ORDINANCE NO. 2012-07

AN ORDINANCE BY THE CITY OF PORT ARANSAS, AMENDING THE PORT ARANSAS COASTAL MANAGEMENT PLAN (CONTINGENT UPON GENERAL LAND OFFICE COASTAL MANAGEMENT PLAN AMENDMENT APPROVAL) REGARDING PROVISIONS OF COASTAL MANAGEMENT PLAN, PROVIDING A SAVINGS CLAUSE, SEVERABILITY CLAUSE AND EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PORT ARANSAS, TEXAS.

SECTION 1

THAT, The Coastal Management Plan is hereby amended as follows to include the following new Attachment 8:

ATTACHMENT 8. EROSION RESPONSE PLAN

The ERP establishes a building setback line, explains criteria for construction seaward of the setback line, identifies opportunities for mitigation and preservation of public beach access areas and dune system, describes criteria for acquiring property seaward of the setback line, and identifies measures for post-storm damage assessment to beach access infrastructure and critical dune areas. Public outreach and interaction with the public, including a public educational meeting, were held as required.

SECTION 2
SAVINGS CLAUSE

THAT, any ordinance or parts of ordinances in conflict with this ordinance are hereby repealed to the extent of said conflict.

SECTION 3
SEVERABILITY CLAUSE

THAT, if any word, phrase, sentence, paragraph or section is found to be illegal, invalid or unconstitutional, the remaining portion of this ordinance shall remain in full force and effect.

SECTION 4
EFFECTIVE CLAUSE

THAT, this ordinance shall take effect and be in full force immediately upon its final passage, approval and publication in the official newspaper.

AND, IT IS SO ORDAINED, ORDERED, PASSED AND APPROVED this 16 Day of August, 2012.

CITY OF PORT ARANSAS

The Hon. Keith McMullin, Mayor

ATTEST:

Esther Arzola, City Secretary

CITY OF PORT ARANSAS
EROSION RESPONSE PLAN

An amendment to the City of Port Aransas's Coastal Management Plan

Submitted To:

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June 2011

TABLE OF CONTENTS

1. Introduction 1
2. Geomorphology 1
3 Coastal Erosion 2
4 Development of Building Set-Back Line 2
4.1 Criteria Considered 2
4.1.1 Aerial Photography/ Lidar Data 2
4.1.2 Historical Erosion Rates 3
4.1.3 Coastal Management Plan 3
4.1.4 Approximate Line of Vegetation 3
4.1.5 Base Flood Elevation Zones 3
4.1.6 Mean High Water 3
4.1.7 Dune Protection Line 4
4.2 Established Set-back Line 4
5 New Construction Guidelines 4
5.1 Exemption Considerations 4
5.2 Construction Requirements for Exempt Properties 5
6 Preservation and Restoration 5
6.1 Evaluation of Beach Access Points 5
6.1.1 East Cotter Avenue 6
6.1.2 Beach Street 6
6.1.3 Lantana Drive 6
6.1.4 Avenue G 6
6.1.5 Sand Castle 7
6.1.6 Beach Access 1A 7
6.1.7 Beach Access 1 7
6.1.8 Private Accesses 7
6.1.9 Prioritization of Improvements 8
6.1.10 Post-Storm Assessment Procedures 8
6.1.11 Beach Access Goals and Implementation Schedule 8
6.1.12 Publicly Funded Amenities 9
6.2 Evaluation of Critical Dunes 9
6.2.1 Revegetation of Dunes 9
6.2.2 Post-Storm Assessment Procedures 10
6.2.3 Critical Dune Goals and Implementation Schedule 10
7 Acquisition of Property Seaward of Set-Back Line 10
8 Public Outreach 11
9 References 12

Tables

Table 1. Improvement Prioritization of Beach Access Locations 8

APPENDICES

Appendix A.	City of Port Aransas Erosion Response Plan Maps
Appendix B.	Beach Access Points – Site Photographs
Appendix C.	Potential Dune Enhancement Areas – Site Photographs

