin, Texas 78746 Tel. (409) 813-1862 Fax. (409) 813-19166
	Date: May 20, 2011	LE Project No. 523-1001	

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Figure 2c depicts a typical section of the beach/dune system in the eroding area. Here, dunes are extremely narrower than those found further south.

### 3.1.3 Areas of Concern

It comes as no surprise locally that the area of greatest general concern is the northerly zone of retreating shorelines, as depicted in Figure 2c, above. Progressing northward from the jetties, the beach generally narrows and is subjected to increasingly higher erosion rates. At the northern City limit, in the vicinity of Andy Bowie Park, the narrow beaches leaves limited area for the formation of dunes and, where dunes are found, they are typically lower, more fragmented, and provide less protection to the dunes found in the southern reach of the City's beach.

As described previously, the shoreline is rotating in a counterclockwise direction, while the historical building line and the existing beachfront buildings within the City remain stationary. Other more localized areas of concern are portions of the beach where dunes do not exist at the landward side of the dry beach, as shown in Photo 2 below.



Photo 2 - Dunes are limited or poorly formed in eroding areas along the northern reach of the City's beach. (Photograph by Richard Stockton, May 2012)

These narrow beach areas are more susceptible to downcutting (vertical erosion), causing sand loss either seaward into deeper water or landward into the developed area and lost to the beach/dune system. This is because the dune provides a barrier to landward washover as well as a reservoir of sand that is drawn down to the beach during elevated tides and high wave action. Without this barrier and reservoir, much more sand loss can occur.

Washovers do occur periodically, and result in the transport of significant quantities of sand into the Laguna Madre and seaward into deep water. These quantities are effectively lost to the beach/dune system, although sand washed into the Laguna is a natural part of the barrier island's response to rising sea level as the island moves landward and upward.

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Natural washovers tend to reappear in similar locations over time. In addition, development patterns can create manmade washover opportunities. A shore-perpendicular street end not adequately protected by a dune is an example of a washover opportunity.

In terms of other beach responses to storm activity, any structural feature that is impacted by wave action has an effect on the beach profile at that location and upon adjacent areas. Any exposed feature such as a seawall, dune walkover, or pavement will have an effect. Mitigation opportunities to address washovers and structural impacts are discussed elsewhere in this report.

Although dunes and dune maintenance/mitigation are also discussed elsewhere in this report, it is worth noting that dunes cannot be readily sustained at a location on the beach that is too low to provide for a roughly 200 ft depth of sandy beach between the typical water line and the foredune (see Figure 2c, Photo 3, and Photo 3b).



**Photo 3 - Narrow beach at Whitesands St., dune restoration would be problematic seaward of the structure (Photograph by Nancy Marsden, March 10, 2007)**



**Photo 3b- Narrow beach at Whitesands St. (Photograph by Richard Stockton, May 2012)**

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That is to say, in northerly areas or any area where the wet beach is typically within roughly 200 ft of the historical building line, beach nourishment of the dry beach and submerged nearshore is appropriate before or in conjunction with dune building efforts. Otherwise, restored dunes will tend to be short-lived and only serve to nourish the beach with sand while losing the value of any dune mitigation/planting/watering efforts.

#### 3.1.3.1 Hot spots

The BEG shoreline change data portrays a fairly consistent progression of changing rates from south to north along the City beachfront. One example of a relative hot spot can be seen near the northerly City limit. This localized increase in the BEG retreat rate is likely an artifact of the location being a historical natural washover area, although fill associated with the development of this portion of the beachfront has restored elevations such that the washover will not be easily activated.

#### 3.1.3.2 Developed and undeveloped beachfront tracts

The vast majority of beachfront properties within the City are developed, including bulkheads along the historical building line. From an erosion response perspective, there is little to suggest at this point that infill development of the remaining undeveloped parcels will be detrimental to City-wide erosion response.

Protection of the built environment landward of the beach from damage caused by coastal storms is dependent upon the maintenance of a healthy, continuous dune system which is itself predicated on a dry beach of some depth between the typical water line and the dunes.

Anecdotal evidence suggests that ongoing dune building/restoration activities have resulted in some seaward advance of the beach itself. Such a result is not inconsistent with the coastal processes at work in SPI to the extent that the restored dunes are contributing sand to the beach over time. However, within the limited scope and level of effort facilitated by the production of this ERP, there is insufficient evidence to make a strong determination of either correlation or causation of this effect.

#### 3.1.3.3 Vulnerability

The City, including its public infrastructure and private property, is vulnerable to the effects of beach erosion in several ways, including the following:

- Discrete events (storms)—High tides and waves can directly impact and cause damage to infrastructure and property that is not adequately separated from Gulf waters by a continuous and robust beach/dune system.
- Washover—Internal flooding within the City can occur as a result of activation of natural or manmade washover locations allowing high Gulf water levels to encroach landward of the dune system.

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- Sand deficit—Assuming a static building line, sand deficit causes the landward retreat of the beach/dune system over time. Eventually the stationary structures impact the retreating dunes and beach, weakening the City’s defense against coastal storms and increasing the frequency and severity of damage.
  - Relative sea level rise—The natural response of a barrier island to progressive sea level rise is for the island to “roll over” as washover deposits raise elevations in the back bay. This process is ongoing in SPI despite the presence of development.
  - Effects of built environment—The built environment primarily affects the availability of sand to the beach/dune system. The navigation channel and jetties starve the entire City of beach sand, while beachfront development both captures sand beneath pavement and causes more wind-transported sand to be lost to landward areas.
  - Vehicle/pedestrian impacts—Public vehicles and pedestrians cause damage to dune vegetation and the loss of dune elevation. The resulting weakened dune system is more susceptible to wave erosion and washover.

### 3.2. Dune Complex and Uplands

The following descriptions are based on 2011 observations and data, which follow a period of relative quiet, in terms of the absence of severe storms and wave action along South Padre Island’s Gulf shores. i.e., without serious beach/dune erosion and loss.

#### 3.2.1 Location, Elevation, and Depth of Dunes.

Dunes are found in both healthy and degraded states in the City’s jurisdiction, the better dunes being components or parts of continuous dune fields or systems. In the south, certain areas are devoid of dunes, having been removed over time by recreational use, beach access, and storm surge. (see Photo 4 below).



**Photo 4 - Typical area where dunes have been damaged by recreational use and beach access (showing Franke Plaza, Radisson & “Coca Cola Beach (Photo by Nancy Marsden, March 2007)**

In the beach’s central section, dunes are fairly continuous, with disruptions for the causes similar to the south beach examples but of generally smaller magnitudes. In the north, particularly in the City’s ETJ, with sparser development to date, dunes are generally broader and higher, are components of integrated natural dune fields, and have experienced fewer disturbances other than natural dune migration and wind-erosion dynamics.



**Photo 5 - Area of generally continuous dunes with intermittent footpath damage (Photo by Richard Stockton, May 2012)**

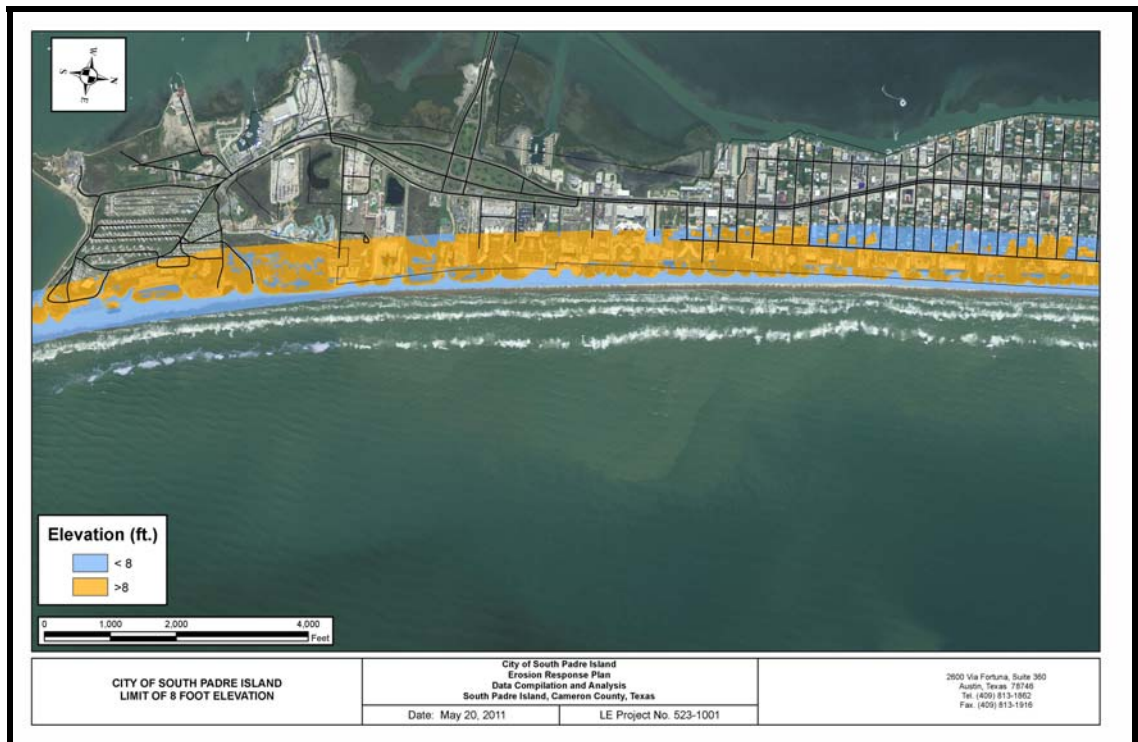
Dune Elevation: At the south end, most dunes are on average below 7 feet in elevation above grade, with many below 5 feet. In the center, stable and vegetated

dunes range in elevation, on average, between 6 and 11 feet above grade. In the north, the average is higher, with some stable and vegetated dunes reaching 12 to 16 feet in elevation or higher. In the developed areas of the beach, as previously noted, many dunes have been disturbed, eroded, and/or removed.

**Dune Depth:** In the more extensively disturbed areas, some dune formations have disappeared entirely, while remnant dunes, mainly low in elevation, vary from 20 to 40 feet in depth (running landward from the shore), in many examples. In the slightly disturbed reaches, some largely intact dune clusters extend 50 to more than 100 feet in depth, with fairly distinct foredunes, interdune areas, and backdunes. In the least disturbed areas, primarily in the north of Andy Bowie Park, including the ETJ, dune fields are found in excess of 200 feet in depth. Where housing and other development has not yet occurred along Gulf Boulevard in the north, many dune fields extend the full distance between high beach and the road, in many cases in excess of 300 feet.

Analysis of 2010 survey data reveals that a significant percentage of the landward beach area within the City limits -- the zone of potential for dune development -- is actually covered by established and emerging dunes. The City would gain in protection from storm damage protection were this percentage to increase.

Figure 3a below shows beach elevations above and below +8 feet, with areas shaded gold being greater than +8 ft. In this figure, it is typical that beach and dune elevations reach at least eight feet, but areas of lower elevation, usually coinciding with foot paths, access roads, or dune areas cleared to expand the dry beach, can be seen.



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### 3.2.2. Dune Vegetative Cover.

Where dunes have been protected, both by dune fencing set to augment the dunes by sand trapping and by owner and visitor adherence to City and non-profit organizational guidance on dune protection and sustainability, dune plants are well established (see Photo 5 above). The City, with extensive help from visitors, and non-profits through the Dune Planting efforts has established a planting program. Through the program these plants have naturalized onto the dune surfaces, resulting in successful cover and a build-up of dune defenses against storm effects.

Further analysis of the 2010 aerial photos reveals that most of the established and emerging dunes within the City limits are well vegetated, where the dunes are allowed to exist. To the extent that further vegetated cover is planted and supported and dunes are restored and expanded in the bare areas, properties and infrastructure landward of these zones can be made more secure from storm damage.

### 3.2.3 Dune Hotspots and Overwash Areas.

The City's dune system is fragmented and inconsistent limiting the protective value of this natural storm and flood barrier. There are several causes for this condition, which can be catalogued as follows:

Excessive number pedestrian trails and walkways through the dunes – Along the City's 4 mile-long beachfront, there are dozens of unimproved pedestrian trails or paths through the dunes. Cumulatively, these paths result in a substantial loss of dune mass from down cutting due to foot traffic.





**Photo 6 - Typical footpaths causing dune fragmentation. Opportunities for consolidating these paths should be explored (Photo by Richard Stockton, May 2012).**

In addition, no effort has been made to consolidate or limit the number of dune walkovers along the developed shoreline. While dune walkovers are clearly preferable to unimproved pedestrian trails or paths, the dune system could be strengthened if public and private walkovers were consolidated where appropriate.

Poor Dune Walkover Design - The low profile of some dune walkovers hinders sand accumulation and dune growth, primarily on the lee of the walkovers. Poor walkover design also curtails dune building overall by preventing sand blow from moving and accumulating beneath the low spans.

Intentional dune excavation and relocation of dune sand - In previous decades, significant portions of the City's dune system were intentionally removed in an effort to create or expand recreational areas on the beach, improve ocean views, and expand pedestrian trails and paths. While this practice has ceased in the City and efforts are underway to restore and enhance the dune system, the impact of these activities is still visible today. Based on the data available, it is roughly estimated that 144,000 cubic yards of imported sand would be needed to construct a continuous dune along the city-front with a 10-foot elevation and a minimum base depth of 60 feet:

- Southern zone of accretion                      89,550 cu.yds.
- Central zone of stability                        15,740 cu.yds.
- Northern zone of erosion                        39,000 cu.yds.

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Overwash Areas - The locations in which storm and spring high tide overwash occur are governed by a complex set of coastal processes and dynamics. Human impacts also help determine where overwash may occur, as in the instances of street-end beach access improvements where dune crossovers are built to insufficient elevations. In such cases the low profiles of the crossovers and walkway extensions, combined with the absence of high and moderate-height vegetated dunes in these locations contribute to the funneling of surging waves and wind through these “windows of opportunities” and into the streets.

