

ATTACHMENT B  
MITIGATION COMPLETION INFORMATION



RECEIVED JUL 10 2009

Harborwalk, L.P.  
Mitigation Plan

## MITIGATION PLAN

### I. INTRODUCTION

Harborwalk, L.P. is applying for an after-the-fact permit for unauthorized and additional (planned) impacts to waters of the US in association with construction of a canal development in Hitchcock, Galveston County, TX. This project was originally authorized under DA Permit 22079; however, Harborwalk, L.P. initiated construction on a variation of the permitted alternative under the incorrect assumption that the variation would result in no additional net impacts. Further, Permit 22079 expired and was not renewed during dredging, construction, and fill material placement in waters of the US.

Harborwalk, L.P. is seeking US Army Corps of Engineers (USACE) after-the-fact authorization (file # SWG-2007-00597) for work done in violation of DA Permit 22079 as well as for additional (planned) impacts associated with the completion of the project.

### II. PROPOSED MITIGATION

Harborwalk L.P. proposes to mitigate for unauthorized and additional (planned) impacts to waters of the US by creating an additional 7 acres of salt marsh by lowering four separate sections of upland along the western bank of the Highland Bayou Diversion Channel to the elevation of existing *Spartina alterniflora* salt marsh (See Mitigation Sheet 2); all excavated material will be side cast into adjacent uplands. This additional 7 acres of created salt marsh reflects a mitigation ratio of 3:1 for the unauthorized/additional 1.54 acres of tidal wetland impacts and a 0.5:1 ratio for the unauthorized/additional 5.27 acres of impacts to open water.

Mechanical equipment used during the excavation will remain within the footprint of the proposed marsh creation where practicable or will work from adjacent uplands; no additional wetlands will be impacted during the proposed mitigation work.

As part of the mitigation, Harborwalk, L.P. proposes to install circulation channels within Mitigation Areas B and C; each channel will have an approximate 6' top width, an approximate 2' bottom width, and approximate 1:1 side slopes. Each channel will be excavated to approximately -1.0 MLT (See Mitigation Sheet 6). Excavated material will be side cast into adjacent uplands.

### III. IMPLEMENTATION, MONITORING, AND LONG-TERM MANAGEMENT

In order to assure timely construction of the mitigation area, the applicant will commence construction of the mitigation area prior to commencing general project construction. Harborwalk, L.P. will be responsible for monitoring of the site for a total of 5 years. The success of the proposed mitigation activities will be gauged by the following criteria:

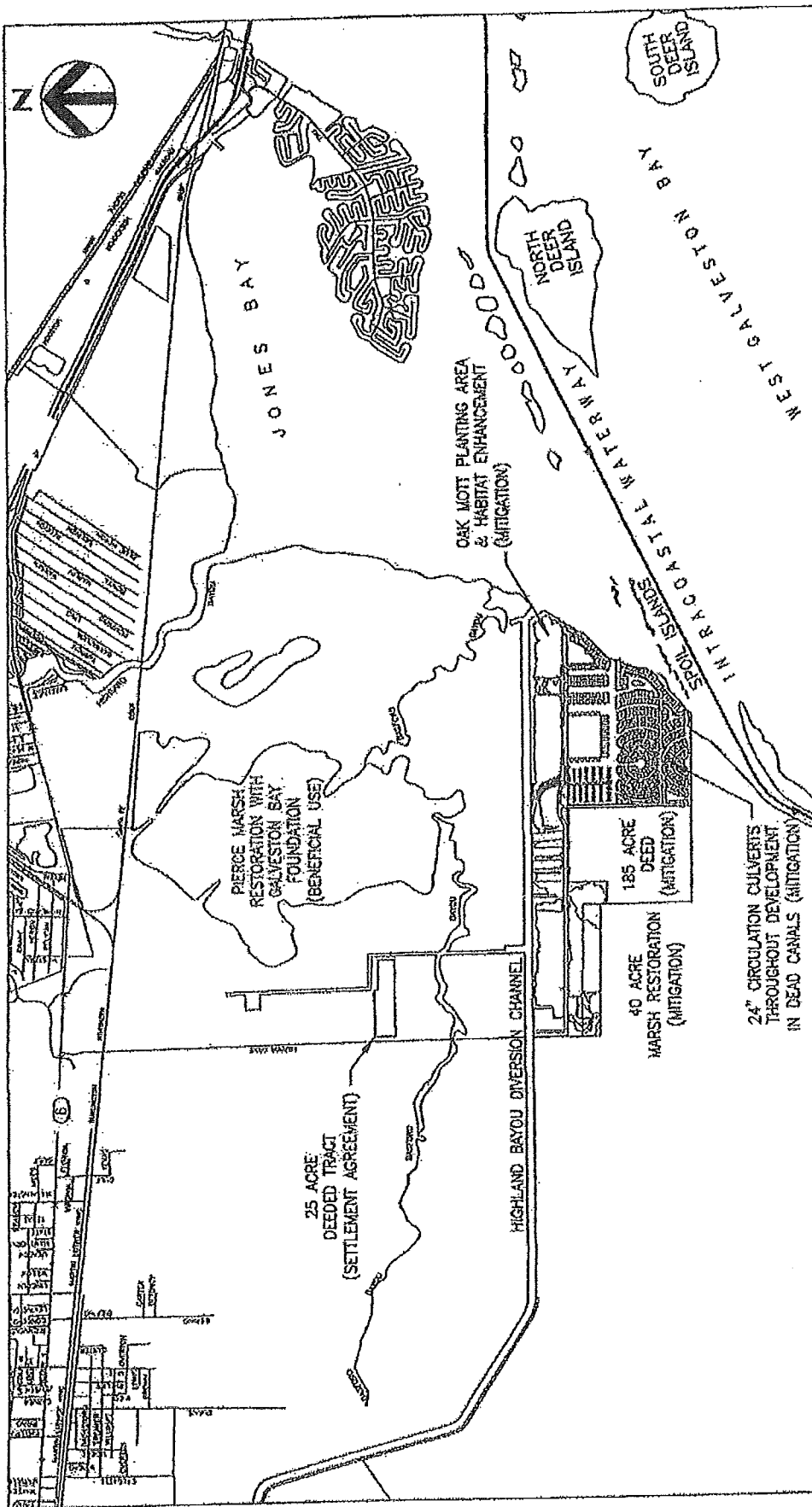
1. The amount of aerial coverage of the target vegetation, in percent, will be monitored within the mitigation area and subsequent reports, including photo

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Harborwalk, L.P.  
Mitigation Plan

documentation, will be submitted to the USACE at 1-year, 2-years, 3-years, 4-years, and 5-years following the initial creation of the above habitat.

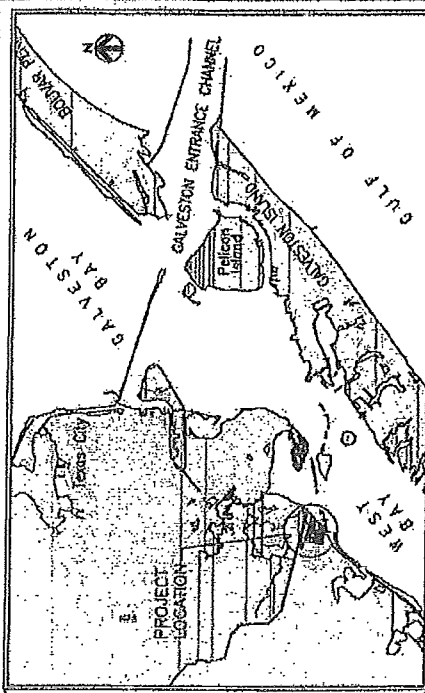
2. If 25% aerial coverage of the target habitat is not achieved after 1-year, a meeting will be conducted with Harborwalk, L.P., HDR|Shiner Moseley, and USACE to determine if changes need to be made to the mitigation plan.
3. If 50% aerial coverage of the target habitat is not achieved after 2-years, a meeting will be conducted with Harborwalk, L.P., HDR|Shiner Moseley, and USACE to determine if planting is needed or if changes need to be made to the mitigation plan.
4. If 70% aerial coverage of the target habitat is not achieved by the end of the third year, a meeting will be conducted with Harborwalk, L.P., HDR|Shiner Moseley, and USACE to determine if planting is needed or if changes need to be made to the mitigation plan. If the mitigation is deemed successful (based on aerial coverage of the target habitat) by the end of the third year, the USACE may waive the monitoring and reporting requirement for years 4 and 5.



