January 7, 2013 196991

Ms. Joni Clarke
City of South Padre Island
4601 Padre Boulevard
South Padre Island, TX 78597

RE: SOUTH PADRE ISLAND CONVENTION CENTRE WETLAND DETERMINATION

Dear Ms Clarke:

HDR Engineering has been retained by the City of South Padre Island to conduct a wetland determination on the grounds of the South Padre Island Convention Centre on South Padre Island, Texas (see Sheet 1 of 2). The City has plans for expansion of the Convention Centre to include an addition to the exhibit hall, ballroom, lobby and administration addition. The City would like to construct the new additions in an area that does not impact jurisdictional wetlands.

On December 12, 2012 HDR Engineering conducted a wetland determination of the proposed project site according to the process described in the "Routine Onsite Determination Method in the US Army Corp of Engineers (USACE) Wetlands Delineation Manual (1987) and the "Interim Regional Supplement to the Corps of engineers Wetland Delineation Manual: Atlantic and Gulf Plain Region."

The determination revealed that there are approximately 14.5 acres of wetlands surrounding the convention centre and parking areas. The wetland boundaries are presented on sheet 2 of 2. Developable areas that would not impact existing wetlands are restricted to existing parking areas, the memorial garden area, and a narrow band of uplands along the north and west side of the Convention Centre.

Wetlands on the site consist of freshwater emergent and estuarine emergent wetlands that are likely to be considered jurisdictional and regulated by USACE. A request for verification of our wetland determination has been prepared and will be submitted to the USACE upon approval from the City of South Padre Island. A draft of this submittal is attached for your review.

HDR Engineering, Inc.
Texas Registered Engineering Firm F-754

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Suite 1600
Corpus Christi, TX 78401-0850

Phone: (361) 696-3300
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www.hdrinc.com

We recommend that we submit the request to the USACE for verification if South Padre Island's goal is to develop adjacent to the observed wetlands. A permit application and associated mitigation plan would be required if any of the proposed works encroach on the observed wetlands. Mitigation typically requires the replacement of impacted wetlands at a 3 to 1 ratio.

Thank you for the opportunity to assist the City of South Padre Island. If you have any question please fell free to call me at (361) 696-3322 or on my cell at (361) 779-0399.

Sincerely,

HDR ENGINEERING, INC.

Gary McCoig
Project Manager

GMM/jcm

Enclosures: 1) Wetland Boundary Maps (Sheets 1-2)
2) Draft Wetland Determination (to be sent to USACE)

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Enclosure 1
Wetland Boundary Maps (Sheets 1-2)