Overwash also occurs in undeveloped or sparsely developed areas of the City at the north end. Here, too, causative factors are complex, but wind and wave forces generally act freely where dunes are absent, whatever the cause and where the high beach has been lowered by either wind erosion or human activity or both. Here, in the north, natural forces dominate, while in the southern and central reaches of the City’s shoreline, human intervention can contribute to the sharpening of natural storm impacts.

### 3.2.4 Conclusion

In the case of South Padre Island, the best approach to reduce public expenditures and property damage due to erosion and storms is to undertake a program to nourish the beach and enhance and restore the dune system that forms the first tier of protection for upland development and infrastructure.

### 3.3. Beach Access Handbook (Available on the City website)

The City inventories and documents all beach access conditions on an annual basis to show improvements and track conditions of existing walkovers or mobi-mats that may be in need to repair. Information available in the document includes: photos, amenities, disabled accessibility, construction year and costs, and funding sources. This document is used to plan for budget and grant needs. Because the document is updated on an annual basis the most recent version can be accessed on the City of South Padre Island’s website.



**Photo 7 – An example of information available in the Beach Access Handbook**

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## 4.0 DESIRED SHORELINE CONDITIONS

### 4.1 Beach and Beach Profile

In the desired condition, there is adequate space between the Gulf of Mexico and the developed beachfront to maintain a natural beach depth and healthy protective dune system.

The beach along the south end of South Padre Island is continuous, healthy, and unhampered by structural encroachments during times of normal water levels. It is only to the extent that insufficient space remains between the beach and existing beachfront development that active intervention such as beach nourishment is needed to sustain the City's desired buffer zone. Such is the case only in the northerly erosion zone within the City.

The profile or "shape" of the beach—including its slope, the number, size and location of sandbars in shallow water, beach depth between water's edge and the dunes—is determined by the water levels and wave conditions present over long periods, as occasionally interrupted and changed by storms. As such, it is difficult and expensive, if not altogether futile, to attempt to create a lasting beach profile that differs from the "natural" profile.

There must be a clear understanding among decision makers and the community that in order to provide space for a healthy dune system in the northerly erosion zone, the entire beach profile including the submerged part must be "moved" seaward by providing the appropriate quantity of sand. In practice, the added sand can be placed on the visible beach, but it must be recognized that the Gulf will rework the material over the entire profile including the offshore area to 15 ft or more of depth. Thus, when discussing the long-term approach to maintaining a healthy beach-dune buffer, we are talking about everything between 15 ft depth and the historical building line.

#### 4.1.1 Beach depth and elevation

The typical beach depth in SPI between a typical water level (say Mean Sea Level) and the vegetated foredune is about 200 ft. The actual depth can vary seasonally and in response to storms, but for planning purposes this typical depth is useful.

The elevation at which foredunes emerge and tend to sustain vegetation is a minimum of about 5 ft above the typical sea level in SPI. That is, the beach elevation varies from sea level to about 5 ft within the roughly 200 ft depth.

#### 4.1.2 Sand volume and sources

Two goals must be achieved to protect and maintain development along the historical building line without retreat and with a healthy beach-dune buffer. First, sufficient room must be provided between the water's edge and the building line by moving the beach profile seaward to create a stable beach depth and healthy dune

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system. Second, once the beach and dune are established at the desired location, the annual sand deficit must be brought to zero thereafter.

Planning-level estimates of sand quantities needed to create and maintain a relatively stable shoreline location were determined by accounting for the amount needed to move the entire beach profile (between 15 ft depth and the foredune) seaward.

In round numbers for the specific case of SPI (not applicable to all beaches), each 1 ft of profile movement represents a volume of approximately 1 cy/ft of beach. Based on this approximation, the sand required to move the profile of the northerly eroding zone (11,000 linear feet of beach) is roughly 660,000 cubic yards. This assumes the present beach depth is acceptable but space for an additional 60 ft of dune is needed.

An additional sand contribution will then be necessary to offset the average annual shoreline retreat, which will continue to occur. The approximate amount needed to maintain the new shoreline location in the northerly zone, and including a small amount to maintain the central “stable” zone as defined, is 40,000 cubic yards per year (cy/yr). This figure is based on an annual retreat rate of 0 ft to 2 ft in the “stable” area, and retreat varying from 2 to 5 ft in the northerly eroding zone, multiplied by the beach length (say 2,000 ft of stable beach and 11,000 ft of eroding beach) and the profile movement figure of 1 cy per ft of beach per ft of retreat.

Potential sand sources include the federal navigation channel at Brazos Santiago Pass, accretions located immediately south and north of the pass jetties, offshore borrow sites, the state highway right of way (per historical practice), maintenance dredging material from the Gulf Intracoastal Waterway (GIWW), and land-based sources (including barge-accessible deposits located near the GIWW many miles north of the City).

Conservation can also be viewed as a “source.” Examples include reducing losses of windblown sand into developed areas, losses of waterborne sand through washovers, avoidance of pavement over sand that is within the active beach/dune system, and the recycling and crushing of glass into sand-size grains.

#### 4.1.3 Methods

Dredging of sand from submerged sources will likely continue to be the most cost-effective method of producing required volumes of sand. The beneficial use of material dredged from the federal navigation channels is particularly cost effective.

Healthy dunes represent perhaps the best trapping mechanism to limit the landward loss of beach sand from the active beach/dune system. Sand fencing can boost the trapping of windblown sand as well.

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A pre-positioned contract with Corps of Engineers should be explored for emergency dredging events that tend to be associated with significant coastal storms, to ensure that valuable sand is not simply dumped offshore in deep water.

#### 4.1.4 Estimated annual cost

The historical cost (to the City) for the receipt of material dredged from the federal navigation channel has averaged about \$1/cy. The actual cost to pay for similar dredging not associated with channel maintenance, as may be the case for a large, stand-alone beach nourishment, is estimated to be about \$6 to \$8/cy based on recent navigation dredging costs. A recent example of sand imported into the City from a mainland source was priced at \$10/cy which should perhaps be inflated to between \$10 and \$12/cy given current fuel costs.

Thus, a planning estimate for a large initial nourishment to move the profile seaward to provide room for a healthy dune system in the eroding zone could use \$10/cy as a conservative estimate. This unit cost multiplied by 660,000 cy suggests a \$6.6 million sand cost to which planning, engineering and permitting costs can be added.

Similarly, the annual maintenance volume of 40,000 cy can be multiplied by \$10/cy to arrive at a \$400,000 annual sand cost for planning purposes.

#### 4.2 Dune Complex

In general terms, a strong and stable dune system, with a capacity for relatively effective resistance to minor and moderate storm and tidal events, capable of sustaining dune vegetation, and protection in some measure of backshore property and infrastructure, exhibits the following parameters:

- Relatively high quantities of dune and beach sand, over the beach-dune cross-section, for each linear foot of beach-line
- Dune landforms that conform to mature dune types, that is, classically stable shapes that are primarily wind-carved, with wind-delivered accreting sand balancing, by and large, wind-driven sand loss
- Absence of human (foot and vehicle) disturbance in the dunes and on the beach surfaces fronting the foredunes
- Minimum primary dune and inter-dune elevations of 10 feet, with some dunes in the system reaching an optimum 12 feet in elevation or greater
- Vegetation with minimum eighty-five percent coverage, or better, of dune surfaces

Although protection of South Padre Island's beach and dunes from erosion, a central subject of this plan, is vital to defense of the urban fabric and the lives of its citizens, protection of natural habitat is also a matter of highest priority. It is as well a matter

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of interest to thousands of beachgoers, citizen and visitor alike, and protection of natural habitat is an obligation of the City of South Padre Island.

Securing ample beach depth and well-vegetated high and deep dunes are essential to beach wildlife as they are for erosion protection. As stated on the City's Website, habitat restoration (and maintenance in a quality state) is a public priority: ". . . numerous species such as the Kemp Ridley sea turtles and Piping Plovers rely on wide, healthy beaches as a place to live, feed and nest." As do various terns, gulls, sanderlings, willets, crabs, and other life forms that help make up the complete shore ecosystem – and serve as key visitor attractions.

The City's Website concisely points out that "Dunes are important because they are our first line of defense from storms and flooding. Coastal communities are protected from the storms that occur in the Gulf by a system of vegetated sand dunes which provide a protective barrier. The General Land Office has directed coastal communities to protect these dunes because stabilized, vegetated dunes offer the best natural defense against damage caused by storms."

#### 4.2.1 Goals and Objectives of a SPI Dune Enhancement Program

The goal and objectives of restoring and enhancing dune vegetative cover are defined above. Locally, the City is working with the Shoreline Task Force to develop a dune enhancement technique first effectively demonstrated by Padre Grande Condominiums and second by La Concha Condominiums. The GLO approved these two pilot projects before the beach and dune plan amendment was approved. Following the pilot projects success the City's beach and dune plan was amended to allow for such projects to take place. In general, the technique is intended to work in areas where dunes have been lost or only remnants remain or where excessive sand has built up in excess of +10 feet elevation. The technique also seeks to make effective use of raked seaweed to advance the dune system from its most landward position seaward to the extent of the natural line of vegetation. Using sand fence and raked seaweed, piles are placed on the seaward edge of remnant dunes or in dune gaps. Vegetation is encouraged by irrigation and allowed to propagate. As the vegetation line advances, relocated seaweed piles are added to the toe of the dune, shaped to 10 ft elevation, and irrigated. Over time, dune vegetation has advanced seaward to the position it will naturally occur, such that no encroachment of the public easement occurs.

In areas where dune elevations exceed a specified elevation in the Beach and Dune Plan, dunes can be "topped" and the sand used first to add depth and sand volume to the immediate surrounding dune field in the areas of low elevation bring the area to a 10' elevation which will strengthen the dune system against blowouts. Secondly the sand can be transported to areas with weak dunes to elevate and strengthen the dune system against over wash and inundation. These projects require individual beach dune permits and should be undertaken sparingly and preferably only in areas that are stable.

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Location: The goal of an erosion-control and protective dune program is to both preserve mature, high, vegetated dunes, and to restore and revegetate disturbed and missing dunes, yielding fully vegetated dune fields with ample elevations and depths between the high-beach and the building setback line (SBL). Objectives that will need to be met in this regard are dune preservation, repair and revegetation of disturbed and missing dunes, infilling of disturbed and dune-depleted areas with new dunes and plantings, installation of dune-fencing and other dune development and maintenance measures, consolidation of walkways wherever feasible, development of new walkways and dune crossovers that achieve sustainable beachgoer access and are of superior design and durable construction, and elimination of beach access ways that are detrimental to the dune system. The foregoing recommendation for consolidation is consistent with the *2007 Dune Gap Report*, which recommended that the City, “consolidate paths, when possible, through the dunes for less impact.”

Elevation: Dune building and rehabilitation should meet the goal of providing sufficient elevation in the dune fields to enable the dune system to function as a protective feature in moderate storm conditions. By defending beachfront and upland buildings, infrastructure, and lives from severe storms. Where sufficient beach depth exists, the City’s objective is to provide a continuous dune system with a minimum elevation of +10 feet in areas where visibility of the surf zone is an important consideration, and a target optimum elevation of +12 feet or higher, as determined as appropriate by the SPI Coastal Resource Manager, where visibility of the surf zone is a secondary consideration.

Depth: Beach dynamics will need to be taken into account, with deeper beach and dune fields more achievable in the southern (accreting beach) reaches, narrower beach and dune fields probable in the northern (depleting) reach, and mixed conditions in the center. The City intends to develop a continuous dune field, along the entire beachfront, between the high beach and the SBL. Where beach depth is sufficient, the base dune depth should be a minimum of 60 feet, with 100 feet preferable. In the northern eroding areas, a minimum base dune depth of 60 feet should be attained and efforts to nourish the shoreline should be aggressively pursued such that base dune depth of 100 feet can be sustained.

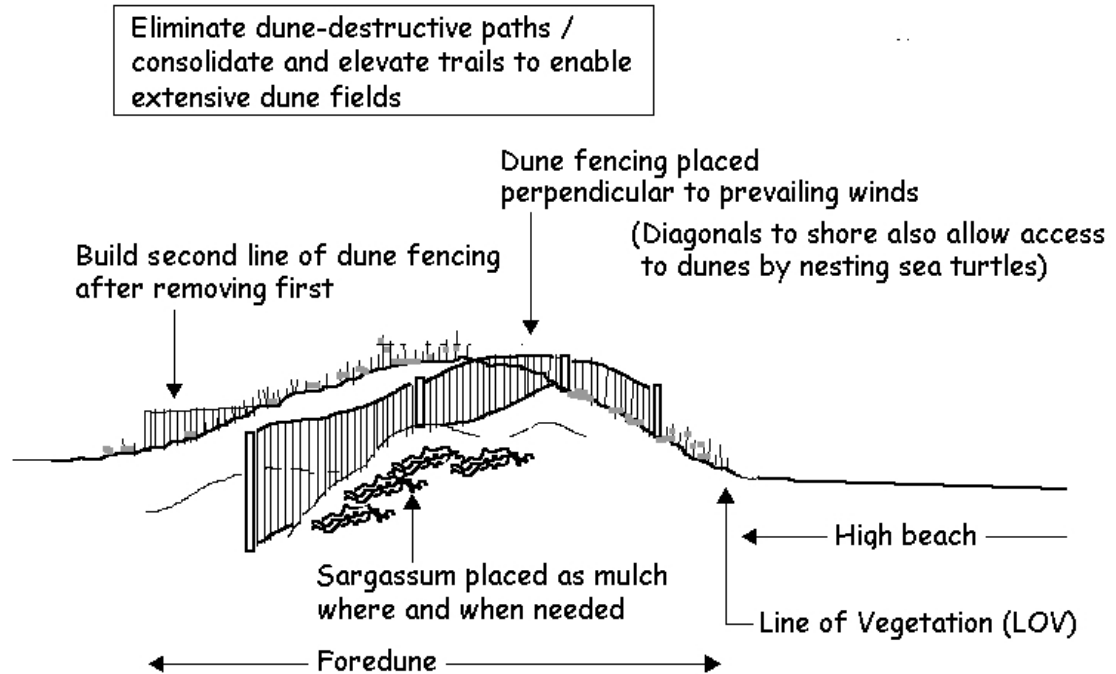
Dune Volume: In order to function as a protective feature in moderate storm conditions a target sand volume should be used. The City will strive for every beach front property to have a Dune Volume (DV) at a minimum 66 cy and a goal of 110 cy per linear yard. Using the above desirable dune conditions at a 10’ (3.3 yd) elevation with 100’ (33.3 yd) of depth equals to a target volumetric goal of 110 cy per linear yard of beach. Where beach widths do not allow for a dune with a 100’ depth the elevation requirements can be adjusted in order to meet the target dune volume.