Erosion Response Plan – City of Port Aransas

1. INTRODUCTION

This Erosion Response Plan (ERP) was developed by Matthew Mahoney, a professional geologist, under a Memorandum of Agreement with the City of Port Aransas, pursuant to Section 33.607 of the Texas Natural Resources Code (TNRC). This plan includes the entire Gulf of Mexico shoreline within the jurisdiction of the City of Port Aransas and was developed in consultation with the Texas General Land Office (GLO). Under the Texas Administrative Code §15.17(d)(4) and Section 33.607(g) of the TNRC, the Texas Land Commissioner may adopt rules for the preparation and implementation by a local government of a local plan for reducing public expenditures for erosion and storm damage losses to public and private property, including public beaches. Pursuant to the authority granted to the GLO under Section 33.605 (b)(6)(B) of the TNRC, the Land Commissioner shall approve all expenditures from the Coastal Erosion Planning and Response Act (CEPRA) funding account. In determining whether to approve an expenditure, the Land Commissioner shall consider whether a local government prepared an ERP. By implementing this ERP, the City of Port Aransas is in compliance with GLO requirements and will continue to be eligible for funding under CEPRA. The ERP shall serve as an amendment to the City of Port Aransas Coastal Management Plan.

The ERP establishes a building setback line, explains criteria for construction seaward of the setback line, identifies opportunities for mitigation and preservation of public beach access areas and dune system, describes criteria for acquiring property seaward of the setback line, and identifies measures for post-storm damage assessment to beach access infrastructure and critical dune areas. Public outreach and interaction with the public, including a public educational meeting, were held as required. The ERP was developed in coordination with the City of Port Aransas, Nueces County, and the GLO.

2. GEOMORPHOLOGY

The City of Port Aransas is a coastal community within Nueces County and is located along the mid-Texas coast on the northeast end of Mustang Island adjacent to Aransas Pass. The City consists of approximately 7.5 miles of Gulf of Mexico shoreline. Regionally, the coastal area is composed of fluvial deltaic headlands (McGowen and others, 1976) with a series of marginal marine embayments separated from the Gulf by a system of sandy barrier islands and peninsulas (Lankford and Rehkemper, 1969). The shoreline within the City's jurisdiction is a microtidal environment that is wave dominated. Because the longshore transport along Mustang Island is wind dominated and prevailing winds are out of the southeast, sediment movement is bidirectional.

The natural geological setting of the Mustang/North Padre Island coast has created a shoreline that is low in sand supply and that is undergoing long-term relative sea-level rise. For these reasons, the shoreline will continue to undergo long-term retreat unless human intervention prevails (Gibeaut 2001).

One major anthropogenic feature that influences the City's shoreline is the jetties at Aransas Pass, which borders the City to the northeast. The jetties have a major effect on coastal processes as they influence sediment dynamics, disrupt sediment flow and deteriorate the delta.

3. COASTAL EROSION

Texas has some of the highest erosion rates in the country. Sixty-four percent of the total Texas coast is eroding at an average (mean) rate of -5.9 feet/year with some areas experiencing greater than -30 feet/year (McKenna2009). When the Texas coast erodes, homes are lost, property values decrease, tourism suffers, and local economies are negatively impacted. Additionally, without a healthy beach/dune system to protect the coast, the impact of major storms is more severe. Overall, the Gulf of Mexico shoreline between Aransas Pass and the north boundary of the Padre Island National Seashore is retreating. However, there are several scales of alongshore variability in the average annual rate of shoreline change. Some of this variability is caused by human alterations. Engineering modifications at Aransas Pass have changed the sediment budget by trapping sand in the littoral drift system on both sides of the pass. As a result, the shoreline position is more stable for a distance 6 km to the south of the pass than it otherwise would be. Farther to the south of the pass, the overall retreat of the shoreline is probably enhanced because of the sand trapping (Gibeaut 2001).

At the northeastern end of the City's boundary are the jetties at Aransas Pass. This area is accreting and gradually decreases toward the southwest with an erosion trend emerging 3.5 miles from the jetty.

4. DEVELOPMENT OF BUILDING SETBACK LINE

This ERP and the building setback line were developed in anticipation of coastal erosion and are intended to restore and enhance the critical dune system, protect and restore beach access infrastructure, and minimize loss to private and public infrastructure during storm events. The setback line was established to provide guidelines for new construction seaward of the setback line in order to reduce damage to these structures during storm events. By statute, the building setback line may not be located further landward than the established Dune Protection Line (DPL) and must encompass as much of the critical dune area as practicable. The criteria evaluated and utilized in the establishment of the building setback are described below.