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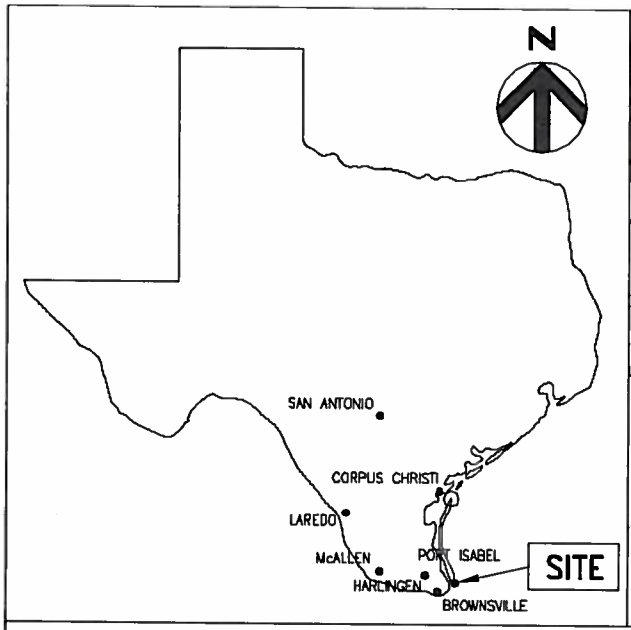
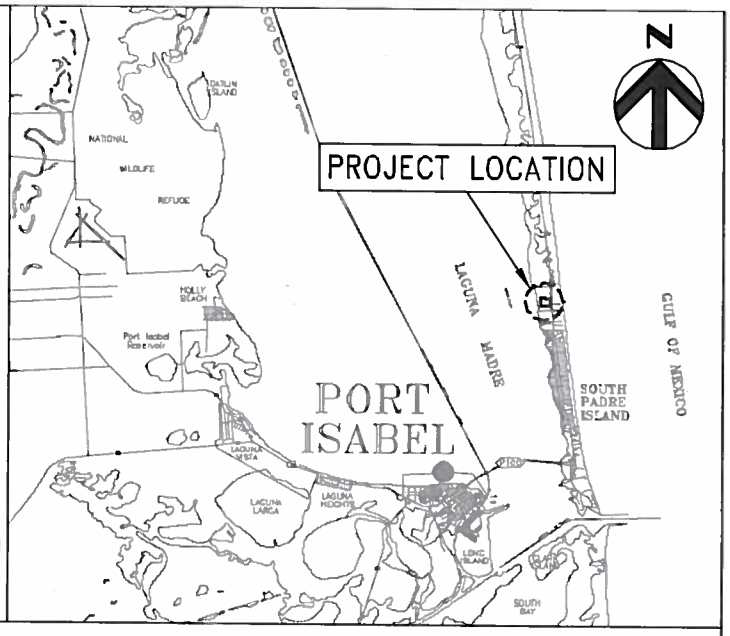
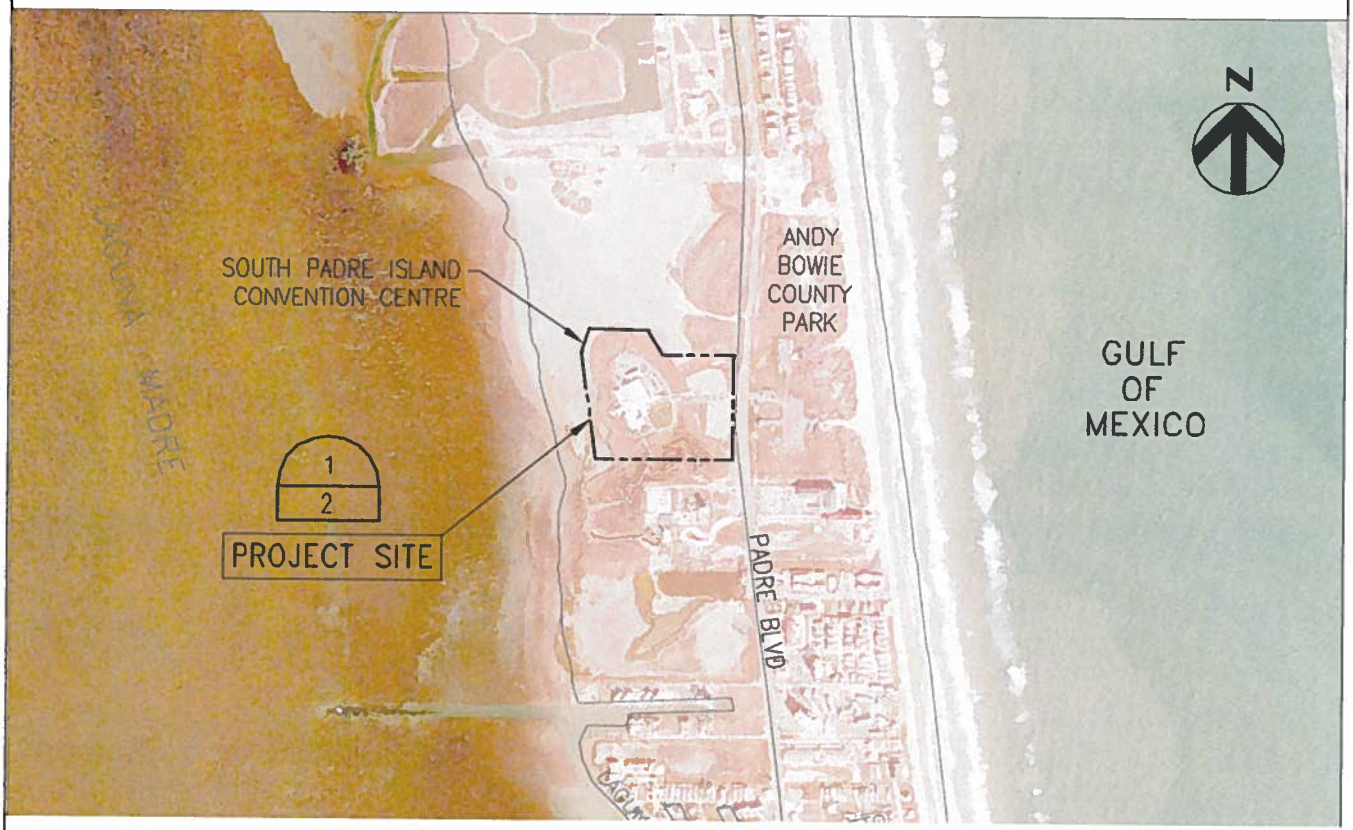