Methods: In the Figure, below, recommended dune plant species are identified. Sargassum and other seaweed in the wrack line will continue to be critical in both retaining moisture on the wet beach, thereby sustaining its resistance to wind

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erosion, and in protecting dunes, especially the fore-dunes, from wind erosion and high surf erosion.

Remediation and/or consolidation of footpaths will be critical if the City is to establish a continuous dune field at a minimum elevation of +10 feet and base depth of 60 feet. Close coordination with landowners will be required.



## Dune Building and Foot-Traffic Control

Dune Fencing to Control Foot Traffic: Installation of stable dune fencing approximately 2 feet away from the toe of slope on one or more sides of the healthy dune, as ruled as necessary by the City's coastal resources manager, should be installed to deter foot traffic across dunes. These barriers should be opened significantly or fully removed during turtle nesting seasons. The alignment of this fencing should be adjusted as necessary as determined by the Coastal Resources Manager. This protective fencing need not follow guidelines for sand entrapment (dune building) as the perimeter alignments are intended to preserve (protect from human impacts) rather than build.

### 4.2.2 Sand Volume and Sources

Sand Volume: The estimated volume of sand needed to restore the dune field is 144,000 to 161,540 cubic yards with the Southerly Zone of Accretion requiring approximately 39,000 cu. yds, the Central Zone of Stability requiring 15,740 cu. yds.,



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and the Northerly Zone of Erosion requiring 89,550 cu .yds. up to as much as 106,800 cu. yds.

Sand Sources: Sand sources for dune building may include: (1) offshore sources; (2) sand dredged from the Brazos Santiago Pass as part of the USACE's routine maintenance of the channel; (3) windblown sand on and within the right-of-way of Park Road 100; and (4) truck-hauled river sand

#### 4.2.3 Methods

Given the limited amount of sand in the sand budget utilizing all available sources is a must. Through the Dune Planting program and utilization of sand fences the City can build dunes that will provide protection to public infrastructure and store sand to replenish the beach system after a storm.

Through the Dune Ridge Enhancement program sand that is stored in sand dunes in elevations above +10 feet or higher can be used to fill in low elevations to prevent blowouts of frontal dunes and to build a solid continuous dune system with a goal of building a dune system to function as a protective feature in storm events.

#### 4.2.4 Estimated Costs

Given the variety of potential sand sources for dune building, no single cost estimate for dune sand can be provided. It is expected however that obtaining sufficient quantities of off-beach sand (sources other than windblown sand of seaweed management) could cost at least \$10 per cubic yard and increase significantly from there.

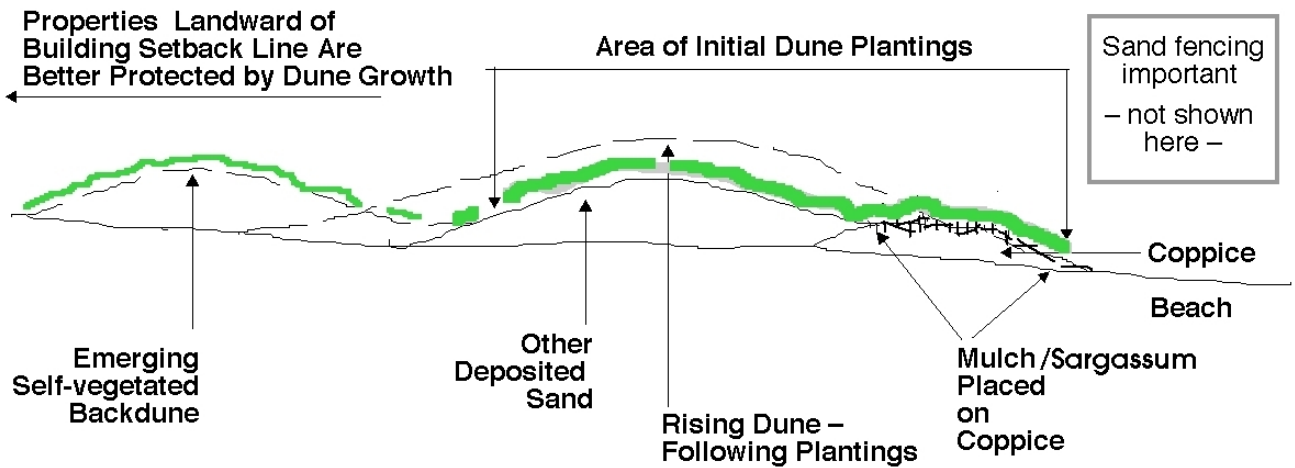
The species and types of plants needed for the dune revegetation efforts are noted above and fully described in the GLO Dune Protection Manual. Based on available information plants are currently available to the City at \$0.42 per plant.

## Dune Stabilizing Grasses for South Padre Island

Species	Roles	Transplanting	Watering
Bitter Panicum Panicum amarum	Strong foredune stabilizer	January/April	Transplant after rain or water before and after (for 3-4 weeks, sparingly).
Sea Oats Uniola paniculata	Good for main dune/interplant	November/April	
Marshhay Cordgrass Spartina patens	Best backslope grass	November/April	
Ave. planting density: 24" on-ctr.		Mulch before/after with Sargassum desposited on beach	

Other Stabilizing & Attractive Plants	
Seaward Face of Foredunes	Back Sides of Dunes*
Beach Morning Glory (vine) Sea Grape (vine)	Cucumber Leaf Sunflower Lantana Partridge Pea Prickly Pear Rose Ring Gallardia Seacoast Bluestem  * Ample dune width needed for certain species

References: City of South Padre Island Coastal Resources Manager  
Coastal Dunes: Dune Protection and Improvement Manual for the Gulf Coast, Fifth Edition, Texas General Land Office



**Dune Planting / Dune Building**

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### 4.3 Beach Access Points – Public And Private

#### 4.3.1 Access Enhancement Goals:

The City is dedicated to providing the public access to the beach. When possible the City will fund access improvements through hotel/motel tax but relies heavily on grants for matching funds.

#### 4.3.2 Walkovers, Mobi-mats

Walkover Design Standards: Both public and private access ways should meet standards for upgraded construction methods and design in order to reduce storm damage and post-storm repair costs.

Stainless steel cable-stay railing systems are recommended for access ramps, staircases, and crossovers. Though they are costlier than wood counterparts, they are highly resistant to storm damage and salt spray corrosion and require lower maintenance and repair attention.

For ramp, crossover, and other hardened walking surfaces, several highly durable materials have been substituted for wood planking in recent years. These include TREX and other plasticized composites and boards made from kenaf, a plant grown and processed, among other locations, in Willacy County.

As the City proceeds in the design of additional street-end and other ramps, crossovers, and walkways/boardwalks, such alternative materials and their costs – initial and life-span – should be investigated.

With employment of sturdier structural elements and more durable railing systems and walkway surfaces, O&M costs may be kept at minimal levels over a multi-decade life-span.

ADA-conforming Handicapped Ramps Linking to Dune Crossovers: The City builds handicapped accessible ramps from street-ends on a continuing schedule. By Texas Accessibility Standards and Americans with Disabilities Act criteria, handicapped ramps must by law not exceed 8.33 percent where railings are installed; 5.0 percent is the maximum where pathways lack railings. The steeper, 1:12 designs must also have landings of specified dimensions at given ramp intervals.

Mobi-Mats: When unable to provide a walkover the City will use, if available, a polymer mat that is able to create a solid walking surface for the public to use to access the beach. These mats protect the dunes from erosion and damage to the surrounding vegetation.

Eliminating Duplicative and Dune-damaging Paths to the Beach: One alternative to the existing multitude of private walkways between the built beachfront and the beach is to reduce the number of walkovers and open walkways to the shore in exchange for a more limited number of crossovers, ramps, and walkways built with stronger components and more durable materials, while at the same time

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constructed more sustainably with respect to the dune systems over which the new elements will traverse.

Continuation of the City's street-end handicapped ramp program will expand the number of general access structures that are well-built and offer the potential for eliminating nearby duplicative and /or dune-damaging private trails to the beach that lie between the street-ends.

It is therefore recommended that the City confer with property owners where private paths to the beach have been fashioned with resulting dune depletion and loss to determine whether agreement can be reached for such eliminations – given easily reached alternative crossovers such as nearby street-end accessways that would serve their residents or other users without significant loss of convenience.

Options would include the retaining of one private walkway midway between two adjacent street-ends and acquisition by the City and dismantling of other private walkways in this reach. The remaining walkway should also be upgraded, as needed, to yield a raised crossover built of durable and sustainable materials that arches over the regenerated dune system beneath. The cost of this improvement would be borne by the City in exchange for a perpetual access easement to allow sharing of access by the owner with the public.

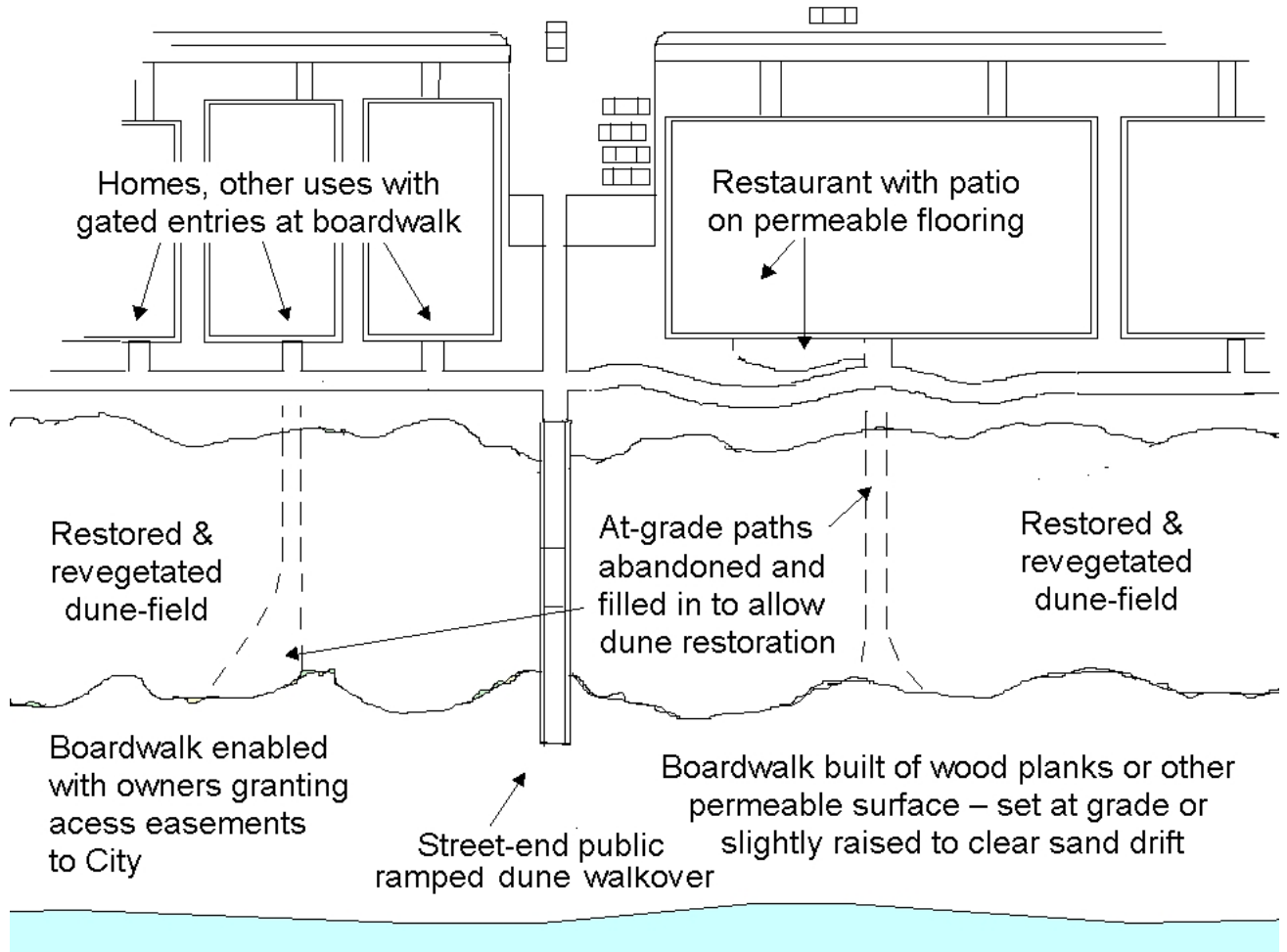
#### 4.3.3 Conceptual Walkways & Footpaths

North-south Walkways (at-grade “Boardwalks”) Linking to Public Street-end Crossovers and Approved Intermediate Crossovers. The foregoing improvements would be dependent on the construction of north-south walkways or “boardwalks” that would afford access from in-the-block addresses to the street-end public walkways.