4.1 Criteria Considered

Data was collected from the GLO, the Bureau of Economic Geology (BEG), the Texas Natural Resources Information System (TNRIS), Nueces County and the City of Port Aransas, and include:

- Aerial Photography/Lidar Data
- Historical Erosion Rates
- Coastal Management Plan
- Approximate Line of Vegetation
- Base Flood Elevation (BFE) Zones
- Mean High Tide
- Dune Protection Line

4.1.1 Aerial Photography/Lidar Data

Aerial photography and lidar data for Mustang Island has been acquired, rectified, and used as the basis to construct an updated map of the width and topography of the critical dune area. The topography of the foredunes, width of the area of fore-island dunes, and breaches of the foredune ridge are depicted on the aerial photographs on the City maps located in Appendix A.

4.1.2 Historical Erosion Rates

Historical erosion rates, as determined by the BEG Shoreline Change Study (2011), in conjunction with onsite observations by coastal professionals were reviewed and considered in the development of the setback line. It should be noted that although the Shoreline Change Study is a recent release, erosion rates provided by the BEG in this study do not include data from Hurricane Ike or any data post-Ike.

The latest shoreline change study data has been procured and the data has been transformed into coastal maps of coastal Port Aransas depicting the erosion rates in feet per year at approximately 175 feet intervals. Shoreline change rates for the City of Port Aransas are depicted in the city maps located in Appendix A.

4.1.3 Coastal Management Plan

The Coastal Management Plan establishes a basis for managing and regulating human impacts on the beach/dune system. The City of Port Aransas adopted a Coastal Management Plan on February 15, 1995 and was approved by the GLO in March of 1996.

4.1.4 Approximate Line of Vegetation

The line of vegetation (LOV) is the extreme seaward boundary of natural vegetation, which spreads continuously inland typically, and is used to determine the landward extent of the public beach. A natural LOV is visible in Port Aransas and is documented on the city maps in Appendix A. The LOV was manually delineated from the rectified aerial photography. In areas where the LOV was not present, the line was extrapolated from one existing point of vegetation to another and, for the purposes of this plan, will be referred to as the approximate LOV. The approximate LOV was visually verified during a site visit conducted in June 2011. The approximate LOV depicted on the maps is not intended to be used to identify, delineate, or fix the landward boundary of the public beach, but merely to be used as a reference point in determining the location of the building setback line.

4.1.5 Base Flood Elevation Zones

The Federal Emergency Management Agency (FEMA) thru the National Flood Insurance Program (NFIP) has created flood zone determination maps. The maps indicate a Velocity Zone or V- Zone, an area predicted by FEMA to contain high velocity flowing flood water during meteorological events. Because of the potential for damage, stringent regulatory requirements seek to ensure that work and construction in V-zones will minimize environmental and structural impacts, as well as economic loss. Base flood elevations (BFE) have been designated by FEMA for coastal zones. A BFE is the level that flood waters are calculated to reach during a 100-year event. The BFEs for the City of Port Aransas are depicted on the maps in Appendix A. V-zone BFEs within the City range from 11 to 13 feet above mean sea level.

4.1.6 Mean High Water

The Texas Gulf Coast experiences approximately two tidal cycles per solar day, referred to as a semidiurnal tide. The tide cycles through high and low waters twice each day, with one of the two high tides being higher than the other and one of the two low tides being lower than the other. The Mean High Water (MHW) is the average of the two high water heights. For the purpose of developing a setback line, the MHW datum was used.

4.1.7 Dune Protection Line

The City of Port Aransas has established a dune protection line (DPL) for the purpose of protecting critical dune areas. The line runs parallel and adjacent to the Gulf of Mexico and extends a distance landward of MHW. The DPL for the City is located 1,000 feet landward of the MHW and is depicted on the maps in Appendix A.