VICINITY MAP



LOCATION MAP



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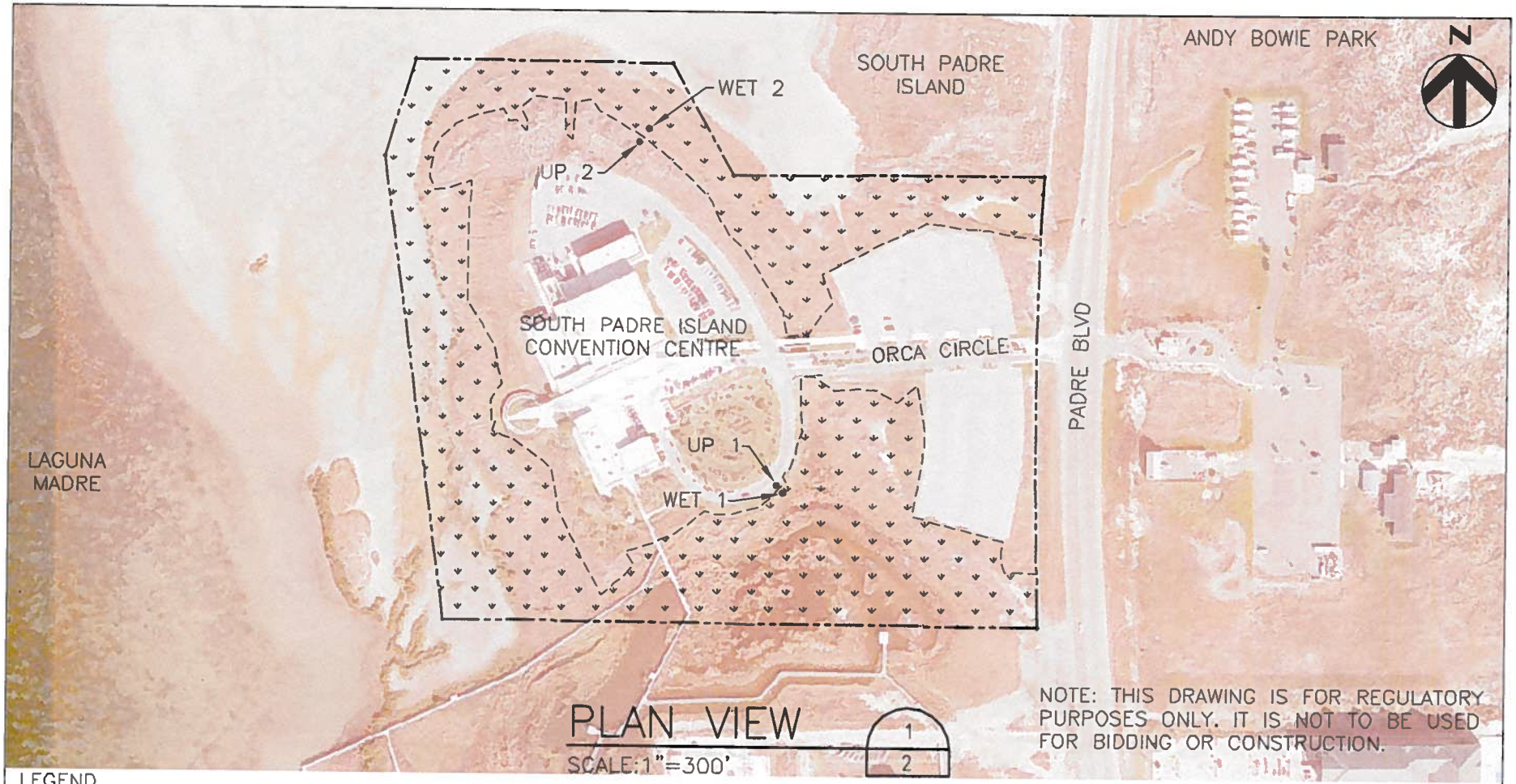
Permit Application No.:
Applicant Name:
Sheet ___ of ___

HDR

ACTIVITY: WETLAND DETERMINATION	
APPLICANT: CITY OF SOUTH PADRE ISLAND	DATUM:
DATE: 12/12	REV. DATE:
HDR JOB NO: 196991	SHEET 1 OF 2



PLAN VIEW

SCALE: 1"=300'

1
2

LEGEND

PROPERTY BOUNDARY

WETLAND AREA – 14.5 ACRES

SAMPLE POINTS

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Permit Application No.:
Applicant Name:
Sheet ____ of ____

HDR

ACTIVITY: WETLAND DETERMINATION

APPLICANT: CITY OF SOUTH PADRE ISLAND

DATUM: N/A

DATE: 12/12

REV. DATE: 00/00

HDR JOB NO: 196991

SHEET 2 OF 2

Enclosure 2
Draft Wetland Determination (to be sent to USACE)

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January 4, 2013 196991

Mr. Lloyd Mullins
U.S. Army Corps of Engineers
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411

RE: REQUEST FOR VERIFICATION OF A WETLAND DETERMINATION AT THE CITY OF SOUTH PADRE ISLAND CONVENTION CENTRE, SOUTH PADRE ISLAND, CAMERON COUNTY, TX.

Mr. Mullins,

1.0 INTRODUCTION

HDR Engineering has been retained by the City of South Padre Island to assist in pursuing a verified Jurisdictional Determination (JD) from the U.S. Army Corps of Engineers (USACE) for the South Padre Island Convention Centre on South Padre Island, Texas (see Sheet 1 of 2). The City has plans for expansion of the convention centre and would like to construct the new addition in an area that does not impact jurisdictional wetlands. The wetland boundaries are presented on Sheet 2 of 2.

2.0 WETLAND DETERMINATION

2.1 Methods

HDR Engineering conducted a wetland determination of the proposed project site on December 12, 2012 according to the process described in the "Routine Onsite Determination Method" in the USACE Wetlands Delineation Manual (1987) and the "Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Plain Region." During the preliminary analysis, aerial photography was used to determine the likelihood of occurrence, and probable location, of wetlands on the site.

