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Comments on Permit Application No. SWG-2007-1847

Permit Application by City of Port Aransas, Texas

Permit Application Issue Date 30 November 2007

Comments by Richard L. Watson 12 December 2007

I have reviewed the permit application No. SWG-2007-1847 prepared by Shiner Moseley and Associates, Inc. for the City of Port Aransas, Texas.

I strongly object to any permit which allows the City of Port Aransas to transport sand deposited naturally by wind or wave action on the beach, the upper beach, or the dunes in a seaward direction. I believe that in some states, this is called sand mining and is strictly forbidden.

There are several proposed actions in this permit application which threaten the long term growth of the foredune ridge system which is the primary hurricane protection for Port Aransas and is in effect a Natural Dune Seawall. The area shown as priority area A has been stable or accreting slightly since jetty construction. Priority area C is showing significant erosion and shoreline retreat. Priority area B is transitional between A and C and may be either stable or retreating and is likely to retreat due to erosion in the future.

The natural direction of sand transport across the beach is from the sea to the land by the prevailing SE winds. During the winter months, there is minor transport in the seaward direction by strong north winds. It is sand movement landward by the SE winds which provides the entire sand source for growth and re-growth of the foredune ridges. Hurricanes and strong tropical storms severely erode the foredune ridge, in some cases as much as 200 ft in a single storm. We are fortunate to have strong, wide and high dune ridges on Mustang Island which serve to protect the property landward of the dunes from frontal hurricane surge overwash, even during severe storms. These dunes are protecting over one billion dollars worth of assessed developed property in Port Aransas.

Growth and healing of the dunes is dependent on sand transport by the wind, and occasionally by development of berms on the backshore by small tropical storms and passage of distant storms such as Hurricane Rita. It takes decades for the dunes to rebuild and heal after erosion by a major storm such as Hurricane Carla (1961) or Allen (1980). After Hurricane Rita, the City of Port Aransas, spent months moving thousands of dump

trucks of sand from the upper beach to the edge of the water without a Corps permit. That sand was a high berm deposited by Rita. It was sand which was destined to make our dune ridges even stronger. It was my objections to moving that sand seaward that lead to the Corps determining that the City was operating without a permit in moving sand below the MHT line.

In response to my objections about the City's poor beach management practices in the past, the City created a temporary committee to look into the matter. It was composed of citizens which included three coastal scientists, including myself as a non-voting member. In addition the GLO participated in all meetings as did City staff. The GLO also hired a coastal expert (Kimberly K. McKenna, P.G.). MS McKenna attended at least one of our meetings and based her report on our findings, with some changes. The committee unanimously accepted the McKenna report as the final report of the committee. That report was highly critical of moving sand in the seaward direction. A copy of the McKenna report can be found at the following location. It is also presented as an enclosure.

http://texascoastgeology.com/mckenna_report.pdf

Please deny the permit parts 2 and 3 insofar as they move sand from the dune area, or upper or middle beach in a seaward direction. If sand must be moved, it should be placed in front of the foredune system, within the foredunes, or used to build an additional dune ridge landward of the main foredune ridges. This will, at least, allow the sand to reach its natural destination and strengthen the Natural Dune Seawall which is our only hurricane surge overwash protection.

Item 4, removal of Sargassum and sand between HTL and below MTL. It is necessary to remove Sargassum from the heavily used tourist beaches. If this is used to further strengthen the dunes by front stacking, mid stacking and back stacking, it is good use of the sand and seaweed and helps retain the nutrient value of the seaweed which is probably the primary nutrient source for dune vegetation. However, temporary storage of this material in the front of the dune ridges followed by later excavation of it will leave that section of the foredune ridge weak and unvegetated and very subject to rapid erosion during a storm.

The foredune ridge is best protected from small storms when the seaward edge of the dune ridge is a gentle, natural vegetated slope. In that situation wave runup does the least damage. When the edge is a vertical unvegetated scarp as it will be after excavation, the dune ridge will not have vegetative cover, or a root system to protect it and it will be rapidly undercut by waves with subsequent slope failure and rapid dune erosion, even in small storms. Any sargassum and contained sand removed should be placed in or beyond the dune system and left in place permanently. It will rapidly vegetate, strengthen the dune system, and lose the unsightly appearance of freshly deposited material.

Item 5. Conducting leveling of the beach, sand placement and sargassum collection below

MTL. Beach leveling is unnecessary and kills any incipient vegetation. Likewise scraping of minor sargassum accumulations should not occur. Left alone, it will quickly dry out and blow inland where it serves as a nutrient to the natural dune vegetation.

In summary, I strongly object to moving any sand in the seaward direction from any location on the beach or from within the dunes. If sand and/or Sargassum must be moved, it should be moved only in a landward direction and used to further strengthen our Natural Dune Seawall to protect the property behind that dune ridge. This takes no public money and provides better storm protection than costly and unsightly engineered structures.

Since this permit will enable the City, in its beach maintenance operations, to do permanent damage to the dunes by inhibiting their natural growth, I would like to request that the Corps hold a public hearing and require a full EIS.

This is my area of expertise. I have over 40 years of continuing studies of the Texas coast and its natural processes. Further information can be found at the following website. This includes photos of the City removing thousands of dump trucks of sand from the upper beach and depositing it in the water.

<http://texascoastgeology.com/pabeach/naturalduneseawall.html>

Thank you very much for your consideration.

Sincerely,

Richard L. Watson, Ph.D., PG
<http://TexasCoastGeology.com>

The following link is the permit application.
<http://www.swg.usace.army.mil/reg/notice/PN2007-1847.pdf>

The plans associated with this application can be found at the following link.
<http://www.swg.usace.army.mil/reg/notice/2007-1847.pdf>

Enclosures:

McKenna Report - STRATEGIES FOR MANAGING SEDIMENT ON PUBLIC BEACHES CITY OF PORT ARANSAS, TEXAS