4.2 Established Setback Line

Based on an assessment of erosion rates along the City of Port Aransas coastline and the location of the DPL relative to MHW and the approximate LOV, as well as the location and condition of critical dune areas, the City of Port Aransas has developed a building setback line in anticipation of coastal erosion. The building setback line was established to delineate the extent to which construction can occur within the beach/dune complex and is likely to affect beach access and use. Per Section 15.17 of Title 31 of the Texas Administrative Code, the building setback line may not be located further landward than the DPL and must protect as much of the critical dune area as practicable.

The building setback line for the City of Port Aransas shall be located 200 feet landward of the LOV or a distance 60 times the historical annual erosion rate as published by the BEG, whichever is greater. The line is depicted on the maps in Appendix A and as measured landward from the LOV, whichever is greater.

The City shall adopt an alternative setback line that only applies in circumstances when the dunes are destroyed by a meteorological event or do not exist. On the chance that there is not a LOV present, a backup reference line shall be the MHW delineation, with the building setback line located 320 feet landward of the MHW or a distance 70 times the BEG historical annual erosion rate and as measured landward from the MHW, whichever is greater. The building setback line for the City of Port Aransas is depicted on the maps in Appendix A.

5. NEW CONSTRUCTION GUIDELINES

Prohibition on new construction shall be the same for all of Port Aransas. To the maximum extent practicable, all structures should be constructed landward of the building setback line.

Construction of structures landward of the building setback line must comply with mitigation sequence requirements for avoidance and minimization of effects on dunes and dune vegetation as specified in Texas Administrative Code (TAC) §15.4(f) Mitigation. The permittee is not exempt from compliance with compensatory mitigation requirements for unavoidable adverse effects on dunes and dune vegetation.

5.1 Exemption Considerations

Exemption from prohibition of construction seaward of the setback line shall be the same for all of Port Aransas. Dune walkovers, beach access roadways, public parking and associated public facilities shall be constructed in accordance with the GLO construction standards.

The City of Port Aransas may consider exemptions from the prohibition of residential and commercial construction seaward of the setback line for:

1. Properties for which the owner has demonstrated to the satisfaction of the City that no practicable alternatives to construction seaward of the building setback line exist. For purposes of this section, practicable means available and capable of being done after

taking into consideration existing building practices, siting alternatives, and the footprint of the structure in relation to the area of the buildable portion of the lot, and considering the overall development scheme for the property.

2. Properties for which construction is permitted under the Coastal Management Plan certified by the GLO prior to the effective date of this section and if there are no changes from the originally permitted construction plans.
3. Structures located seaward of the building setback line prior to the effective date of this section for which modifications are sought that do not increase the footprint of the structure. However, structures seaward of the building setback line that are damaged more than 50% or abandoned for a period of more than 12 months should be subject to this section before any repairs or reconstruction may be conducted.

5.2 Construction Requirements for Exempt Properties

Where the City allows an exemption from the prohibition for building seaward of the building setback line, the City will require the following conditions of construction or provide a reasoned justification for a variance from the minimal standards that will demonstrate that the provisions will reduce public expenditures due to erosion and storm damage.

1. Plans and certifications for the structure shall be sealed by a registered professional engineer licensed in the State of Texas, providing evidence of the following:
   a. a minimum of two-foot freeboard above FEMA's BFE to the finished floor elevation of the lowest habitable floor;
   b. no enclosures below BFE;
   c. consistency with the latest edition of specifications outlined in American Society of Civil Engineers, Structural Engineering Institute, Flood Resistant Design and Construction, ASCE 24-05;
   d. that habitable structures will be feasible to relocate; and
   e. all construction shall be designed to minimize impacts to natural hydrology.
2. Location of all construction should be landward of the landward toe of the foredune ridge and as far landward as practicable.

6. PRESERVATION AND RESTORATION

This section presents procedures for (1) preserving and enhancing the public's right of access to and use of the public beach from losses due to erosion and storm damage, and (2) preserving, restoring, and enhancing critical dunes for natural storm protection and conservation purposes.

A conditions assessment was performed on June 28, 2011 to determine the existence, location, and condition of all vehicular and pedestrian beach access points along the City of Port Aransas shoreline. The beach access points were evaluated to determine their functionality, condition, and need for protection, enhancement, or restoration. A similar assessment was also performed for the existing dune system along the Gulf of Mexico shoreline within the city limits.