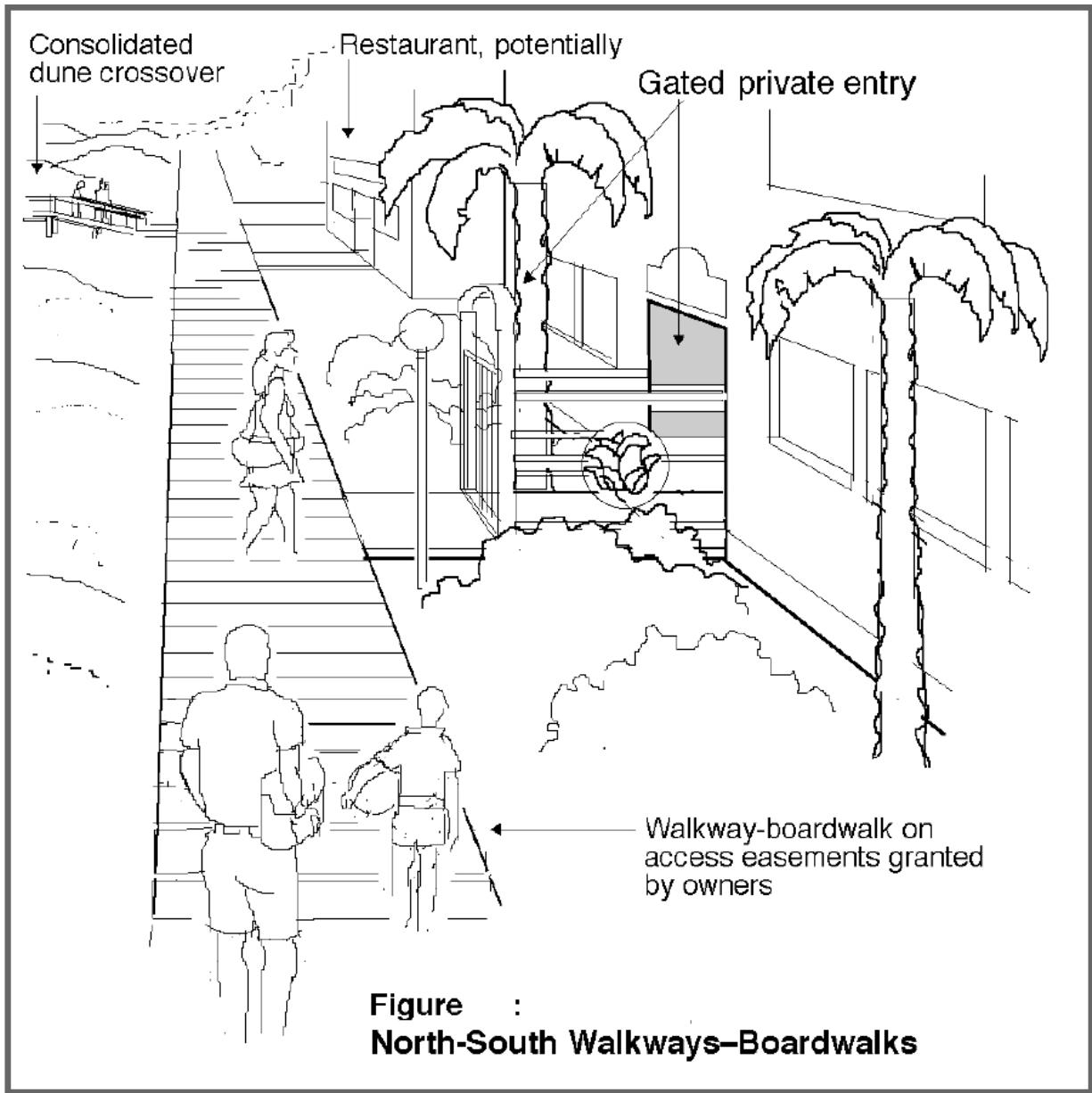
Here, too, access easements would need to be purchased by the City from agreeable property owners. To preserve owner privacy, the north-south walkways would be aligned a reasonable short distance Gulf-ward from the buildings and gated approaches to the building entrances would ensure access by residents and guests only. The distances from the buildings the north-south walkways would be offset would take into account the dune system in each location. Where dunes are close by, the walkways would be raised somewhat to clear the dune slope. The walkway surfaces would also be permeable, as is provided by spaced wood or other sustainable-material boards or by such manufactured materials as “Mobi-Mat”. This permeability will also secure conformance with the Texas and City requirements for construction within the building Setback Lines.

Convenience for beachfront residents and guests, where existing private paths are eliminated except for a mid-point improved and raised private crossover, would easily be conserved. The time lost by the short detours would not exceed a half-minute on average where a midpoint crossover is retained and 1 minute on average where no private paths are retained between two street-ends.

Such walkway consolidation was recommended in the 2007 South Padre Island Dune Gap Report.



**Figure : Path Consolidation/Boardwalk Concept**



Applicability of Walkways-Boardwalk Concepts to South Padre Island's Hotel / Dining Districts: The principal of protecting and restoring dunes by consolidating walkways and channeling foot traffic along beach-parallel boardwalks is also applicable to the City's hotel-dining districts. As with the examples discussed here, economic benefits to the private sector, in addition to long-term cost savings and sustainability in the public sector, are possible.

#### 4.3.4 Estimated Annual Cost

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The annual cost for beach access improvements cannot be calculated as it's based on project size. The cost to construct a walkover based on historical projects is \$775.00 a linear foot. The cost of Mobi-Mat ranges from \$110 - \$135 a linear foot.

The City operates on a beach maintenance budget solely funded by hotel/motel tax. The City does not have a beach user fee at this point but may be a necessary option in the future for revenue.

## 5.0 SEMI-ANNUAL PRE-STORM MONITORING PROGRAM

### 5.1 Goal

The purpose and need of a monitoring program is to accomplish at least two goals: (1) to inform local decision makers and the community at large about the status and upcoming maintenance needs; and (2) to ensure that adequate, recent data is available to document storm losses and ensure eligibility for federal disaster assistance related to nourished beaches.

### 5.2 Frequency, Method, and Location

A twice-annual program consisting primarily of profile surveys augmented with other forms of data collection (e.g., photography, sand tracer studies, numerical simulations) can provide year to year comparisons as well as indications of seasonal variations to inform decision making. Previously established profile locations can be used to ensure the best use of existing data and the cost effectiveness of new data collection/analysis efforts.

In addition to periodic profile surveys, project-specific surveys of nourishment activities and the progressive movement of material from designed nourishment prisms by natural forces can allow the optimization of subsequent nourishment activities. Maintenance practices that result in movement of sand resources (and seaweed) along and across the beach can be factored into monitoring tasks and results to provide a clear picture of the program's achievements.

### 5.3 Output Report/ Recordkeeping

The deliverable products generated through monitoring can include the profile data reduced and presented graphically, comparisons to historical profiles at the same location, trend analyses, quantity calculations, and projected maintenance needs. The information will also be available to City officials dealing with FEMA in post-storm response mode to determine federal assistance qualifications.

### 5.4 Estimated annual monitoring cost.

A detailed scope of monitoring effort can be developed to suit the City's needs and budget. The order of magnitude cost can be expected to be \$50,000 to \$100,000 per year.

## 6.0 EROSION RESPONSE PLAN FOR SPI CITY LIMITS

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The specific contents each local government's erosion response plan are set forth in 31 TAC Part I, section 15.17. These elements are identified and described below.

## 6.1 Construction Setbacks

For the purpose of the ERP, the "setback" is the line seaward of which no new construction should occur. In establishing the setback line, the state requires that the City utilize data obtained from the University of Texas Bureau at Economic Geology. The most further allow the City for options in establishing of baseline from which the setback line is measured. These options are:

- The line of vegetation (LOV)
- The Mean Low Tide (MLT)
- The Mean High Tide (MHT)
- GL O-approved Coastal Boundary Survey

The rules further specify that the setback line cannot be further landward than the dune protection line and must protect as much of the critical dune area as practicable.

The existence of the setback line is intended to improve shoreline management practices in Texas by reducing the risks to beachfront structures from erosion, storms and waves. Currently, no statewide setback limit exists in state law, however, current GLO rules specify that no construction is permitted seaward of the line of vegetation, as this is within the public beach easement. In eroding areas, GLO rules impose certain construction limits and restrictions within 200 feet landward of the mean low tide line. Subjectively, state rules also require that new construction along the Gulf beaches of the state be located "as far landward as practicable."

For the purposes of this erosion response plan, the City of South Padre Island proposes that its setback line be the Historic Building Line (HBL) established by the City and approved by the General Land Office in the City's certified Beach Access and Dune Protections Plan. The HBL is shown apparent as the line of retaining walls that front all existing and developed properties within the City limits.

This Historical Building Line (HBL) was established on September 3, 1981. A letter from John W. Fainter, Jr., First Assistant Attorney General, representing the State of Texas written to then-Mayor Glen McGehee, establishing a building line, commonly referred to as the Historic Building Line, for the City of South Padre Island Beachfront Construction that would provide a minimum of two hundred feet of open beach above the mean low tide line according to then available data. The letter stated that the Attorney General could review the line and change it to ensure the protection of the State's open beaches. The line was located on a map (drawn by Chas R. Haile Associates, Inc., Consulting Engineers, Houston, Texas City, Corpus Christi, Nederland, and is dated March 1981) provided by the Texas Attorney



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General and is on file with the Public Works Department of the City of South Padre Island. See pictures 8a, 8b, and 8c.

The HBL has unmistakably established the public beach on South Padre Island and has also given beachfront property owners an understanding of where they can build up to. The HBL also makes it clear where the dune field should start to provide protection for beachfront properties. With the clear knowledge of where the dunes should be the City has the ability to build a continuous dune line of similar elevation to withstand storm surge. The natural cycle of a barrier island is to migrate landward but with healthy dune fields east of the HBL that store and hold the sand volumes needed to provide protection and supply the beach with sand following major storms. With the ability to keep a healthy dune/beach system seaward of the HBL we are able to reduce public expenditures due to erosion and storm damage loss.

The Shore subdivision has a building line (formerly called the “440-foot Line”) it was established to ensure that proposed construction on the site would be located far landward of the beach so as to protect the fore-dune area and reduce the risk of storm damage to the subdivision. See photo 8d.

As a developed urban shoreline, it is impractical for the City to establish a new or different setback line other than the HBL, established more than a decade ago and upon which this highly developed shoreline was constructed. The City recognizes that for it to maintain the HBL as its designated Setback Line for the ERP, the City is obligated to manage the position of the shoreline -- the beach and dune system -- so that existing development is not subject to an undue risk of damage from erosion, waves and storm surge. The City’s strategy to accomplish this outcome – and thereby limit public expenditures due to shoreline erosion, waves and storms – is to undertake a dedicated program of beach nourishment and dune restoration, as described in Section 4.0, Desired Shoreline Conditions.



Photo 8a- Aerial photo showing the Southern portion of the City. The Dune Protection Line (DPL) is in red and the Historical Building Line (HBL) is in green.



Photo 8b- Aerial photo showing the middle portion of the City with the HBL and DPL shown.

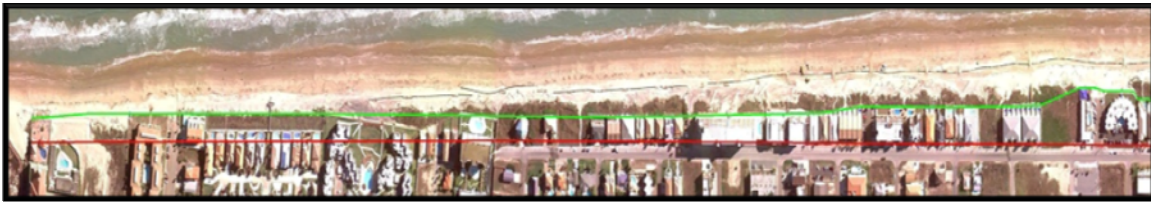


Photo 8c- Aerial photo showing the middle portion of the City with the HBL and DPL shown.



Photo 8d- The Shores Subdivision. The “440-foot line” is in green

### 6.2 Prohibition on Construction Seaward of Setback line

In accordance with state rules and the requirements of this ERP, all new or rebuilt habitable structures must be constructed landward of the building setback line, to the maximum extent practicable. Except for those non-habitable amenities specifically exempt below, all new construction within the City of South Padre Island will be required to be constructed landward of the setback line.

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In this ERP, the City is not proposing to allow construction or repair of any habitable structures seaward of the HBL, which serves as the SBL.

### 6.3 Exemptions from the Setback Line

Exemptions from the setback line have only been granted for non-habitable structures such as dune walkovers. Dune walkovers remove the pedestrian traffic from the dunes that lead to erosion and blowouts along the frontal dunes. The most harmful activity that takes place on the dunes is the continuous pedestrian traffic that leads to low elevations. Storm surge makes its way up the paths and erodes the path with each wave which can eventually undermine the massive dunes that provide protection (see Photo 9).

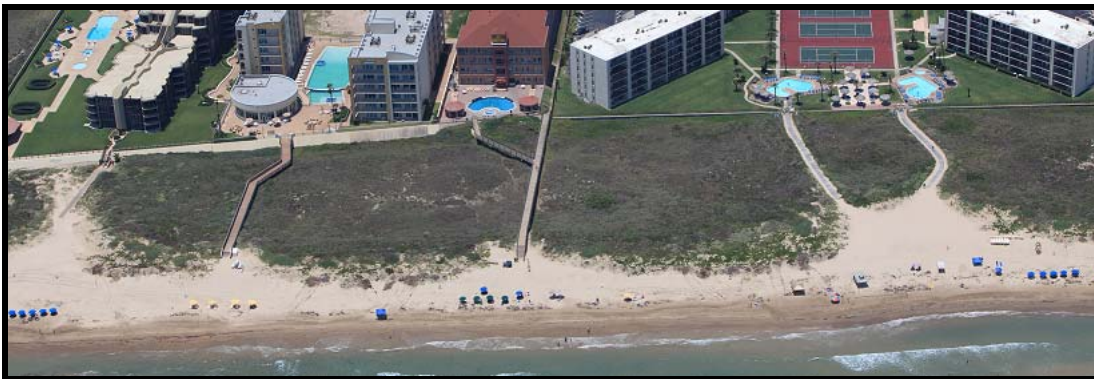


Photo 9- Shows the effectiveness of using dune walkovers to keep pedestrian traffic off the dunes.