At each sample point, dominant plant species were identified and recorded. To determine if hydrophytic vegetation was dominant, the wetland indicator status for each of the dominant species was identified using the "National List of Plant Species That Occur in Wetlands: Texas" (Department of Interior, 2012). The presence or absence of wetland soils and hydrology were determined for each sample site. Munsell Soil Color Charts were used to identify the hue, value, and chroma of soil samples. Field indicators of hydrology were determined at each sample site. The new sample points were marked with stakes and logged using differential global positioning systems (GPS) equipment with sub-meter accuracy.

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2.2 Findings

The determination revealed that the property surrounding the convention centre and parking areas contain approximately 14.5 acres of wetlands (see Sheet 2 of 2). The wetlands comprise freshwater emergent and estuarine intertidal wetlands. The freshwater wetlands on the south side of the property receive effluent discharge from a City waste water treatment plant. The freshwater wetlands flow into the Laguna Madre, transitioning from freshwater to estuarine wetlands on the southern and western portions of the property. Dominant vegetation in the freshwater wetlands includes *Spartina patens*, *Typha latifolia*, *Scirpus spp.*, and *Stenotaphrum secundatum* (see Photos 1, 3, & 5). Dominant vegetation in the estuarine wetlands consists of *Spartina spartinae, Spartina patens, Andropogon glomeratus*, and *Scirpus spp.*(see Photos 2, 4, & 6).

Rainfall runoff drains through a storm water feature (currently utilized as a memorial garden) (see Photos 7 & 8) and then to the wetlands on the south side of the property. The area is landscaped with St. Augustine grass and various exotic and native plants. Attempts to excavate pits in the area revealed a fabric landscapers cloth under the soil surface.

3.0 REQUESTED ACTION

On behalf of the City of South Padre Island we request your verification of the wetlands boundaries on the project site. Thank you very much for your time. Please contact me directly with any questions (gary.mccoig@hdrinc.com or 361/696-3322).

Sincerely,

HDR ENGINEERING, INC

Gary McCoig
Project Manager

Enclosures: Attachment 1 – Wetland Boundary Maps Sheets 1-2
Attachment 2 – Coordinate Data
Attachment 3 – Wetland Data Sheets
Attachment 4 – Study Area Photographs