6.1 Evaluation of Beach Access Points

The assessment of beach access points gave a snapshot of the condition, location, and functionality of the accesses and serves as a starting place for planning the preservation and enhancement measures to be implemented by the City as funding becomes available. The City continually monitors beach access points and maintenance of these accesses was evident in the conditions assessment.

The conditions assessment consisted of a site visit by a coastal geologist, who evaluated, prioritized, indexed, and photographed all public beach access points within the City of Port Aransas. Site visit photograph of access points are located in Appendix B.

There are seven public vehicular beach access points within the City of Port Aransas. They are located at:

1. East Cotter Avenue
2. Beach Street
3. Lantana Drive
4. Avenue G
5. Sand Castle Drive
6. Beach Access 1A
7. Beach Access 1 (Newport)

All of these accesses have been evaluated and are functioning properly. There are no drainage or runoff infrastructures associated with the accesses. Drainage/runoff during storm events normally does not adversely affect accesses or the beach.

The following section summarizes the conditions assessment of all access points and describes measures to improve and protect beach access. Improvements identified herein will be designed and constructed using methods that will reduce costs associated with repair, rebuilding, or replacement due to storm damage and erosion.

6.1.1 East Cotter Avenue

The access at East Cotter Avenue is located adjacent to the jetty and is elevated to 11.0 feet above Mean Sea Level (MSL). This access is over 1000 feet landward of MHW and landward of the DPL. This access has a low priority due to its distance from the shoreline and lack of development.

6.1.2 Beach Street

The access at Beach Street is located 0.6 miles southwest of East Cotter Avenue and is elevated to 12.2 feet above MSL. The road and access are in good condition. The access is connected to the on-beach paved parking at Horace Caldwell Pier. Due to its connection to the pier, alteration of the access is not currently recommended.

6.1.3 Lantana Drive

The access at Lantana Drive is located 0.1 miles southwest of Beach Street and is elevated to 12.9 feet above MSL. The road and access are in good condition. The access is perpendicular to the beach. To reduce erosion and storm damage loss, the access could benefit by adjusting the road 45% to the north so the access is at an angle to the beach and the prevailing wind direction. In order to do this, acquisition of private property and dune mitigation would be required. Any improved protection project would be subject to available funding.

6.1.4 Avenue G

The access at Avenue G is located 0.41 miles southwest of Lantana Drive and is elevated to 12.4 feet above MSL. The road and access are in good condition. The access is also perpendicular to the beach and could benefit from an oblique entrance. In order to do this, acquisition of private property and dune mitigation would be required. Any improved protection project would be subject to available funding.

6.1.5 Sand Castle Drive

The access at Sand Castle Drive is located 0.61 miles southwest of Avenue G and is elevated to 13.6 feet above MSL. The road and access are in good condition. The access is also perpendicular to the beach and could benefit from an oblique entrance. In order to do this, acquisition of private property and extensive dune mitigation would be required. Quantities of loose sand tend to build up at the entrance to the beach on the northeast side of the access. This is due to a lack of dune vegetation where the foredune ridge terminates at the access. The dunes could benefit from revegetation efforts. The installation of dune plants would help stabilize the dunes and keep loose sand from accumulating at the entrance. Any improved protection project would be subject to available funding.

6.1.6 Beach Access 1A

The access at Beach Access 1A is located 1.14 miles southwest of Sand Castle Drive and is elevated to 13.6 feet above MSL. The road and access are in good condition. The access is also perpendicular to the beach and could benefit from an oblique entrance. In order to do this, acquisition of private property and dune mitigation would be required. Quantities of loose sand tend to build up at the entrance to the beach. This is due to a lack of dune vegetation where the foredune ridge terminates on each side of the access. The dunes could benefit from revegetation efforts. The installation of dune plants would help stabilize the dunes and keep loose sand from accumulating at the entrance. Any improved protection project would be subject to available funding.

6.1.7 Beach Access 1

The access at Beach Access 1 is located 0.84 miles southwest of Beach Access 1A and is elevated to 14 feet above MSL. The road and access have recently been reconstructed with a grant from the Department of Rural Affairs. In addition, vegetation was planted on the dunes around the entrance to help stabilize the dune and to keep loose sand from accumulating at the entrance.