### 6.4 Requirements for Exempt Structures.

Habitable structures may be exempt from the SBL limitations in three limited circumstances: (1) if the owner demonstrates that there is no practicable location for the construction to occur landward of the setback line; (2) the construction is consistent with an existing setback line certified by the General Land Office prior to the ERP; or (3) the construction consists of minor repairs to an existing structure that does not increase the footprint of the structure.

In this case, the ERP requires all new habitable construction or repairs to existing habitable structures to occur landward of the setback line – which is the Historic Building Line as specified herein. Non-habitable amenities such as walkways, dune crossovers, small decks, and other access improvements are exempt from the construction setback limit.

State rules establish the requirements for exempt structures for local governments that choose to permit more seaward construction. First, the exempt structure must be elevated to a minimum of 2 feet above the FEMA base flood elevation (BFE) and

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the foundation for the structure must conform to ASCE flood resistant standards. In addition, the structure must be designed for feasible relocation and it must be planned in a way that minimizes impact natural hydrology. The rules also prohibit enclosures below the BFE. In any event, all exempt structure construction must be located landward of the landward toe of the foredune ridge whenever practicable. Registered professional engineers must certify that these requirements have been met.

### 6.5 Enhancing and Preserving Public Access.

The state requirements for erosion response plans are also intended to enhance public access to the shoreline in addition to reducing potential public expenditures for erosion and storms. With respect to access, the rules require that the City evaluate the vulnerability of access points to erosion and storm surge damage. The rules require that the City upgrade public access construction methods and designs to reduce post-storm repair costs. The City is required to create a schedule for public access design improvements and inventory existing access amenities in order to support any future FEMA post-storm funding claims. Finally, the City is required to establish post-storm beach access assessment procedures so that damages can be cataloged.

The steps for the improvement of preservation of public access are described above in Desired Conditions 4.3 Beach Access Points.

Beach Access Handbook: The City inventories and documents all beach access conditions on an annual basis to show improvements and track conditions of existing walkovers or mobi-mats that may be in need of repair. Information available in the document includes: photos, amenities, disabled accessibility, construction year and costs, and funding sources. This document is used to plan for budget and grant needs. It can also be used for FEMA reimbursement requests.

Post-storm assessment procedures will take place immediately following the storm event once it is safe to enter the beach. The Coastal Resources Manager will inventory all beach access conditions pre storm and post storm. A list of access points not in compliance with the local plan and Beach/Dune rules, descriptions of repairs, and replacements needed will be compiled. This assessment will also be used for FEMA reimbursement requests along with the annual fixed assets report that values all City property for the fiscal year.

### 6.6 Dune Protection & Enhancement

Dune protection and enhancement projects are a critical component of the City's ERP. GLO rules require that the City specify the target dune elevation and percent vegetative cover for its dune protection and enhancement program. The City is further required to identify specific locations of dune gaps and blowouts for

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potential dune restoration projects. Finally, the City is required to outline specific dune re-vegetation projects, identify measures to protect the landward side of the foredune ridge, and identify the goals, schedules, and funding sources to accomplish its dune protection and enhancement program.

As specified under Desired Conditions, above, the City seeks to establish a continuous dune system with a minimum 10 foot elevation and 60-foot base depth. In the accreting areas and in areas where beach nourishment has created and can sustain a beach with of 200 feet, the City's goal is to establish the dunes with a minimum base depth of 100 feet.

As illustrated above, dune gaps have been identified using LIDAR data and aerial photography. Through the Dune Volunteer Planting program the City will be able to fill in these gaps and narrow beach access paths enhancing our continuous dune line. The City was successful in getting the Dune Planting Program funded through the CMP Cycle 17. The City will continue to apply for grant funds in order to fund this program.

#### 6.7 Criteria for Voluntary Acquisition or Buyouts.

One recognized strategy to reduce public expenditures following storms and erosion events is to purchase or buyout vulnerable properties along the shoreline. The state rules allow local governments to develop criteria governing the voluntary acquisition or buyout of beachfront parcels and structures. If such an approach is to be employed, the City was required to identify properties entirely seaward of the building setback line, provide for voluntary acquisition, and establish procedures for prioritizing property to be acquired.

Using the HBL as the setback, no habitable structures currently exist seaward of the proposed setback line. The City of South Padre Island has also elected an ERP strategy based upon maintenance of the beach and restoration and enhancement of the dune system. This approach is an alternative to the available strategy for voluntary acquisition and buyouts. The City has not elected to develop a voluntary acquisition and buyout program at this time.

#### 7.0 Conceptual Funding Strategy – SPI Shoreline Management Program

As ERP strategies are refined and cost estimates are developed, the City intends to develop a funding strategy to support implementation of the ERP. Preliminary discussions indicate that there is community support for establishment of a Dedicated Shoreline Maintenance Account to provide funds for:

1. On-going beach nourishment projects;

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2. Annual beach monitoring, including aerial photography, beach transects, mapping, and assessment of the condition of beach accesses;
  3. Dune enhancement and restoration projects, including the dune gap projects and volunteer dune planting program;
  4. Public access improvements and enhancements, including walkovers, parking improvements, consolidation of walkovers and pathways,
  5. Planning, permitting and design costs associated with the projects above; and
  6. Minor program administration and support costs.

While annual revenue needs cannot be accurately predicted at this time, conceptual funding options have been discussed with the City and Shoreline Task Force. In general, the City expects to develop a funding plan broadly reflecting the following principles:

1. Seek to maximize state and federal support for the City's shoreline management program, particularly seeking on-going CEPRAs and CMP grant funds whenever possible and continued efforts to secure USACE commitment to the beneficial use projects;
2. Seek to identify the local and visitor beneficiaries of sound beach, dune and shoreline management practices and employ, to the extent practical, a "beneficiaries pay" strategy;
3. Seek to implement a "blended" funding stream such that revenues supporting the Dedicated Shoreline Maintenance Account are derived from multiple funding sources at the federal, state and local level;
4. Seek to develop a long-term funding strategy that is stable, predictable and sufficient to support current and future shoreline management needs;
5. Seek to develop a funding strategy through a community-based process that is transparent, engages the public and provides robust opportunities for public input and discussion.

Though no specific recommendations can be made at this time, there are three potential funding sources at the local level that the City may wish to "blend" to support the local share of the Dedicated Shoreline Maintenance Account:

1. *Ad valorem* Revenues: The City may wish to consider a Shoreline Maintenance *ad valorem* assessment as one contributing revenue stream to the dedicated account. Currently, property owners in South Padre Island pay a total *ad valorem* tax rate of \$1.962379 per \$100 of assessed value. This tax rate is comprised of assessments from a number of taxing entities besides the city, including Cameron County and the school district. The City's current *ad valorem* tax rate is \$0.2456 per \$100 of assessed value, which is the lowest municipal tax rate in Cameron County. A modest increase in the City's *ad valorem* tax rate of three cents per \$100 would increase to local rate from \$0.2456 to \$0.2756 per \$100 value. Even at this increased rate, the City's *ad valorem* rate would still be the lowest in Cameron

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County -- less than that of Los Fresnos, San Benito, Brownsville, Port Isabel, Harlingen, and Laguna Vista.

Based on a total assessed value of property in the City of about \$2.6 billion, an additional three-cent *ad valorem* assessment would generate about \$780,000 per year for the Dedicated Shoreline Maintenance Account.

2. Hotel Occupancy Tax Revenues: Like most beach resort communities, the City is blessed with a diverse and substantial hotel and rental market sector. Visitorship to the City increases substantially beginning in the spring months, peaks in the summer, and gradually declines in the winter. This visitorship pattern is typical of many beach resort communities and reflects the strong influence of the beach as the cornerstone of the local tourist economy. Currently, hotel patrons and short-term vacation property renters pay Hotel Occupancy Taxes that benefit the City and state. Below is a typical breakdown of HOT revenues on a one-night stay at a SPI hotel:

Room at \$99.00/night	HOT Rate	\$99.00
City Occupancy Tax	8.0%	\$7.92
State Occupancy Tax	6.0%	\$5.94
City Beach Nourishment Occupancy Tax	0.5%	\$0.50
<b>TOTAL HOTEL OCCUPANCY TAXES</b>	<b>14.5%</b>	<b>\$14.36</b>

Out of the 14.5% occupancy tax rate, the City currently dedicates a one-half of one percent to support its beach nourishment program. Given that a substantial percentage of out-of-town visitors come to South Padre Island to enjoy the beach and given the substantial long-term cost of beach and dune management, the City may wish to consider some adjustment to the rate or allocation of revenues. Modifying HOT rates is a sensitive subject and would require close coordination with hotel owners and operators and other stakeholders before any proposal could be developed. Nationally, the use of HOT revenues as a component of a comprehensive funding strategy has proven to be a useful and reliable revenue source to support beach and shoreline management projects.

3. Sales Tax Revenues: In a beach resort town like South Padre Island, sales taxes revenues typically increase substantially during the tourist season. Out-of-town

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visitors swell the summer population contributing substantial revenues to the community. Attracted to the beautiful beaches, these visitors are clearly benefit from a well-maintained beach and public access improvements. As the community continues to grow, sales taxes typically grow as well. Though the financial and community issues regarding the use of sales tax revenues for shoreline management would be complex, it would be prudent to explore this revenue stream as a potential component of the blended funding stream.

Overall, the City would benefit if it can identify a reliable and predictable funding strategy to support its long-term shoreline management program. Erosion is a persistent force that directly and substantially threatens many barrier island beach towns. The response strategy and funding plan must be equally persistent if the City is to maintain its place as the premier beach resort community in Texas.



Appendix 2  
Beach User Fee Plan

The City of South Padre Island proposes to establish a paid parking program for the Gulf Coast beach located within the City’s boundaries. The program will utilize an internet/phone system for visitors to pay for their parking spaces. The revenue will be used to fund reasonable and necessary services and facilities directly related to the public beach.

<b>SOUTH PADRE ISLANDS CURRENT PROGRAM .....</b>	<b>2</b>
BEACH ACCESS SYSTEM.....	3
CURRENT REVENUE.....	3
<i>South Padre Island.....</i>	3
<i>Cameron County Fee Schedule .....</i>	3
EXPENDITURES .....	4
<i>South Padre Island.....</i>	4
FREE PUBLIC PARKING .....	4
FREE TRANSPORTATION .....	6
 <b>BEACH USER FEE PROGRAM .....</b>	 <b>6</b>
PASSPORT –THE INTERNET PAY SYSTEM.....	7
<i>Estimated Sales with Pay by Phone.....</i>	7
SEASON PARKING PASS.....	8
<i>Estimated Sales for Season Pass.....</i>	8
NECESSITY FOR BEACH USER FEE.....	8
USER FEES SUPPORT ENHANCED MANAGEMENT PRACTICES .....	9
<i>Short-Term .....</i>	9
<i>Long-Term .....</i>	9
 <b>CITATION OF ALL LEGAL AUTHORITY .....</b>	 <b>10</b>
LEGAL AUTHORITY AUTHORIZING COLLECTION OF FEES.....	10
BEACH ACCESS CHARGE AUTHORIZATION .....	10
AUTHORIZATION SCHEDULE .....	10
 <b>STATE STANDARDS CONSISTENCY .....</b>	 <b>11</b>
PROPOSED FEE IS CONSISTENT WITH STATE STANDARDS .....	11
USE OF BEACH USER FEE REVENUES.....	11
RECIPROCITY AGREEMENT .....	12
SIGNAGE.....	12
REPORTING ADMINISTRATIVE COST AND ACCOUNTING .....	12
 <b>CITY OF SOUTH PADRE ISLAND BEACH PARKING SYSTEM .....</b>	 <b>ATTACHMENT A</b>
<b>CITY OF SOUTH PADRE ISLAND DRAFT PARKING ORDINANCE .....</b>	<b>ATTACHMENT B</b>

## CURRENT BEACH ACCESS SYSTEM:

Presently there are a total of twenty-six (26) City beach access points maintained by the City of South Padre Island (City), and 1,665 parking spaces. Three of the beach accesses parking spaces are located off of Gulf Boulevard.

- Easement located on North property line of The Pearl. This beach access begins as a forty (40) foot wide public Ingress / egress easement at the Park Rd 100 frontage road and transitions to a ten (10) foot wide pedestrian access 301.11 feet west of the toe of the existing retaining wall. This access was dedicated at the encouragement of the State, to the Texas Conservation Foundation.
- Easement located on the North property line of La Copa. This ten (10) foot wide public beach access was also dedicated as part of an agreed judgment with the State. This right of way will utilize the free parking provided by the City at the multi-modal center and between Padre Boulevard and Highway 100.
- Whitesands Street is a public right-of-way. It is the City's Northern most public beach access. Free public parking is available for this right of way at the South Padre Island Post Office and the Convention Center. While both parking lots are approximately one-half mile to the beach, use of the Wave, the City free bus service will facilitate the beach access.



The remaining 23 beach accesses under the City’s jurisdiction are located on Gulf Boulevard. The beach access cul-de-sac’s located on Gulf Blvd are public rights-of-way. More details on access points and parking areas can be found in the City’s Beach Parking System Handbook (Attachment A) dated April 2015.



**CURRENT REVENUE:**

**South Padre Island:**

Three beach accesses provide free parking in the City. They include: Harbor Circle, Surf Circle and Aurora Circle. The City’s current beach related services and beach renourishment funds are solely funded through the Hotel Occupancy Tax (HOT). The City’s beach access and maintenance operations, beach patrol, and law enforcement costs are funded by the 2% that the City gets back from the State and during fiscal year 2015 we anticipate revenue of \$1,643,017. The beach renourishment fund is funded by the 0.5% that is locally collected and during fiscal year 2015 we anticipate revenue of \$415,635. With the increasing costs for beach renourishment and walkover construction the City has only been able to improve beach accesses over the last few years through grants supplied by the General Land Office (GLO).