Attachment 1

Wetland Boundary Maps

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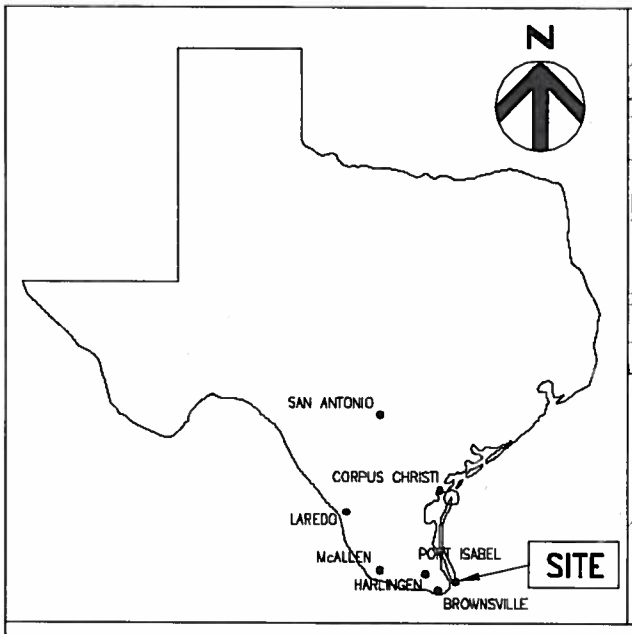
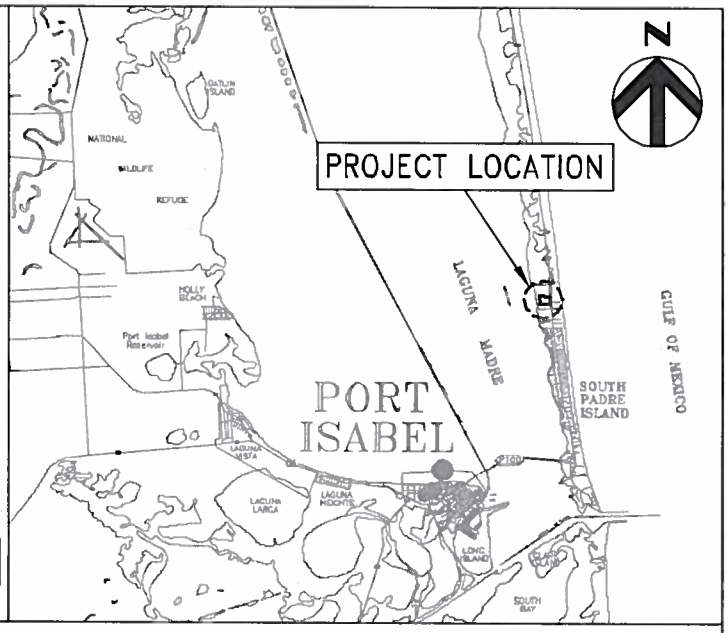
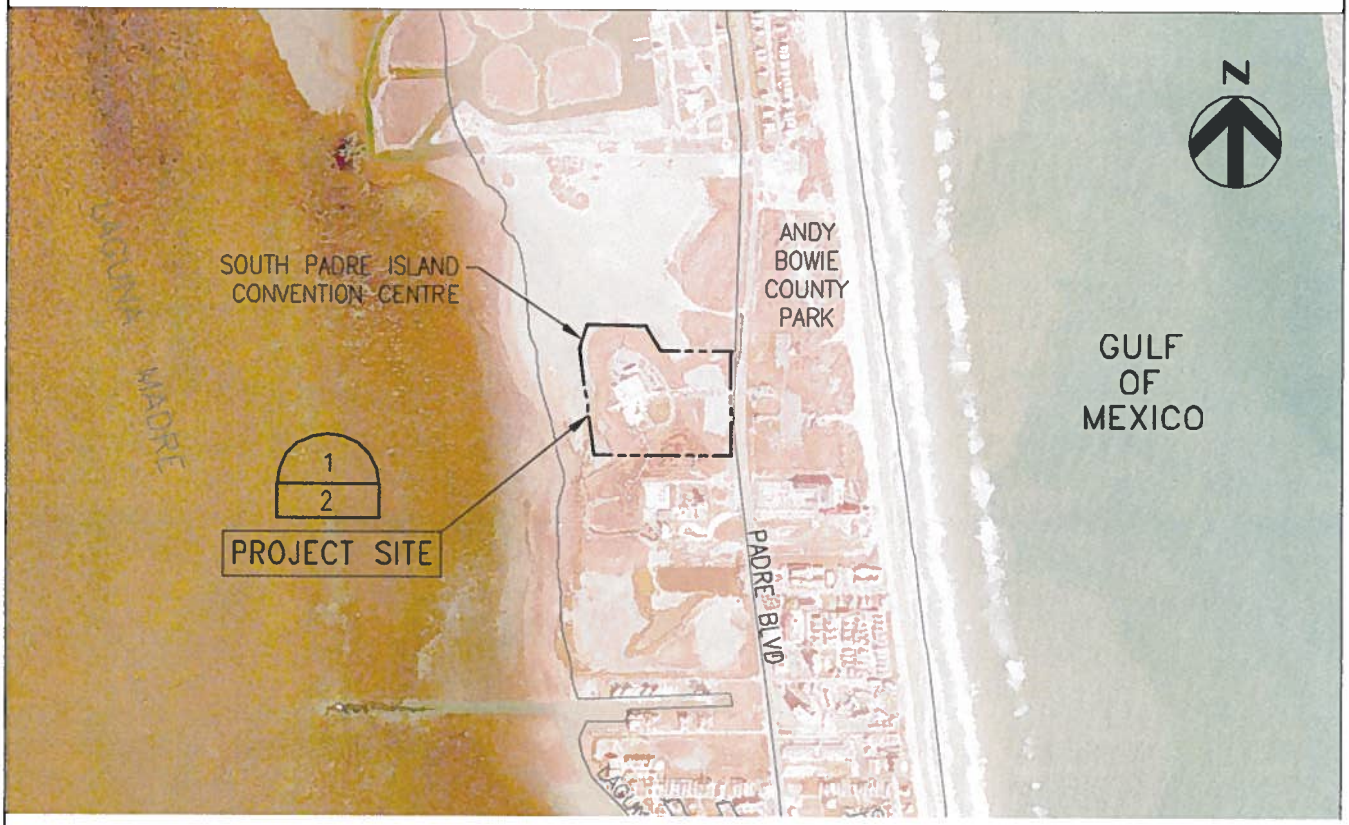