The access is also perpendicular to the beach and could benefit from an oblique entrance. In order to do this, acquisition of private property and dune mitigation would be required. The current grant did not have sufficient funding to accomplish this task. This task will have to be done at a later date and will be subject to available funding.

6.1.8 Private Beach Accesses

Private beach accesses were also evaluated for this plan. There are several private beach access points within the City of Port Aransas. These accesses cut through the dunes to private property for vehicle and pedestrian access. It is recommended that as access to these properties becomes available from the landward side, that landward access be acquired and the current beach access through the dune be closed down. The dune should then be restored to the height and width of the surrounding dunes. The dunes should also be revegetated according to the revegetation plan located in Section 6.2.

Private accesses that remain through the dunes need to be upgraded to meet a minimum height of at least 75% of the BFE to reduce erosion and storm damage loss. Accesses perpendicular to the shoreline would also benefit from an oblique entrance. In addition, landowners with individual private foot paths through the dunes will be encouraged by the City to abandon use of these paths and build walkovers in accordance with the GLO's Dune Protection and Improvement Manual. These efforts shall be conducted by the City in coordination with individual private landowners. Grants will be sought to fund these efforts and projects will be conducted as funding becomes available.

6.1.9 Prioritization of Improvements

The prioritized improvements/repairs, location, and type of repair of beach access points are listed in Table 1. The Table lists the projects in order of priority for construction, with the highest priority listed as number 1. Priority levels for the access points were based upon usage, need of repair, inability to provide safe access to the beach, and need to reduce storm damage loss.

Table 1. Improvement Prioritization of Beach Access Locations

PRIORITY	LOCATION	REPAIR
1	Private Accesses	Raise elevation of entrances. Establish oblique entrances.
2	Beach Access 1A	Revegetation of both sides of dune terminus. Establish oblique entrance.
3	Sand Castle Drive	Revegetation of northeast side of dune terminus. Establish oblique entrance.
4	Avenue G	Establish oblique entrance.
5	Lantana Drive	Establish oblique entrance.

6.1.10 Post-Storm Assessment Procedures

All publicly funded existing amenities and access points were inventoried to qualify for FEMA post-storm funding. Post-storm monitoring of the access points will be conducted by the City on a routine basis and within 72 hours after meteorological events of significance for compliance with the Coastal Management Plan and associated rules. A report will be generated detailing noncompliance and required repairs/replacements of parking, pedestrian and vehicular access, signage, etc. along with schedules for repair/replacement based on available local funding, claims, and grants.

6.1.11 Beach Access Goals and Implementation Schedule

Short-term beach access goals include addressing concerns listed in Table 3, as funding becomes available, and to continually monitor and maintain existing accesses.

Long-term goals include upgrading access points as needed to adapt to changing environmental conditions, increases in localized erosion, increases in storm activity, and changes in development in an attempt to mitigate impacts from erosion, minimize storm damage, and to continue to provide

realizable and safe beach accesses to the public. Specific long-term goals are to have the elevation of all accesses a minimum height of at least 75% of the BFE. All accesses within the City of Port Aransas have an elevation greater than 75% of the BFE. Potential funding/grant programs available that would assist the City with improvements with access points include the Coastal Management Program and the Statewide Transportation Enhancement program. These programs as well as any other programs that can provide funding opportunities to the City for restoration will be leveraged. Implementing these goals shall be contingent upon available funding and potential grant requirement timelines.

6.1.12 Publicly Funded Existing Amenities

The following is a list of publicly funded existing amenities within the City of Port Aransas jurisdiction:

1. 48 portable toilets. Replacement cost $600/each
2. 3 ADA portable toilets. Replacement cost $1,000/each
3. 122 disposal receptacles. Replacement cost $25/each
4. Two sets of on-beach showers consisting of 5 individual showerheads, with a wooden base that is separated from traffic with bollards. Replacement cost $14,000/set

Note: Horace Caldwell Pier is maintained by Nueces County

6.2 Evaluation of Critical Dunes

Coastal sand dunes are an important component of the beach/dune system and protect public and private property by serving as natural barriers to storm surge and erosion. Dunes provide protection to landward structures by blocking storm tides and waves, and by providing sediment to the beach. Wide beaches and high continuous dunes are the best defense against coastal storms. High, continuous dunes tend to block storm surge, whereas lower, discontinuous dunes can be overrun by storm surge and flood low-lying areas behind them (McKenna 2009). In Texas, critical dunes are those located within 1,000 feet from MHT. They protect landward properties and infrastructure as well as the beaches from erosion and storm surge.