**Cameron County Fee Schedule:**

The following fee schedule has been adopted by Cameron County Commissioners’ Court and approved by the GLO:

<u>Pass Type</u>	<u>Current</u>	<u>Maximum</u>
Day Use	\$ 5.00	\$ 12.00
30 Day Pass	\$23.00	\$ 25.00
Annual Pass	\$53.00	\$ 100.00
*Military Veterans receive 50% off		

EXPENDITURES:

	Totals YE 2013	Totals YE 2014	Avg
Direct Supervision	\$ 67,915	\$ 67,915	\$ 67,915
Labor	\$ 203,173	\$ 228,749	\$ 215,961
Law Enforcement	\$ 216,937	\$ 278,091	\$ 247,514
Equipment expense	\$ 137,321	\$ 194,610	\$ 165,965
Administrative expense	\$ 21,000	\$ 21,000	\$ 21,000
Miscellaneous supplies	\$ 64,454	\$ 60,575	\$ 62,515
Electricity-YE	\$ 2,102	\$ 2,102	\$ 2,102
Water-YE	\$ 4,254	\$ 4,254	\$ 4,254
<b>Totals</b>	<b>\$ 717,156</b>	<b>\$ 857,296</b>	<b>\$ 787,226</b>
Annual average for side street improvements			\$ 150,000
Beach Renourishment Annual Budget			\$ 650,000
Gulf Blvd & Beach Access improvements average 2012- 2014			\$ 615,000
			<b>\$ 2,202,226</b>

FREE PUBLIC PARKING:

The City currently has a total of 928 parking spaces East of Padre Blvd. of those spaces 409 of them are located on the East side streets and Beach Access Cul-de-sacs. Parking along the unimproved East side streets is currently restricted for safety reasons. As funds become available the City will continue to improve the East side streets to address safety concerns which would then make them available for free public beach parking. Required improvements include for unrestricted on street parking include widening of the street with curb/gutter and a sidewalk. However, with increasing pressure by residents and business owners to improve conditions on Padre Boulevard, side streets improvements occur at a slow pace.

The free public parking available to visitors comprises 69% of the City's total available parking. The table outlines all the City free public parking areas. Additional information is available in the City's Beach Parking System Handbook (Attachment A) date April 2015.

The City recognizes the need to expand parking along Padre Boulevard not only to improve access to the Gulf beach, but also to provide access to local businesses to support the City's Form Based Code. In 2011, the City adopted a zoning ordinance known as Form Based Code. The ordinance provides for an alternative to conventional zoning. It places the focus on the form of development as opposed to use. It promotes mixed-use development pedestrian use of the streets along with transit. With the new code, the City is moving towards the multi-modal use of the streets. The approach will focus on additional

parking structures that will accommodate persons visiting the City, enjoying the local commerce and natural resources.

<b>Location</b>	<b>ADA</b>	<b>Public</b>	<b>Total</b>
<b>Convention Center</b>	<b>8</b>	<b>461</b>	<b>469</b>
<b>Post office</b>	<b>3</b>	<b>80</b>	<b>83</b>
<b>City Hall</b>	<b>5</b>	<b>100</b>	<b>105</b>
<b>Beach Accesses Cul-de-sacs</b>	<b>20</b>	<b>45</b>	<b>65</b>
<b>Improved East Side Streets</b>	<b>0</b>	<b>112</b>	<b>112</b>
<b>Unrestricted area East Side Streets</b>	<b>0</b>	<b>223</b>	<b>223</b>
<b>Contributed by County Parks for Shores Development</b>	<b>0</b>	<b>100</b>	<b>100</b>
			<b>1157</b>

The majority of the free parking located on Padre Boulevard is West of the Boulevard. To local officials and residents Padre Boulevard is the City’s Main Street. To State officials, it is often viewed as a highway; hence its designation of Highway 100. However, Highway 100 is the Main Street in Port Isabel and Los Fresnos. On the forefront of City initiatives is the walkability of Padre Boulevard. City officials are working closely with the Texas Department of Transportation to reduce speed limits, construct medians and crosswalks for the entire length of the City. Our goal is to make South Padre Island a walkable city for our residents and visitors and provide ample parking amenities for this population.

Similarly, the City needs to adopt the common approach to beach parking that is used in numerous communities. This common approach is for the driver to drop-off their passengers at a beach access, find a place to park and then walk to meet the passengers on the beach. This same process is used when it is time to leave. Rarely, in populated areas are beach users able to park in front of the beach that they will access without paying a fee for beach parking.

As part of the Beach User Fee program, the City will make three cul-de-sac / beach circles available for free parking. These circles: Harbor Circle (16 spaces and 2 ADA spaces), Surf Circle (19 spaces and 3 ADA spaces), and Aurora Circle (10 spaces and 2 ADA spaces) provide 45 free public spaces and 7 ADA spaces for resident and visitor uses. These three cul-de-sacs are spread out at the .1 mile point of the southmost point of Gulf Boulevard, the .6 mile point, and 2 mile point of the 2.5 mile long Gulf Boulevard. In compliance with Chapter 681 of the Texas Transportation Code persons with disabilities are exempt from the payment of any fees if the vehicle is displaying an appropriate license plate or disabled parking placard. This does not permit parking at a time when or a place where parking is prohibited.

**FREE TRANSPORTATION:**

The “Wave,” the city’s free bus system, will be integral to public access to South Padre Island’s public beaches. As the city becomes more congested, the city will move to direct parking to large public lots and assist the public in accessing the city through the Wave, bicycle and pedestrian traffic. Presently, the wave runs seven days per week. After going by the off-beach parking areas it goes directly to Gulf Blvd heading south providing access to 23 of the City’s 26 beach access points. The route then runs south on Padre, to the location of the multi-modal facility where it provides access to two more beach access points within the City’s jurisdiction. After leaving that area the route then goes back passed the off-beach parking area and back to Gulf Blvd. Presently, the Wave operates from 7:00 am until 9:00 pm every day. An illustration and more details on the Waves dedicated beach route can be found in the City’s Beach Parking System Handbook (Attachment A) dated April 2015.

**BEACH USER FEE PROGRAM:**

Fee Schedule:

Daily Max	\$13.00
Seasonal Pass Max	\$50.00

The City proposes to initiate an internet based paid parking system for beach parking on Gulf boulevard in conjunction with a seasonal beach parking permit program. The Beach User Fee will be required for only at certain times on South Padre Island, the City plans on running the program from March 1-September 15 (26 weeks) and will be limited to 8:00AM to 8:00PM. The City will not be requiring a beach user fee during the rest of the year to provide additional free parking to the public during non-peak times. The City will implement a \$6 charge for 6 hours of use if the beachgoer wishes to extend their time an additional \$6 charge will be required. Details on fees and charges are in the below table. In compliance with Chapter 681 of the Texas Transportation Code persons with disabilities are exempt from the payment of any fees if the vehicle is displaying an appropriate license plate or disabled parking placard. This does not permit parking at a time when or a place where parking is prohibited.

	6 Hours	+ 6 Hours
Beachgoer Charge	\$ 6.35	\$ 6.00
Convenience Fee	\$ 0.35	\$ -
Transaction Fee	\$ 0.33	\$ 0.33
City of SPI	\$ 5.67	\$ 5.67

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PASSPORT –The Internet pay system<sup>1</sup>:

The internet system “Passport,” will enable a beach-goer to pay on-line for a six-hour parking pass for any available public parking space located on Gulf Boulevard. Using a smart phone, the driver can log into the system and pay six dollars for six hours of parking in a designated parking space. This system can also be accessed via text with a standard cell phone, or by phone. As the six-hour time limit approaches, the system user will be “pinged” with a notice that their parking time is expiring. The user will have the option to renew their space for an additional six hours, or vacate the spot. Once the “meter” has expired, the police department will be notified that the vehicle parking has expired. The SPI Police officer will need to locate the vehicle on Gulf Boulevard to write a parking citation. Gulf Boulevard will be divided into zones to ease the ability to locate the vehicle. Persons paying cash will be able to purchase two, six-hour passes to allow for twelve hours of beach parking.

Estimated Sales with Pay by Phone:

The estimated revenue to be generated from the seasonal parking program is \$271,440. This estimated revenue is conservatively calculated using only weekend days during the duration of the year when the program would be in use.

The City plans on running the program from March 1- September 15 (26 weeks) and charging between the hours of 8 am to 8 pm. The parking fee is \$6.00 for 6 hours and the city anticipates each spot to be used at least twice a day on Saturday and Sunday during 26-week period.

Visitor would be charged \$6.35 to park their vehicle.

City of South Padre Island would receive total parking fee of \$6.00

City of South Padre Island would pay .33 cents per transaction for credit card processing fee.

Projected Revenue to City of South Padre Island

\$5.67 Per Transaction

\*\$10,440 Per Weekend (Saturday - Sunday)

\*\$271,440 Annual revenue from Pay By Phone App and cash payments

\*Calculations are based on turning each parking space twice per weekend day.

The option to pay in cash will be made available at City Hall during the week and the Visitor’s Center and Police Station during weekends. Passport (pay-by-phone) Signage will include information for beachgoers on locations for cash payments.

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<sup>1</sup> Additional information on the Passport (pay-by-phone) system is provided at the following link provided by the Passport company and at [www.myspi.org](http://www.myspi.org) provided by the City’s IT Director.



**SEASON PARKING PASSES:**

The City will charge a fee up to \$50.00 per year for a season pass. The up to \$50 fee is similar to Cameron Counties current rate. Passes will be available at City Hall during the week and the Visitor’s Center and Police Station during weekends.

**Estimated Sales of Seasonal Parking Permits:**

The City South Padre Island has an approximate 2,000 permanent residents. The City estimates that only 20% of permanent residents would purchase a seasonal parking pass. Given that the island is a ½ mile wide at its widest the beach is a relatively short walk from all areas on the island. The City also estimates the sale of an additional 400 seasonal passes.

Estimated Seasonal Passes			
Residents	400	\$ 50	\$20,000
Other	400	\$ 50	\$20,000
			\$40,000

**NECESSITY FOR BEACH USER FEE:**

The fees are necessary to address several serious issues and problems that pose public health and safety risks. These issues continue to occur year after year associated with beach related services and include: (1) the struggle of dealing with the excessive, unsightly and unsanitary accumulation of trash on the beaches; (2) ability to provide a safe and adequate parking in the limited space adjacent to the beach along Gulf Boulevard; (3) and the necessity to bring all identified beach access points to a usable condition and have funds to maintain them on an annual basis.

As a result, City of South Padre Island has implemented several abatement initiatives that are consistent with TAC §15.8 such as:

- a. Creating a beach maintenance crew that is strictly to address the litter problem, maintain the trash receptacles, maintain the beach accesses, and the dune walkovers;
- b. Hiring a Coastal Resources Manager whose job is to oversee beach maintenance activities and provide information the City Council when making decisions that impact the beach;
- c. Creating a seasonal beach patrol that patrols the beaches for swimmers in distress and provides basic first aid when needed.

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## USER FEES SUPPORT ENHANCED MANAGEMENT PRACTICES:

The City of South Padre Island continues to maintain adequate and safe beach access for the public which are subsidized through the collection of HOT. The addition of a Beach User Fees collected will support expenditures associated with both long-term and short-term enhanced beach management practices such as:

### Short-Term:

- a. Seasonal staffing to support the influx of visitors during peak times including law enforcement, life guards, code enforcement, and maintenance workers.
- b. Expanded beach cleaning activities:
  - Increase the hand collection of litter.
  - Purchase beach equipment that lessens the maintenance activities impacts to the beach/dune system.
  - Create a beach recycling program.
  - Create educational signage for the public related to beach maintenance.
- c. Beach access and Walk-over preventive maintenance:
  - For improvement and general maintenance of designated beach access points. By installing parking, rinse stations, drinking water, and walkovers.
  - The City will use funds to rehabilitate older beach access walkover that are in need of repair.

### Long-Term:

- a. Enhance safety along Gulf Boulevard with improved and designated parking along Gulf Boulevard with appropriate signage along with pedestrian pathways. (Two to five years depending on Beach User Fee revenue and grant availability.)
- b. Purchase of vacant lots adjacent to the public beach to provide additional parking areas for the public. (Proposed purchase of multiple-lots in three locations for up-to 60 spaces per combined lots at a projected cost of \$600,000: \$450,000 for land; \$150,000 for improvements. Two to eight years depending on Beach User Fee revenue and grant availability.)
- c. Construction funds available for future parking structures adjacent to the beach. (Three to five years depending on Beach User Fee revenue and grant availability.)
- d. Develop a trolley system that would enhance accessibility to the beach through the utilization of the remote off-beach parking areas for present and future demands. (Five or more years depending on Beach User Fee revenue and grant availability.)
- e. The City currently only has two public restrooms on Gulf Blvd. Improved public sanitation by provision of port-a-potties or other mobile restrooms along the beach or access points located in the City. Given our seasonal nature of demands for public sanitation mobile restrooms are the most adaptable for our fluctuating demands. (One to three years depending on HOT revenue and grant availability.)
- f. Beach access enhancements:

- The City currently has four beach accesses on Gulf Boulevard that are completely undeveloped if they were improved there would be an approximate increase of 85 parking spaces in those cul-de-sacs. Another three beach accesses are partially developed and would increase parking by approximately 40 spaces if improved within the next one to three years.