VICINITY MAP



LOCATION MAP



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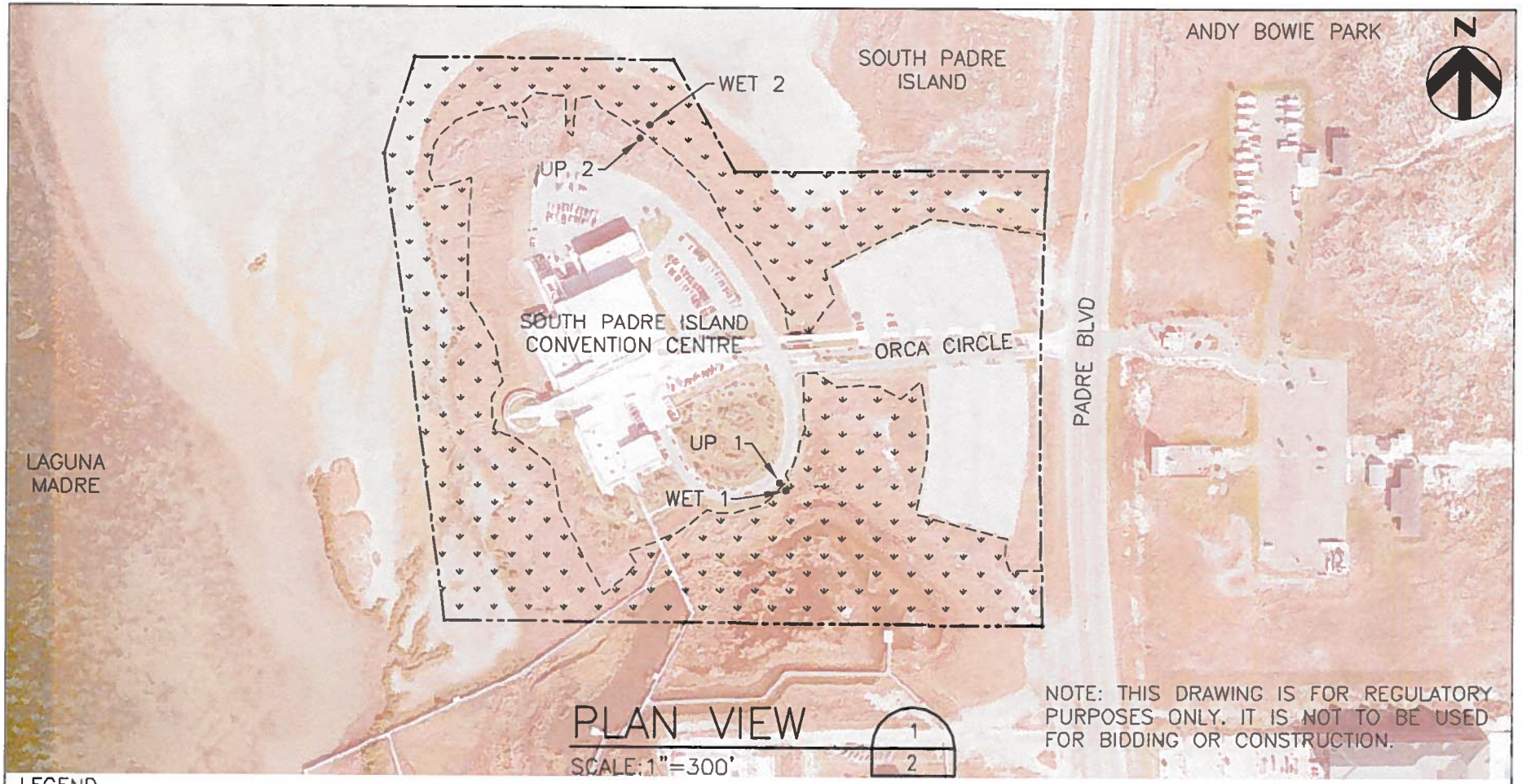
Applicant Name:
Sheet ___ of ___

HDR

ACTIVITY: WETLAND DETERMINATION	
APPLICANT: CITY OF SOUTH PADRE ISLAND	DATUM:
DATE: 12/12	REV. DATE:
HDR JOB NO: 196991	SHEET 1 OF 2



PLAN VIEW

SCALE: 1"=300'

LEGEND

- PROPERTY BOUNDARY
- WETLAND AREA – 14.5 ACRES
- SAMPLE POINTS

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Applicant Name:
Sheet ____ of ____

HDR

ACTIVITY: WETLAND DETERMINATION

APPLICANT: CITY OF SOUTH PADRE ISLAND

DATUM: N/A

DATE: 12/12

REV. DATE: 00/00

HDR JOB NO: 196991

SHEET 2 OF 2

Attachment 2

Coordinate Data

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South Padre Island Convention Centre
Wetland Determination
December 2012, Coordinate Data
State Plane Texas Central (Feet)-NAD 83