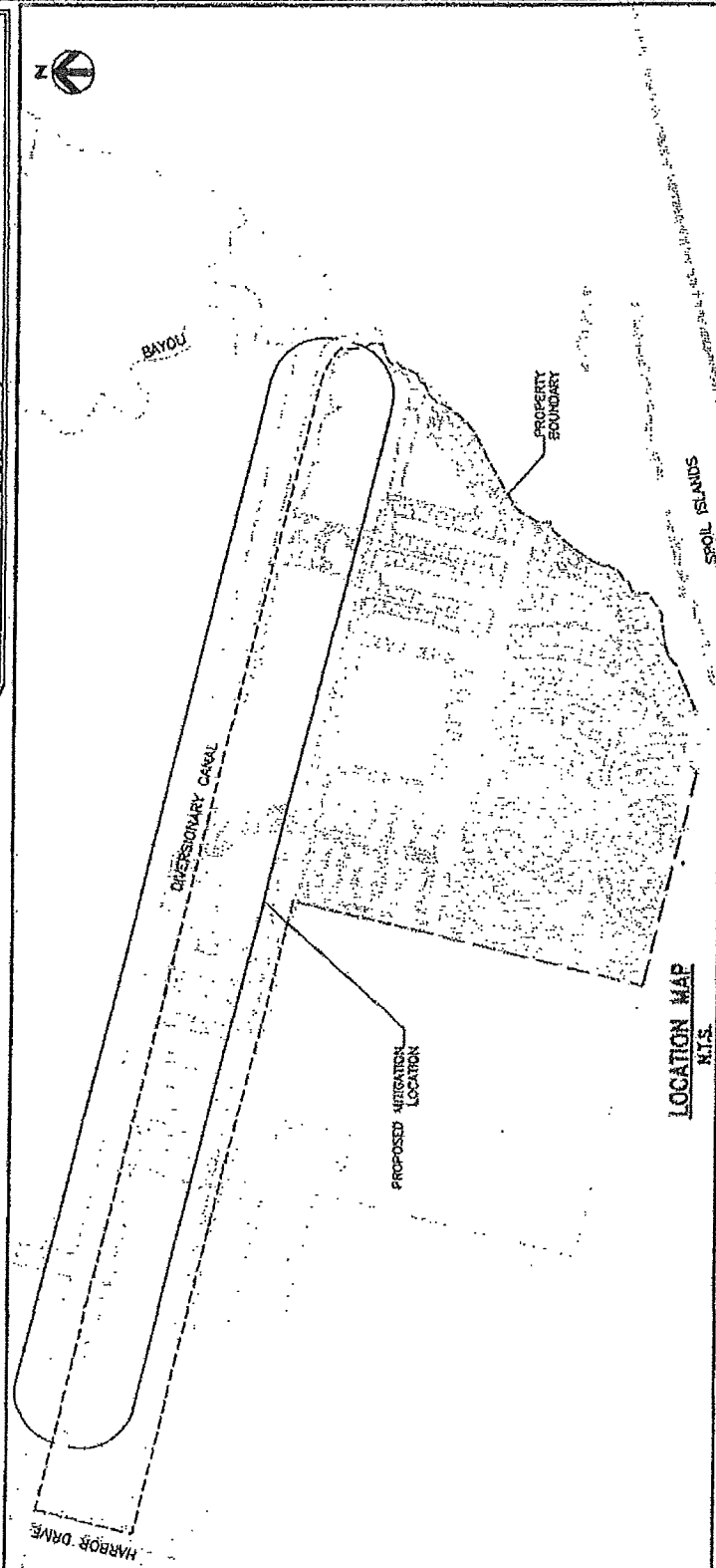
**PERMITTED MITIGATION LAYOUT &  
VOLUNTARY SETTLEMENT AGREEMENT**

APPLICANT: HARBORWALK, L.P.	
PROJECT NAME: HARBORWALK	
COUNTY: GALVESTON	
DATE: 01-17-08	REV. DATE: 07-10-09
DATE:	DATUM:
PC	SH
AP	

<b>FDR</b>	<b>SHINER MOSELEY</b>	PROJECT No: 70846	SHEET 9 of 12
		Harborwalk, L.P. Permit # SWG-2007-00597 <b>ATTACHMENT I</b> Page: 3 of 10	



VICINITY MAP  
N.T.S.



LOCATION MAP  
N.T.S.

ACTIVITY: LOCATION MAP, HARBORWALK MITIGATION FOR ADDITIONAL IMPACTS

APPLICANT: HARBORWALK, L.P.

DATE: 05/09

HDR JOB NO: 70546

Harborwalk, L.P.

Permit # SWG-2007-00597

ATTACHMENT I

Page: 4 of 10

DATUM:

REV. DATE: 09/00

SHEET 01 OF 07



HDR  
HEADQUARTERS  
10000 WEST 100TH AVENUE  
GRAND RAPIDS, MI 49507-1000  
TEL: 616-776-0800  
WWW.HDR.COM



BASFORD

BAYOU

AREA D-2.00 ACRES  
SEE SHT. 5 FOR DETAIL

Boundary Line

AREA B-1.00 ACRES  
SEE SHT. 4 FOR DETAIL

Boundary Line

BAYOU  
AREA A-2.54 ACRES  
SEE SHT. 3 FOR DETAIL

Boundary Line

AREA C-1.46 ACRES  
SEE SHT. 4 FOR DETAIL

Boundary Line

Setback

GALVESTON

**MITIGATION PLAN OVERVIEW**  
W.T.S.

Legend	
Existing Interior Wetlands	
Created Sparline Wetlands	

ACTIVITY: MITIGATION PLAN OVERVIEW

APPLICANT: HARBORWALK, L.P.