## **CITATION OF ALL LEGAL AUTHORITY:**

### LEGAL AUTHORITY AUTHORIZING COLLECTION OF FEES:

Section 63.053(b) of the Texas Natural Resource Code allows governing body of a municipality to charge reasonable fees that do not exceed the cost for the provision and maintenance of public beach related facilities and services necessary to implement such plans, including but not limited to parking, public health and safety, environmental protection and matters contained in the certified beach access plans, and that do not unfairly limit access to and use of such beaches. Title 31, Texas Administrative Code, Rule 15.8 sets forth requirements to be met for Beach User Fees.

### BEACH ACCESS CHARGE AUTHORIZATION:

The City is authorized to charge a beach user a fee in exchange for providing services to beach users in general. A beach user fee may only imposed if the fee is reasonable, taking into account the cost to the local government of providing public services and facilities directly related to the public beach. A reasonable fee is one that recovers the cost of providing and maintaining beach-related services. In addition, any fee collected for off-beach parking to provide access to and from the public beach is considered a beach user fee.

### AUTHORIZATION SCHEDULE:

In order to establish and a maintain quality beach-related services and facilities for the preservations and enhancement of access to and from the beach and safe and healthy use of beaches by the public, the following fee schedule is proposed for adoption by the City Council:

- Up to \$13.00 fee for daily use
  - Visitor would be charged \$6.35 to park their vehicle.
    - Parking Fee: \$6.00 for 6 hrs.
    - Convenience Fee: .35 cents
- Up to \$50.00 fee for a seasonal pass
  - The season will be from March 1<sup>st</sup> - September 15<sup>th</sup> and only required for the spaces that are adjacent to the beach. (Gulf Boulevard R.O.W. and beach access cul-de-sacs, with the exception of all ADA parking spaces and regular parking spaces available at Harbor Circle, Surf Circle and Aurora Circle that will be available as free parking)

- 50% of the proposed generated revenue would be used to either purchase or lease land and improvements for use for beach related public parking east of Padre Boulevard. Proposed purchase of multiple-lots in three locations for up-to 60 spaces per combined lots at a projected cost of \$600,000: \$450,000 for land; \$150,000 for improvements. Two to eight years depending on Beach User Fee revenue and grant availability.

## **STATE STANDARDS CONSISTENCY:**

### **PROPOSED FEE IS CONSISTENT WITH STATE STANDARDS:**

The beach user fee cannot exceed the necessary and actual cost of providing reasonable beach-related public facilities and services, unfairly limit public use to and from public beaches in any manner, is not inconsistent with Title 31, Texas Administrative Code, Rule §15.8 or the Open Beaches Act; or discriminates on the basis of residence.

The City fee will only apply to parking spaces adjacent to the public beach this includes east and west sides of Gulf Boulevard, and beach access cul-de-sacs identified. All other parking areas west of Gulf Blvd will remain free to the public to use in addition to the 65 spaces identified as free parking previously in the plan. The off-beach parking areas will be serviced by a dedicated beach route that will run 365 days a year from 7 am – 9pm.

The beach user fee will not exceed the necessary and actual cost of providing reasonable beach related public facilities and services. The Beach User Fee will not unfairly limit public use to and from the public beaches. The beach user fee does not discriminate on the basis of residence and is consistent with Title 31, Texas Administrative Code, Rule §15.8 and the Open Beaches Act.

### **USE OF BEACH USER FEE REVENUES:**

Revenues generated from beach user fees shall be used only for beach-related services. In accordance with TAC §15.2(11), “beach-related services” means reasonable and necessary services and facilities directly related to the public beach which are provided to the public to ensure safe use of and access to and from the public beach, such as vehicular controls, management, and parking (including acquisition and maintenance of off-beach parking and access ways); sanitation and litter control; lifeguarding and lifesaving; beach maintenance; law enforcement; beach nourishment projects; beach/dune system education; beach/dune protection and restoration projects; providing public facilities such as restrooms, showers, lockers, equipment rentals, and picnic areas; recreational and refreshment facilities; liability insurance; and staff and personnel necessary to provide beach-related services including, but not limited to, reasonable administrative costs and accounting directly attributable to beach related services as limited by TAC §15.8(f). Beach-related services and facilities shall serve only those areas on or immediately adjacent to the public beach. The City recognizes that enforcement of the program does not qualify as a beach user fee expense.

## RECIPROCITY:

The City and Cameron County have entered into an interlocal agreement (No. 2013C04165). Each party will recognize its own Beach Parking Permit system and be responsible for enforcement within their respective jurisdictions. Neither will be required to acknowledge or accept the other's permit within their jurisdictional limits.

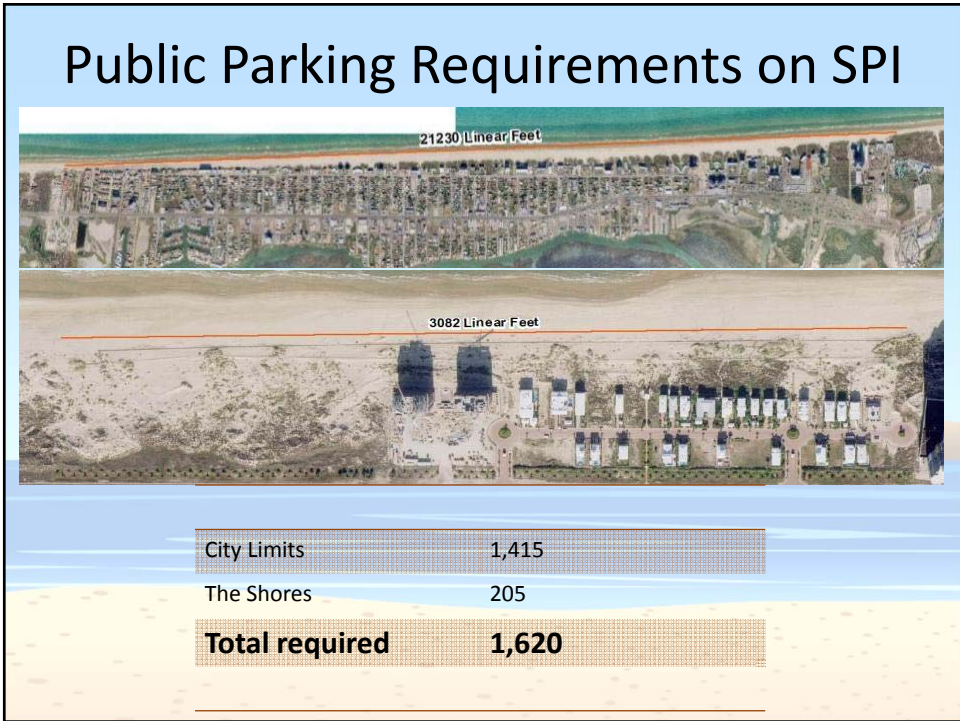
## SIGNAGE:

The City shall assure that all free and user fee based access for parking and payment locations are clearly identified with signs at all access areas including the off-beach parking areas. Signage will be posted in Spanish and English.

## REPORTING ADMINISTRATIVE COST AND ACCOUNTING:

The following methods shall be used for administering and reporting beach user fee accounting:

- a. The City will submit quarterly reports of the revenues and expenditures from Beach User Fee accounts within 60-61 days after the end of the quarter.
  - January 31
  - April 30
  - July 31
  - October 31
- a. No more than 10% of beach user fee revenues shall be expended in one fiscal year on reasonable administrative costs related to beach related services. Administrative Costs are restricted to the direct costs of providing support for beach services such as supervisors who are directly involved in providing services, then his or her time is eligible, further, accounting, record keeping, personnel services, legal services, insurance and organizational management is eligible.
- b. Revenue/Expenditure Accounting. The City will establish a separate "fund" in the City's budget for all expense of revenue activities occurring on City beaches. Revenues will be maintained and accounted for separately and not commingled with any other funds so that fee collections may be directly traced to expenditures on beach related services.
- c. Beach user fee revenues shall be maintained and documented individually for each beach user fee and account balances and expenditures shall be documented according to general accepted accounting principles.
- d. Annual operating and capital budgets will be established based on anticipated revenues and any excess revenues at year-end will be credited to the following year's operating and capital budgets.



## Paid Parking Beach Access Cul-de-sac's



- 23 Beach Access Cul-de-sac's on Gulf Blvd ~600 feet from one access to the next (3 access points will remain free)
- 230 Total Public Parking Spaces (65 spaces will be free)
- There are 4 beach accesses that are completely undeveloped
  - With improvements an approximate increase of 85 parking spaces
- There are 3 beach accesses that are partially developed
  - With these improvements there would be ~40 spaces
- Other beach accesses are in need of maintenance and repair but there is currently no revenue for upkeep

## Paid Parking on Gulf Blvd

- The Public is allowed to park on the East and West sides of Gulf Blvd.
- Currently there are 343 spaces on the ROW of Gulf Blvd
- For safety reasons the City is currently in the process of improving sections of Gulf Blvd this means exact parking space numbers will fluctuate as the improvements are made
  - This includes a project funded by the CMP grant cycles 18 & 19
  - Future improvements will incorporate load/unloading zones for the public to safely transport items to the beach accesses and then utilize the public transportation for the off-beach areas

## Free Parking in Cul-de-sacs on Gulf Blvd.

- A total of 65 parking spaces or 29% of parking spaces in the beach accesses will be free of charge.
  - Three beach accesses on Gulf Blvd as free parking areas
    - Harbor Circle
      - » 18 Spaces
    - Surf Circle
      - » 22 Spaces
    - Aurora Circle
      - » 12 Spaces
  - In compliance with Chapter 681 of the Texas Transportation Code persons with disabilities are exempt from the payment of any fees if the vehicle is displaying an appropriate license plate or disabled parking placard. This does not permit parking at a time when or a place where parking is prohibited.

## Free Parking on East Side Streets

- Parking along the East side streets is currently restricted unless said vehicle displays a hurricane return sticker (Ord. Sec 18-19.1).
- The ordinance does permit:
  - Unrestricted parking in the area that is 200 feet or less from Padre Blvd.
    - Except for areas with in 30 feet of a stop sign per Tx State Law
  - Unrestricted parking on the streets that have been improved, these are streets that are 32 feet wide with curb and gutter and a sidewalk on one side.
  - Currently there are 3 streets:
    - East Hass- 21 spaces
    - East Mezquite- 40 spaces
    - East Esperanza- 18 spaces
    - East Huisache- 33 spaces scheduled for this year (2013)

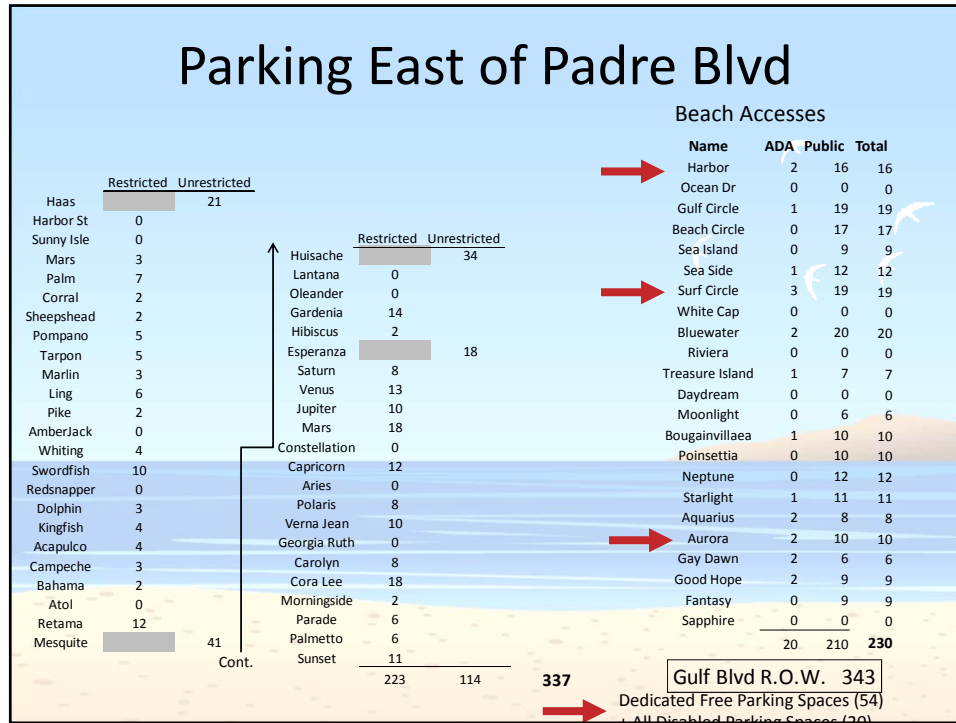


### Unrestricted parking in the areas located 200 feet or less from Padre Blvd (PR 100)



### Unrestricted parking on improved East side streets





## Public Transportation for off-beach parking areas

- Off-Beach parking areas will be serviced by a dedicated beach route
- The Wave will provide transportation to all beach access points on SPI
- The complete route will take 30 minutes.
- Route will run 365 days a year from 7 a.m. – 9 p.m.