POINT NUMBER	NORTHING	EASTING	TAG	PDOP	NUMBER OF SATELITES
1	16578378.09	1419729.55	b1	<4	8
2	16578377.14	1419681.68	b2	<4	8
3	16578402.06	1419671.80	b3	<4	8
4	16578441.64	1419676.14	b4	<4	8
5	16578491.81	1419489.71	b5	<4	8
6	16578551.37	1419501.02	b6	<4	8
7	16578591.49	1419507.95	b7	<4	8
8	16578632.73	1419514.55	b8	<4	8
9	16578669.66	1419513.63	b9	<4	8
10	16578711.70	1419508.18	b10	<4	8
11	16578762.49	1419499.30	b12	<4	8
12	16578750.63	1419415.23	b14	<4	8
13	16578724.47	1419458.49	b13b	<4	8
14	16578752.10	1419374.71	b15	<4	8
15	16578748.94	1419329.54	b16	<4	8
16	16578778.52	1419286.61	b17	<4	8
17	16578775.83	1419259.80	b18	<4	8
18	16578739.12	1419260.08	b19	<4	8
19	16578699.38	1419260.54	b20	<4	8
20	16578664.81	1419263.69	b21	<4	8
21	16578643.80	1419254.96	b22	<4	8
22	16578619.88	1419250.18	b23	<4	8
23	16578588.09	1419238.84	b25	<4	8
24	16578582.65	1419231.01	b26	<4	8
25	16578570.87	1419224.75	b27	<4	8
26	16578559.77	1419231.70	b28	<4	8
27	16578541.64	1419212.68	b29	<4	8
28	16578524.47	1419197.54	b30	<4	8
29	16578507.83	1419175.67	b31	<4	8
30	16578498.53	1419145.32	b32	<4	8
31	16578491.03	1419115.93	b33	<4	8
32	16578491.98	1419086.38	b34	<4	8
33	16578499.13	1419066.70	b35	<4	8
34	16578469.30	1419031.10	b36	<4	8
35	16578450.89	1419002.98	b37	<4	8
36	16578439.77	1418974.84	b38	<4	8
37	16578433.72	1418964.08	b39	<4	8
38	16578419.95	1418924.69	b40	<4	8
39	16578414.25	1418903.27	b40	<4	8
40	16578386.62	1418921.97	b41	<4	8
41	16578361.69	1418899.00	b42	<4	8
42	16578346.20	1418879.70	b43	<4	8
43	16578325.56	1418855.51	b44	<4	8

South Padre Island Convention Centre
Wetland Determination
December 2012, Coordinate Data
State Plane Texas Central (Feet)-NAD 83

44	16578661.09	1418629.19	b69	<4	8
45	16578679.11	1418635.85	b69b	<4	8
46	16578651.33	1418651.27	b68b	<4	8
47	16578641.33	1418674.39	b67b	<4	8
48	16578599.90	1418733.82	b67b	<4	8
49	16578585.49	1418750.04	b66b	<4	8
50	16578508.70	1418764.54	b65b	<4	8
51	16578496.44	1418767.30	b64b	<4	8
52	16578680.30	1418626.79	b70	<4	8
53	16578723.39	1418625.24	b71	<4	8
54	16578756.85	1418647.19	b72	<4	8
55	16578790.06	1418639.06	b73	<4	8
56	16578834.01	1418633.04	b75	<4	8
57	16578880.79	1418605.14	b76	<4	8
58	16578925.33	1418576.89	b77	<4	8
59	16578927.92	1418574.42	b77	<4	8
60	16579001.56	1418573.97	b78	<4	8
61	16579072.80	1418575.01	b79	<4	8
62	16579115.07	1418576.66	b79	<4	8
63	16579173.59	1418581.84	b80	<4	8
64	16579157.51	1418532.30	b81	<4	8
65	16579154.26	1418506.83	b82	<4	8
66	16579181.14	1418495.64	b83	<4	8
67	16579238.41	1418503.91	b84	<4	8
68	16579265.60	1418519.88	b85	<4	8
69	16579289.02	1418548.45	b85	<4	8
70	16579307.21	1418587.19	b86	<4	8
71	16579322.16	1418645.75	b87	<4	8
72	16579295.86	1418656.93	b88	<4	8
73	16579298.38	1418672.74	b89	<4	8
74	16579278.07	1418692.80	n90	<4	8
75	16579300.58	1418693.73	b91	<4	8
76	16579323.75	1418682.43	b92	<4	8
77	16579347.49	1418709.69	b93	<4	8
78	16579342.75	1418771.62	b95	<4	8
79	16579272.80	1418772.71	b97	<4	8
80	16579260.16	1418787.22	b98	<4	8
81	16579294.92	1418789.81	b99	<4	8
82	16579337.13	1418793.63	b100	<4	8
83	16579341.60	1418825.53	b101	<4	8
84	16579318.61	1418843.30	b102	<4	8
85	16579270.39	1418932.60	b103	<4	8
86	16579215.79	1418995.84	b104	<4	8
87	16579147.30	1419066.12	b105	<4	8

South Padre Island Convention Centre
Wetland Determination
December 2012, Coordinate Data
State Plane Texas Central (Feet)-NAD 83

88	16579066.19	1419109.44	106	<4	8
89	16579036.62	1419143.94	b107	<4	8
90	16578910.61	1419221.54	b108	<4	8
91	16578857.79	1419230.59	b109	<4	8
92	16578861.52	1419273.45	b110	<4	8
93	16578897.93	1419296.94	b111	<4	8
94	16578928.97	1419322.71	b112	<4	8
95	16578987.96	1419302.48	b113	<4	8
96	16579017.55	1419358.85	b114	<4	8
97	16579050.01	1419421.35	b115	<4	8
98	16579072.68	1419474.27	b116	<4	8
99	16579093.16	1419516.22	b117	<4	8
100	16579088.70	1419554.75	b118	<4	8
101	16579082.54	1419602.45	b119	<4	8
102	16579078.95	1419648.22	b120 survey marker	<4	8
103	16579069.63	1419693.93	b121	<4	8
104	16579064.74	1419733.60	b122	<4	8
105	16579055.48	1419792.90	b123	<4	8
106	16578538.49	1419225.41	wet 1	<4	8
107	16578548.72	1419216.99	up1	<4	8
108	16578436.90	1418796.59	b130b	<4	8
109	16578400.96	1418814.42	b131b	<4	8
110	16579283.58	1418944.26	wet 2	<4	8
111	16579267.11	1418932.53	up2	<4	8