Port Aransas and Mustang Island are fortunate to be protected by a high and wide band of strong, heavily vegetated dunes fronted by a wide beach. This dune system is classified as continuous and is one of the best dune systems in the entire state. The heights of these dunes average 12 to 15 feet and exceed 75% of the BFE. Erosion by tropical storms has narrowed the width of the beach in some areas, while beach maintenance with concurrent building of man-made dunes has helped to sustain the height of the dune system in other areas.

Within the City of Port Aransas, there are very few breaks or gaps in the dunes with no natural washouts and only minor blowouts at three locations. Areas that would benefit from restoration have been identified on the maps in Appendix A. Site visit photographs of the potential dune enhancement areas are located in Appendix C.

6.2.1 Revegation of Dunes

Vegetation is a critical component to the dune system. Mowing/cutting of vegetation within the setback area will not be allowed except for exempt areas. Mitigation projects requiring dune vegetation shall include:

- bitter panicum (Panicum amarum),

- sea oats (Uniola paniculata), and
- marshhay cordgrass (Spartina patens).

Bitter panicum has proved to be the best species for dune stabilization on the Texas coast. This native beach plant has a higher salt tolerance than many other coastal species and is a hardy grower. Sea oats are less tolerant of salt spray than bitter panicum but grow rapidly enough to avoid being smothered in rapidly shifting sand. Interplanting sea oats and bitter panicum will reduce the risk of disease or pest infestation. Marshhay cordgrass is a small, wiry perennial which spreads by rhizomes. This grass shall be planted on the landward side of dunes.

Beach morning glory and seagrape vines can form a dense cover on the seaward side of dunes within a few growing seasons. Low-growing plants and shrubs to be used on the backside of the dunes include seacoast bluestem, cucumber leaf sunflower, rose ring gallardia, partridge pea, prickly pear, and lantana. The optimum time for transplanting in Port Aransas is February, March, or April.

6.2.2 Post-Storm Assessment Procedures

All critical dune areas were inventoried to qualify for FEMA post-storm funding. Post-storm monitoring of the dune system will be conducted by Nueces County and the City of Port Aransas on a routine basis and within 72 hours after meteorological events of significance. A report will be generated detailing dune restoration needs along with schedules for repair based on available local funding, claims, and grants.

6.2.3 Critical Dune Goals and Implementation Schedule

Short-term goals include the filling in of gaps and blowouts in the foredune ridge and revegetation of these areas. Gaps will be filled to match existing dune height and width. Areas that would benefit from restoration have been identified on the maps in Appendix A. They have been numbered to indicate prioritization. Prioritization of these critical areas was based on the rate of erosion and the need to protect public and private property and infrastructure from erosion and storm damage. Specific ranking criteria for dune restoration include:

1. Existing development or high likelihood of development
2. Proximity of development to the Gulf
3. Extent or absence of fore-dune development as a high, wide , continuous ridge

Specific criteria included whether a site has fore-dunes <15' high, existing development or was platted for development seaward of the SBL. Areas were prioritized for restoration based on these specific criteria:

Priority 1 - Existing development or pre-platted vacant lots seaward of SBL and fore dunes <15' high.

Priority 2 - Existing development landward of SBL and foredunes <15' high (may include small sites where landward infill of the fore-dune complex is advisable due to a locally high erosion rate and a narrow fore-dune complex)

Priority 3 - Private lands with high potential for development based on current zoning, and dunes <15" high

Priority 4 - Publically owned lands with no current development but dunes <15' high

Priority 5 – Areas with existing development or high potential for development where primary dune are >15' but exceptionally narrow and infilling/strengthening is advisable

Long-term goals shall promote the formation of a continuous foredune ridge throughout the length of the county shoreline. The dune shall be a minimum of 10 feet in height, with a minimum width of 100 feet measured perpendicular to the gulf beach and include a vegetation planting plan consisting of 85% vegetative cover. The minimum dune height shall exceeds 75% of the BFE height from mean sea level for the highest V-Zones within the City of Port Aransas. It is recommended that dune restoration projects be designed to meet USACE standards as defined in Chapter 4 of the Coastal Engineering Manual (USACE, 2008).