DATE: 05/09

HDR JOB NO: 70846

Harborwalk, L.P.  
Permit # SWG-2007-00597  
ATTACHMENT I  
Page: 5 of 10

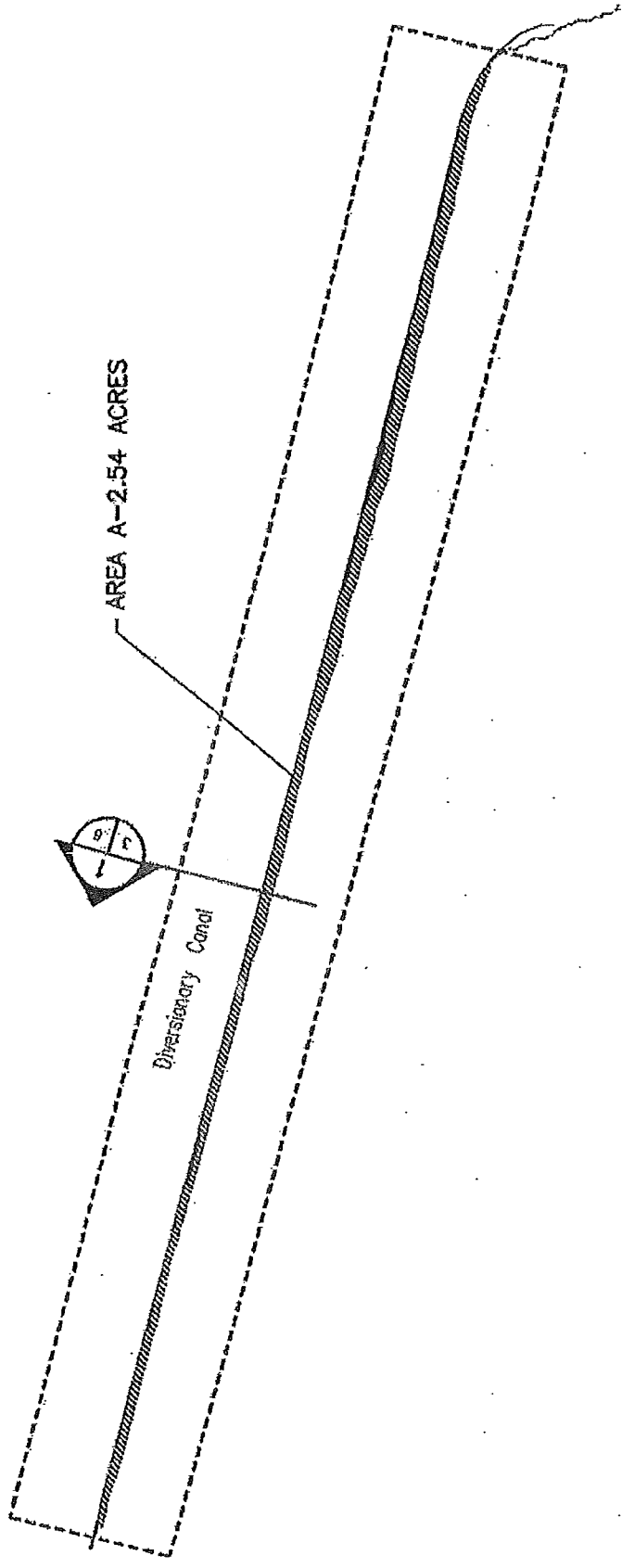
DATUM:

REV. DATE: 00/00

SHEET 02 OF 07

**HDR**

HDR Engineering, Inc.  
1725 West Loop South, Suite 200  
Houston, Texas 77056



Note:  
This drawing is for permitting  
purposes only and not for  
construction.

1 PLAN  
2 3 N.T.S.

Legend	
Existing Interior Wetlands	
Created Spartina Wetlands	
Sand Flats Avoided	

SECTION 5

AREA A - PLAN VIEW DETAIL  
6:15

	ACTIVITY: AREA A - PLAN VIEW DETAIL	Harborwalk, L.P. Permit # SWG-2007-00597 ATTACHMENT I Page: 6 of 10	DATUM:
	APPLICANT: HARBORWALK, L.P.	DATE: 05/09	REV. DATE: 09/00
	HDR JOB NO: 70846		SHEET 03 OF 07

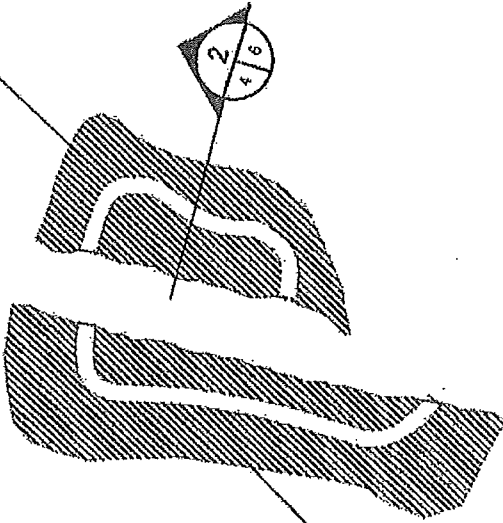




Diversionsary Canal

AREA B-1.001 ACRES

AREA C-1.46 ACRES



NOTE:  
This drawing is for permitting  
purposes only and not for  
construction.

2 PLAN  
2 4 N.T.S.

Legend	
	Existing Interior Wetlands
	Created/Spartina Wetlands
	Sand Flats Avoided

AREA B & C - PLAN VIEW DETAIL  
N.T.S.

ACTIVITY: AREA B & C - PLAN VIEW DETAIL

APPLICANT: HARBORWALK, L.P.