Attachment 3

Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: South Padre Island Convention Centre City/County: Cameron Sampling Date: 12/12/12

Applicant/Owner: City of South Padre Island State: Texas Sampling Point: Up 1

Investigator(s): Gary McCoig, Jeff Pollack Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5-6

Subregion (LRR or MLRA): LLR T Lat: 26° 8' 24.40" N Long: 97° 10' 27.06" W Datum: NAD83

Soil Map Unit Name: Mustang Fine Sands NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): none
Water Table Present?	Yes _____	No ✓	Depth (inches): none-16
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): none-16

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Up 1

Tree Stratum (Plot sizes: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (30 ft.)			
1. Stenotaphrum secundatum	100	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

Area is landscaped with planted grass.

SOIL

Sampling Point: Up 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10 Y\R 4/3	100						Sandy clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) (LRR T, U)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Top soils has been used as fill in this area. The area has a sprinkler system and is maintained as a lawn.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: South Padre Island Convention Centre City/County: Cameron Sampling Date: 12/12/12

Applicant/Owner: City of South Padre Island State: Texas Sampling Point: Up 2

Investigator(s): Gary McCoig, Jeff Pollack Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Coastal Dune Local relief (concave, convex, none): Concave Slope (%): 5-6

Subregion (LRR or MLRA): LLR T Lat: 26° 8' 31.54" N Long: 97° 10' 30.10" W Datum: NAD 83

Soil Map Unit Name: Mustang Fine Sands NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): none
Water Table Present?	Yes _____	No ✓	Depth (inches): none-16
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): none-16

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Up 2

Tree Stratum (Plot sizes: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (30 ft.)			
1. Schizachyrium scoparium	60	yes	FACU
2. Spartina spartinae	40	yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species		x 2 =	
FAC species		x 3 =	
FACU species	60	x 4 =	240
UPL species		x 5 =	
Column Totals:	100 (A)		280 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: Up 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10 Y\R 7/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) (LRR T, U)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✓

Remarks:

Top soils has been used as fill in this area. The area has a sprinkler system and is maintained as a lawn.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: South Padre Island Convention Centre City/County: Cameron Sampling Date: 12/12/12

Applicant/Owner: City of South Padre Island State: Texas Sampling Point: Wet 1

Investigator(s): Gary McCoig, Jeff Pollack Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Drainage area Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LLR T Lat: 26 8' 24.29" N Long: 97 10' 26.97" W Datum: NAD 83

Soil Map Unit Name: Mustang Fine Sands NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Area is inundated. Hydric soils are assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 4-6
Water Table Present?	Yes ✓	No _____	Depth (inches): +4
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-16

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Wet 1

Tree Stratum (Plot sizes:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum ( )			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum ( )			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (30 ft.)			
1. Spartina patens	90	yes	FACW
2. Borrichia frutescens	5	no	OBL
3. Stenotaphrum secundatum	4	no	FAC
4. Scipus spp.	1	no	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum ( )			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: Wet 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) (LRR T, U)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

Hydric soils assumed because of 4 to 6 inches of standing water

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: South Padre Island Convention Centre City/County: Cameron Sampling Date: 12/12/12

Applicant/Owner: City of South Padre Island State: Texas Sampling Point: wet 2

Investigator(s): Gary McCoig, Jeff Pollack Section, Township, Range: _____

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): Convex Slope (%): 0-1

Subregion (LRR or MLRA): LLR T Lat: 26 8' 31.70" N Long: 97 10' 29.97" W Datum: NAD 83

Soil Map Unit Name: Mustang Fine Sands NWI classification: Esturine/Marine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ✓ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): none
Water Table Present?	Yes ✓	No _____	Depth (inches): 14-16
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 14-16

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: wet 2

Tree Stratum (Plot sizes: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Shrub Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (30 ft.)			
1. Spartina spartinae	40	yes	OBL
2. Spartina patens	30	yes	FACW
3. Scirpus spp.	15	no	OBL
4. Andropogan glomeratus	15	no	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (_____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: wet 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 Y\R 3/3	100					Sand	
6-16	10 Y/R 5/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ✓ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) (LRR T, U)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Thin dark layer of organics on top.

Attachment 4

Study Area Photographs

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South Padre Island
Convention Centre
Photo Log

Photo 1: Upland and wetland sample point 1. View to southeast

Photo 2: Upland and wetland sample point 2. View to north

Photo 3 Wetland area on south side of property

Photo 4: Wetland area on west side of property

Photo 5: Wetland area on south side of property

Photo 6: Wetland area on north side of property.

Photo 7: Memorial garden area. Note drainage pipe at bottom of wall

Photo 8: Memorial garden drainage culvert. View to northwest.