## Dedicated Beach Route



## Off-Beach Parking Areas

### Convention Center



- 469 Public Parking Spaces
- The Wave provides transportation to and from the Convention Center every half hour
- The Wave will travel directly to Gulf Blvd after this stop

## ¼ Mile Buffer from Off-Beach Parking Areas



## Off-Beach Parking Areas

### Post Office



- 83 Parking Spaces
- The Wave also provides transportation to and from this location

# Off-Beach Parking Areas

## City Hall



- 105 Parking Spaces

# ¼ Mile Buffer from Off-Beach Parking Areas



## ¼ Mile Buffer from Beach Accesses



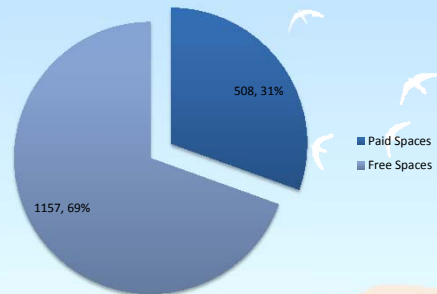
### 31 Tex. Admin. Code 15.7(h)(1)(B)

- Where vehicles are prohibited from driving on and along the beach, ingress/egress access ways are no farther apart than 1/2 mile.
  - All parking areas are within ½ mile of a beach access with a majority being less than a ¼ mile

## Beach Parking System

	ADA	Public	Total
Beach Access Culdesac's	0	165	165
Gulf Blvd R.O.W.	0	343	343
Beach Access Culdesac's	20	45	65
Improved East Side Streets	0	112	112
Unrestricted area East Side Streets	0	223	223
Convention Center	8	461	469
Post office	3	80	83
City Hall	5	100	105
Contributed by County Parks for Shores Development	0	100	100

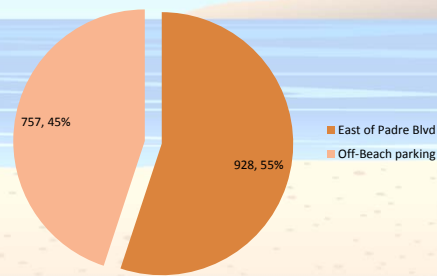
1665



- Paid Parking Areas
- Free Parking East of Padre Blvd
- Off-beach parking areas

### Number of Spaces Req by TOBA

Southern City Limits	1,415
The Shores	205
<b>Total required</b>	<b>1,620</b>



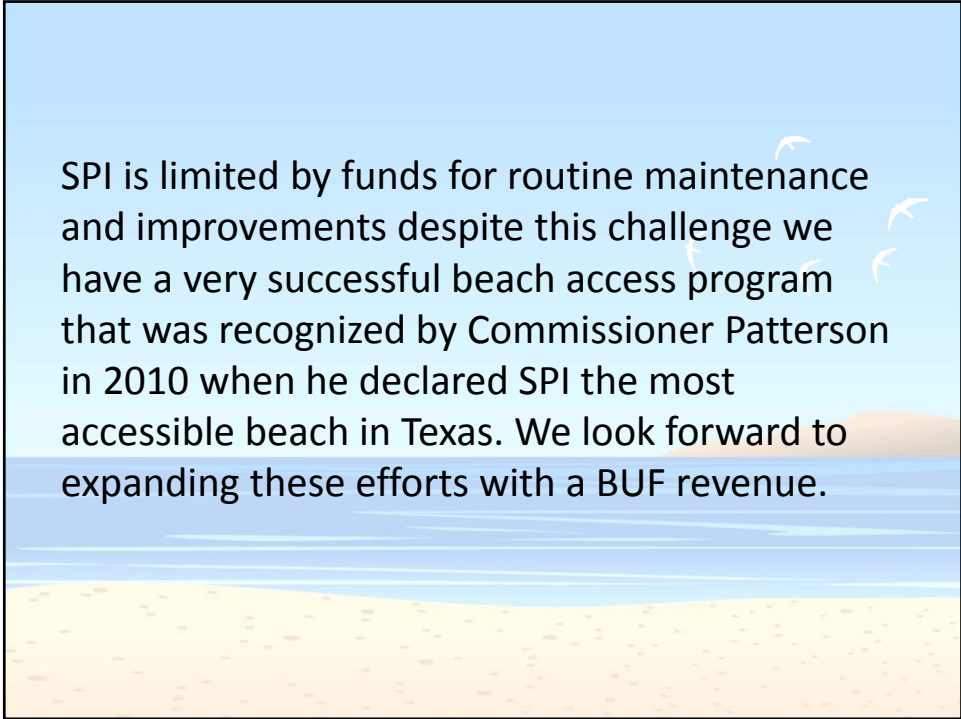
## 31 Tex. Admin. Code 15.7(h)(1)

(1) For the purposes of this subchapter, beach access and use is presumed to be preserved if the following criteria are met.

- (A) Parking on or adjacent to the beach is adequate to accommodate one car for each 15 linear feet of beach.
  - SPI has identified 1,665 parking spaces for beach goers...
- (B) Where vehicles are prohibited from driving on and along the beach, ingress/egress access ways are no farther apart than ½ mile.
  - 55% (908) of our identified spaces are East of Padre Blvd well with in a ¼ mile of numerous beach access points on Gulf Blvd
  - All Off-beach parking areas are with in ½ mile of beach access points but will also be serviced by free public transportation with a direct route to Gulf Blvd
- (C) Signs will be conspicuously posted which explain the nature and extent of vehicular controls, parking areas, and access points, including access for disabled person.
  - SPI will provide signage at all beach parking areas

## 31 Tex. Admin. Code 15.8(c)(2)(D)

- (D) Discriminates on the basis of residence
  - All off-beach parking areas will serviced by free public transportation
  - Out of the 1,665 spaces identified on SPI 55% are East of Padre Blvd
  - Of those 908 spaces East of Padre Blvd 45% are free parking
  - Every vehicle parking on Gulf Blvd or beach access cul-de-sacs will be required to have a beach parking permit regardless of residence



SPI is limited by funds for routine maintenance and improvements despite this challenge we have a very successful beach access program that was recognized by Commissioner Patterson in 2010 when he declared SPI the most accessible beach in Texas. We look forward to expanding these efforts with a BUF revenue.



**ORDINANCE NO. 15- 06**

AN ORDINANCE OF THE CITY OF SOUTH PADRE ISLAND, TEXAS, ADDING SECTION 18-19.4 OF CHAPTER 18 OF THE CODE OF ORDINANCES TO RESTRICT PARKING IN OR ON A CUL-DE-SAC EAST OF THE EAST RIGHT-OF-WAY LINE OF GULF BOULEVARD AND GULF BLVD FROM MARCH 1 TO SEPTEMBER 15 AND ANY PARKING ON SAID STREET OR CUL-DE-SAC MUST PAY A PARKING FEE, PROVISION FOR HANDICAP PARKING WITH NO FEE.; PROVIDING FOR A PENALTY FOR VIOLATION NOT TO EXCEED FIVE HUNDRED DOLLARS (\$500.00); PROVIDING FOR SEVERABILITY; AND AUTHORIZING PUBLICATION IN CAPTION FORM.

**WHEREAS**, Section 18-19.1 of the Code of Ordinances restricts parking on residential side streets from March 1 to September 15; and

**WHEREAS**, currently overnight parking is prohibited year-round on the cul-de-sacs east of Gulf Boulevard with the exception of Aurora, Surf and Harbor Circles where the prohibition begins at 2:01 am; and

**WHEREAS**, In order to establish and maintain beach related services and facilities for the preservation and enhancement of access to and from the public beach, and to provide safe and healthy use of public beaches by the public, vehicles may be charged a fee for parking in or on a cul-de-sac east of the east right-of-way line of Gulf Boulevard and Gulf Boulevard from March 1 to September 15:

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SOUTH PADRE ISLAND, TEXAS:

Section 1. Sec. 18-19.4 of Chapter 18 of the Code of Ordinances of the City of South Padre Island is hereby added to read as follows:

**“Sec. 18-19.4. Paid Parking in or on a cul-de-sac east of the east right-of-way line of Gulf Boulevard and Gulf Boulevard from March 1 to September 15**

(A)No person shall stop, stand or park a vehicle in or on Gulf Blvd or a cul-de-sac east of Gulf Blvd with out paying a parking fee as herein provided:

(1) \$6.00 for six hours from the hours of 8:00 am to 8:00 pm; except parking is prohibited in the cul-de-sacs east of the east Right-of-way line of Gulf Boulevard between the hours of 12:01 A.M. and 6:00 A.M., except Aurora Circle, Surf Circle and Harbor Circle the prohibited hours are between 2:01 A.M. and 6:00 A.M. When permitted, parking is restricted to designated spaces on the westerly side of Gulf Boulevard and at Beach access cul-de-sacs on the easterly side of Gulf Boulevard; during the hours that parking is permitted at cul-de-sacs Harbor, Surf, and Aurora it shall be without a parking fee (free).

(2) A \$50.00 season pass will be available for purchase at the Police Station in City Hall;

(3) Vehicles are limited to remaining in one parking space for a maximum twenty-four hour period.

(4) Payment can be made by credit card by contacting the phone number on the sign by cell phone or other mobile device, as this is an internet based parking

system and at the locations where season passes are made available.

(B) Over night parking is still prohibited in the Cul-de-sacs per Sec. 18-19.2 of the Code of Ordinances.

(C) In compliance with Chapter 681 of the Texas Transportation Code persons with disabilities are exempt from the payment of any fees if the vehicle is displaying an appropriate license plate or disabled parking placard. This does not permit parking at a time when or a place where parking is prohibited.

Section 2. This ordinance does not become effective until the Texas General Land Office (GLO) has approved the City's Beach User Fee Plan.

Section 3. This Ordinance repeals all portions of any prior ordinances or parts of ordinances of the Code of Ordinances in conflict herewith.

Section 4. Any violation of this Ordinance may be punished by a fine not to exceed Five Hundred Dollars (\$500.00) for each offense or for each day such offense shall continue and the penalty provisions of Section 21-1 of the Code of Ordinances is hereby adopted and incorporated for all purposes.

Section 5. If for any reason any section, paragraph, subdivision, clause, phrase, word or provision of this Ordinance shall be held invalid or unconstitutional by final judgment of a court of competent jurisdiction, it shall not affect any other section, paragraph, subdivision, clause, phrase, word or provision of this Ordinance for it is the definite intent of this City Council that every section, paragraph, subdivision, clause, phrase, word or provision hereof be given full force and effect for its purpose.

Section 6. This Ordinance shall become effective when published in summary form or by publishing its caption.

PASSED, APPROVED AND ADOPTED on First Reading, this 6th day of May 2015.

PASSED, APPROVED AND ADOPTED on Second Reading, this 20th day of May 2015.

**ATTEST:**

**CITY OF SOUTH PADRE  
ISLAND, TEXAS**



Susan Hill, CITY SECRETARY



Bharat R. Patel, MAYOR



**Contract No. 2013CO4135**

STATE OF TEXAS §  
  §  
CAMERON COUNTY           §

**INTERLOCAL COOPERATION AGREEMENT**  
**FOR BEACH MAINTENANCE AND BEACH USER FEE COLLECTION**

THIS AGREEMENT is entered into between the COUNTY OF CAMERON, TEXAS, hereinafter referred to as "County" and the City of South Padre Island, hereinafter referred to as "City", pursuant to V.T.C.A., Government Code, Chapter 791.

**PREAMBLE**

WHEREAS, Tex. Gov. Code Section 791.011, the Interlocal Cooperation Act, provides that any local government may contract with another local government to perform governmental functions and services; and

WHEREAS, the Interlocal Cooperation Act Section 791.003 states that "governmental functions and services" means any function or service including the general area of public health and welfare which is of mutual concern to the contracting parties; and

WHEREAS, it is the duty and responsibility of the governing body of any incorporated city, town, or village located or bordering on the Gulf of Mexico to clean and maintain the condition of all public beaches within the corporate boundaries; and

WHEREAS, it is the duty and responsibility of the Commissioner's Court of any county located or bordering on the Gulf of Mexico to clean and maintain the condition of all public beaches located inside the county but outside the boundaries of any incorporated city located or bordering on the Gulf of Mexico; and

WHEREAS, under Section 61.011 of the Texas Natural Resource Code local government responsible for the regulation, maintenance, and use of such beaches may charge reasonable fees pursuant to its authority to cover the cost of discharging its responsibilities with respect to such beaches, provided such fees do not exceed the cost of such public facilities and services, and do not unfairly limit public access to and reasonable exercises of the police power by local government with respect to public beaches; and

WHEREAS, each of the parties to this Interlocal Cooperation Agreement have in place an approved Beach Access and Use Plan, as required by section 61.015 of the Texas Natural Resource Code.

WHEREAS, County's approved Beach Access and Use Plan currently authorizes the collection of beach user fees for beaches maintained by the party; and

WHEREAS, City is currently seeking authorization from the Texas General Land Office to charge parking permit fees for adjacent parking on Gulf Blvd and in the Beach Access Cul-de-sac's; and

WHEREAS, the General Land Office has adopted regulations in Section 15.8 of Title 31, Texas Administrative Code, that control the imposition of beach user fees by local governments; and

WHEREAS, Section 15.8 (b) of Title 31, Texas Administrative Code, requires local governments to establish a state-approved system for reciprocity of fees and fee privileges among the different local governments authorized to charge beach user fees; and

WHEREAS, the City will have a beach user fee for all parking on Gulf Boulevard.


WHEREAS, The County has a beach user fee which is required to drive on any of the public beaches or enter the beach parks located in the County's jurisdictional limits;

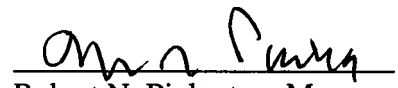
WHEREAS, the establishment of a system of beach user fee reciprocity is a condition of state approval of local dune protection and beach access plans.

NOW THEREFORE, THE COUNTY AND CITY agree as follows:

- 1.1 Each party shall only recognize their Beach User Fee Program within their respective jurisdictions.
- 1.2 Each party will be responsible for enforcement of their Beach User Fee Program within their jurisdiction.
- 1.3 Each party is responsible for the Beach User Fee sales within their jurisdiction.
- 1.4 Each party acknowledges that this agreement shall take effect September 1, 2013 and each party will be responsible for administering their program within their jurisdiction during the interim.
- 1.5 Each party represents that this Agreement has been duly passed and approved by the governing body of the party as required by the Texas Interlocal Cooperation Act, Chapter 791, Texas Government Code.
- 1.6 Each party verifies that they are complying with the requirements of the Texas Government Code §791.011.


Executed on this 25 day of April 2013.

  
\_\_\_\_\_  
Carlos H. Cascos, CPA  
Cameron County Judge

  
\_\_\_\_\_  
Robert N. Pinkerton, Mayor  
City of South Padre Island

Attested By:   
\_\_\_\_\_  
Joe G. Rivera, County Clerk



Attested By:   
\_\_\_\_\_  
Susan Hill, City Secretary