DATE: 05/09

HDR JOB NO: 70846

Harborwalk, L.P.  
Permit # SWG-2007-00597  
ATTACHMENT I  
Page: 7 of 10

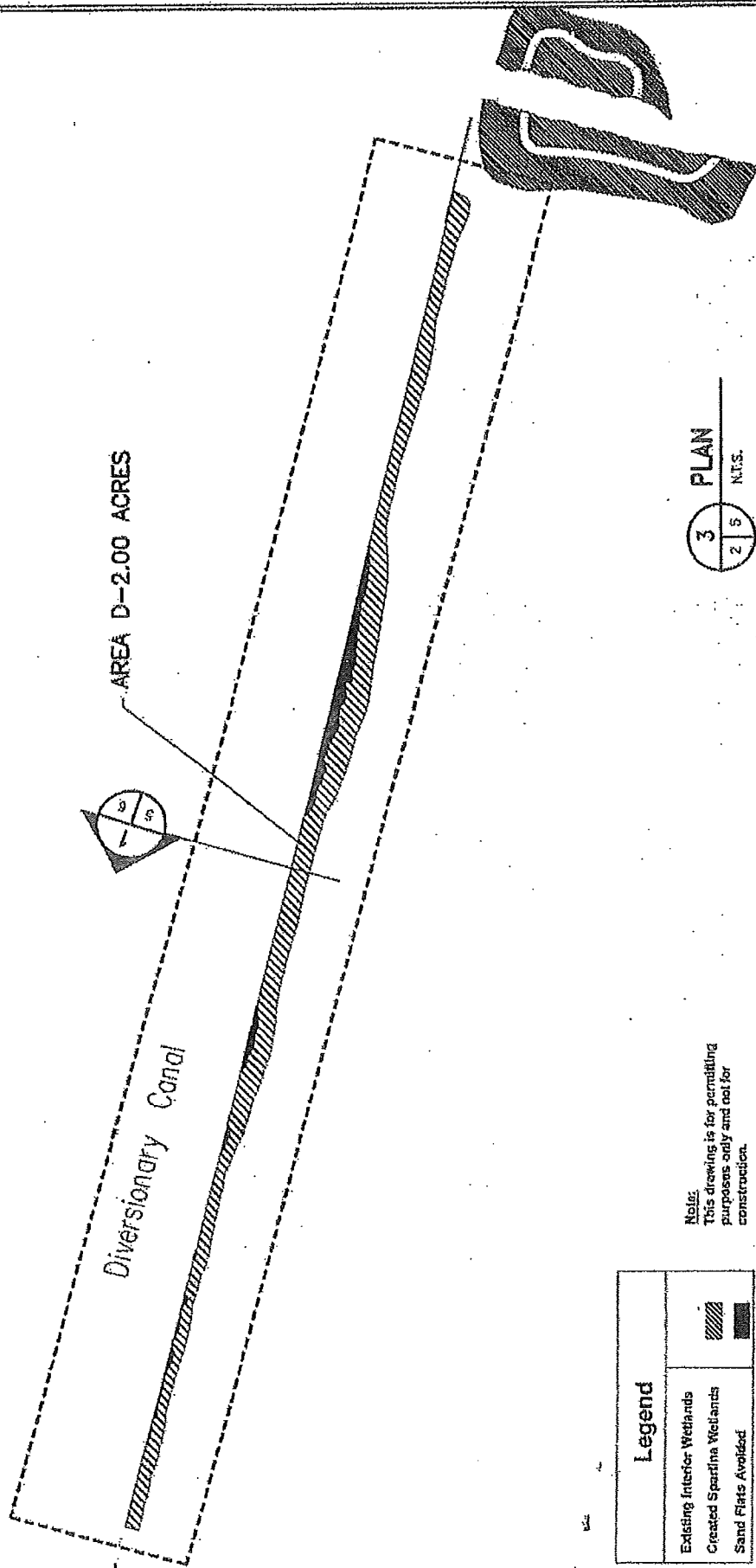
DATUM:

REV. DATE: 00/00

SHEET 04 OF 07

**HDR**

HydroCAD, Inc.  
10000 West 10th Avenue, Suite 200  
Denver, CO 80202-3100  
Phone: 303.751.4000  
Fax: 303.751.4001  
www.hydrocad.com



AREA D-2.00 ACRES

Diversionary Canal

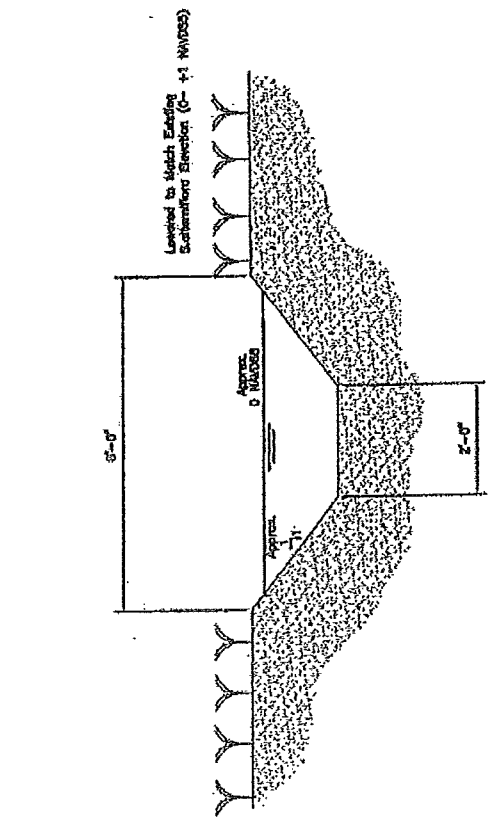
3 PLAN  
2 5 N.T.S.

Note:  
This drawing is for permitting  
purposes only and not for  
construction.

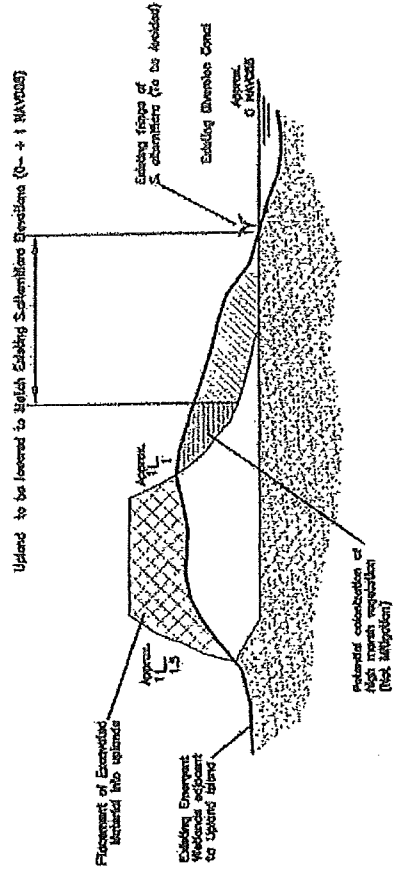
Legend	
Existing Interior Wetlands	
Created Spartina Wetlands	
Sand Flats Avoided	

AREA D - PLAN VIEW DETAIL  
N.T.S.

 <small>HDR Inc. 10000 North Central Expressway, Suite 1000, Dallas, TX 75243</small>	ACTIVITY: AREA D - PLAN VIEW DETAIL	DATUM:
	APPLICANT: HARBORWALK, L.P.	REV. DATE: 09/00
DATE: 05/09	Harborwalk, L.P. Permit # SWG-2007-00597 ATTACHMENT I Page: 8 of 10	
HDR JOB NO: 70846	SHEET 05 OF 07	



2 PLAN  
SCALE: N.T.S.



1 TYPICAL CROSS SECTIONS  
SCALE: N.T.S.

Note:  
This drawing is for permitting purposes only and not for construction.

TYPICAL CROSS SECTIONS  
N.T.S.