Potential funding/grant programs available that would assist the City with dune restoration include the Coastal Management Program, the Coastal Erosion Planning and Response Act program. These programs as well as any other programs that can provide funding opportunities to the City for dune restoration will be leveraged. Implementation of these goals depends on the availability of funding and procurement of grants. The City is constantly pursuing opportunities for restoration and shall continue to pursue potential grants as well as other sources of funding.

The City of Port Aransas does not currently have any ongoing restoration projects other than stacking of sargassum in accordance with the USACE permit and general maintenance, but will continue to look for opportunities to fund restoration efforts.

7. ACQUISITION OF PROPERTY SEAWARD OF SETBACK LINE

The City of Port Aransas has developed criteria for identifying properties for voluntary acquisition of fee simple title or a lesser interest acquisition. These properties, which may have structures located entirely seaward of the building setback line, experience severe damage during storms, impede the development of a natural dune system and restrict the use of the public beach. To be considered for acquisition, a structure must:

- be entirely seaward of the building setback line,
- impede beach access,
- be more than 25% on the public beach,
- affect hydrology as determined by a registered professional geologist/engineer licensed in the State of Texas,
- deemed to be a hazard to health and safety, or
- cause erosion of adjacent property.

Property to be acquired will be prioritized based on the severity and amount of criteria met. Acquisition strategy will consist of:

- identification of potential property,
- negotiation of acquisition,
- funding procurement,
- agreement execution, and
- removal or relocation of structure.

8. PUBLIC OUTREACH/INTERACTION

The City of Port Aransas has conducted a public educational meeting to discuss the ERP prior to submittal of this document to the GLO. The meeting was held on June 27, 2011 at 6:00 pm. The meeting was advertised in the same manner as typical for public hearings on amendments to the Coastal Management Plan. The presentation provided data on current fore-island dune geomorphology and its relationship to the established setback line as well as prohibition on new construction, exemptions from the prohibition, construction requirements for exempt properties and other elements of the ERP. Public comment and input from Nueces County representatives were integrated and used to refine the plan.

The Port Aransas City Council gave consent on delivery of the draft ERP to the GLO at the June 16, 2011 meeting. In accordance with TAC Title 31 Chapter 15 Rule §15.17, the Port Aransas City Council will formally approve the ERP at a formal hearing. The date, time, and location of this hearing has not been determined and will be finalized once comments from the GLO have been received and implemented into the final ERP.

9. REFERENCES

Gibeaut, J. C., Hepner, T., Waldinger, R., Andrews, J., Gutierrez, R., Tremblay, T. A., Smyth, R. Changes in Gulf Shoreline Position, Mustang, and North Padre Islands, Texas, Report to the Texas Coastal Coordination Council, May 2001.

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McGowen, J.H., Brown, L.F., Jr., Evans, T.J., Fisher, W.L., and Groat, C.G., 1976. *Environmental Geologic Atlas of the Texas Coastal Zone – Bay City-Freeport Area:* Bureau of Economic Geology, The University of Texas at Austin, 98p.

McKenna, K. K., 2009 Update, Texas Coastwide Erosion Response Plan, Report to the Texas General Land Office.

APPENDIX A

City of Port Aransas Erosion Response Plan Maps

APPENDIX B

Beach Access Points – Site Photographs

Vehicle Beach Access Point at East Cotter Avenue

Vehicle Beach Access Point at Beach Street

Vehicle Beach Access Point at Lantana Drive

Vehicle Beach Access Point at Avenue G

Vehicle Beach Access Point at Sandcastle Drive

Vehicle Beach Access Point at Beach Access 1A

Vehicle Beach Access Point at Beach Access Road 1

Private Vehicle Beach Access Point

APPENDIX C

Potential Dune Enhancement Areas – Site Photographs

Potential Dune Enhancement Area - Example of Priority Ranking 1

Potential Dune Enhancement Area - Example of Priority Ranking 2

Potential Dune Enhancement Area - Example of Priority Ranking 3

Potential Dune Enhancement Area - Example of Priority Ranking 5