ACTIVITY: TYPICAL CROSS SECTIONS  
 APPLICANT: HARBORWALK, L.P.  
 DATE: 05/09  
 HDR JOB NO: 70846

DATUM: NAVD88  
 REV. DATE: 06/00  
 SHEET 06 OF 07



HDR Engineering, Inc.  
 1000 West 10th Street  
 Tulsa, Oklahoma 74103

Harborwalk, L.P.  
 Permit # SWG-2007-00597  
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 Page: 9 of 10

**NOTES - Mitigation Plan**

Project Background

- Harborwalk, L.P. is seeking US Army Corps of Engineers (USACE) after-the-fact authorization (file # SWG-2007-00597) for work done in violation of D.A. Permit 22079 as well as for additional (planned) impacts associated with the completion of the project.
- Harborwalk, L.P. initiated construction on a variation of the permitted alternative that resulted in additional impacts.
- Permit 22079 expired and was not renewed during dredging, construction, and fill material placement in waters of the US.

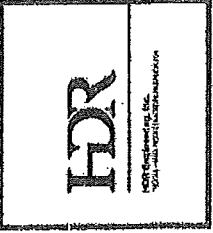
Proposed Mitigation for Unauthorized and Additional (Planned) Impacts

- Harborwalk L.P. proposes to create an additional 7 acres of salt marsh by lowering four separate sections of upland along the western bank of the Highland Bayou Diversion Channel to the elevation of existing *Spartina alterniflora* salt marsh.
- All excavated material will be side cast into adjacent uplands.
- Additional 7 acres of created salt marsh reflects a mitigation ratio of 3:1 for the unauthorized/additional 1.54 acres of tidal wetland impacts and a 0.5:1 ratio for the unauthorized/additional 5.27 acres of impacts to open water.
- Mechanical equipment used during the excavation will remain within the footprint of the proposed marsh creation where practicable or will work from adjacent uplands; no additional wetlands will be impacted during the proposed mitigation work.
- Circulation channels will be installed within Mitigation Areas B and C; each channel will have a 6' top width, a 2' bottom width, and 1:1 side slopes. Each channel will be excavated to approximately -1.0 NAVD88.
- Excavated material will be side cast into adjacent uplands.

Implementation and Monitoring

- In order to assure timely construction of the mitigation area, applicant will commence construction of the mitigation area prior to commencing general project construction.
- Harborwalk, L.P. will be responsible for monitoring of the site for a total of 5 years. The success of the proposed mitigation activities will be gauged by the following criteria:

1. The amount of aerial coverage of the target vegetation, in percent, will be monitored within the mitigation area and subsequent reports, including photo documentation, will be submitted to the USACE at 1-year, 2-years, 3-years, 4-years, and 5-years following the initial creation of the above habitat.
2. If 25% aerial coverage of the target habitat is not achieved after 1-year, a meeting will be conducted with Harborwalk, L.P., HDR/Shiner Moseley, and USACE to determine if changes need to be made to the mitigation plan.
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ACTIVITY: GENERAL NOTES

APPLICANT: HARBORWALK, L.P.

DATE: 05/09

HDR JOB NO: 70846

Harborwalk, L.P.

Permit # SWG-2007-00597

ATTACHMENT I

Page: 10 of 10

DATUM:

REV. DATE: 00/00

SHEET 07 OF 07

PLANNED MAY 15 2009

To: Mr. Casey Cutler	
From: Joe Moake	Project: Harborwalk – SWG-2007-00597
cc:	
Date: 10-6-09	Job No: 70846

**RE: SWG-2007-00597 – HARBORWALK MITIGATION STATUS**

Mr. Cutler:

This is to inform you that the mitigation sites associated with SWG-2007-00597 have been constructed and planted with *S. alterniflora*. Monitoring of these sites will be conducted in accordance with the “Permitted Plans”, starting approximately one year from this date. Annual reporting on the success of the mitigation sites will follow the monitoring efforts.

We are thankful for the great work and assistance provided by Ms. McMillan on this project. Please do not hesitate to write or call with questions or comments.

Sincerely,

Joe Moake  
361.548.6748





