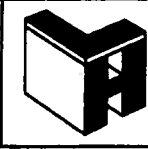




LONNIE G. HARPER
 REG. NO. 13718
 REGISTERED
 PROFESSIONAL ENGINEER
 CIVIL ENGINEERING
 01/28/2008

LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

DESIGNED:	
DRAWN:	APH
CHECKED:	L.G.H.
APPROVED:	L.G.H.



LONNIE G. HARPER
and Associates, Inc.
P. O. Box 229, Grand Chenier, Louisiana 70542 (337) 528-2574

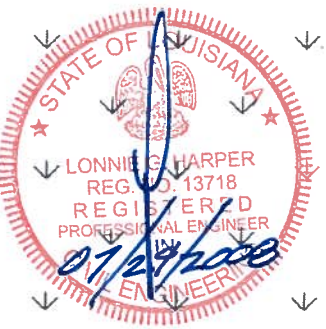
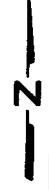
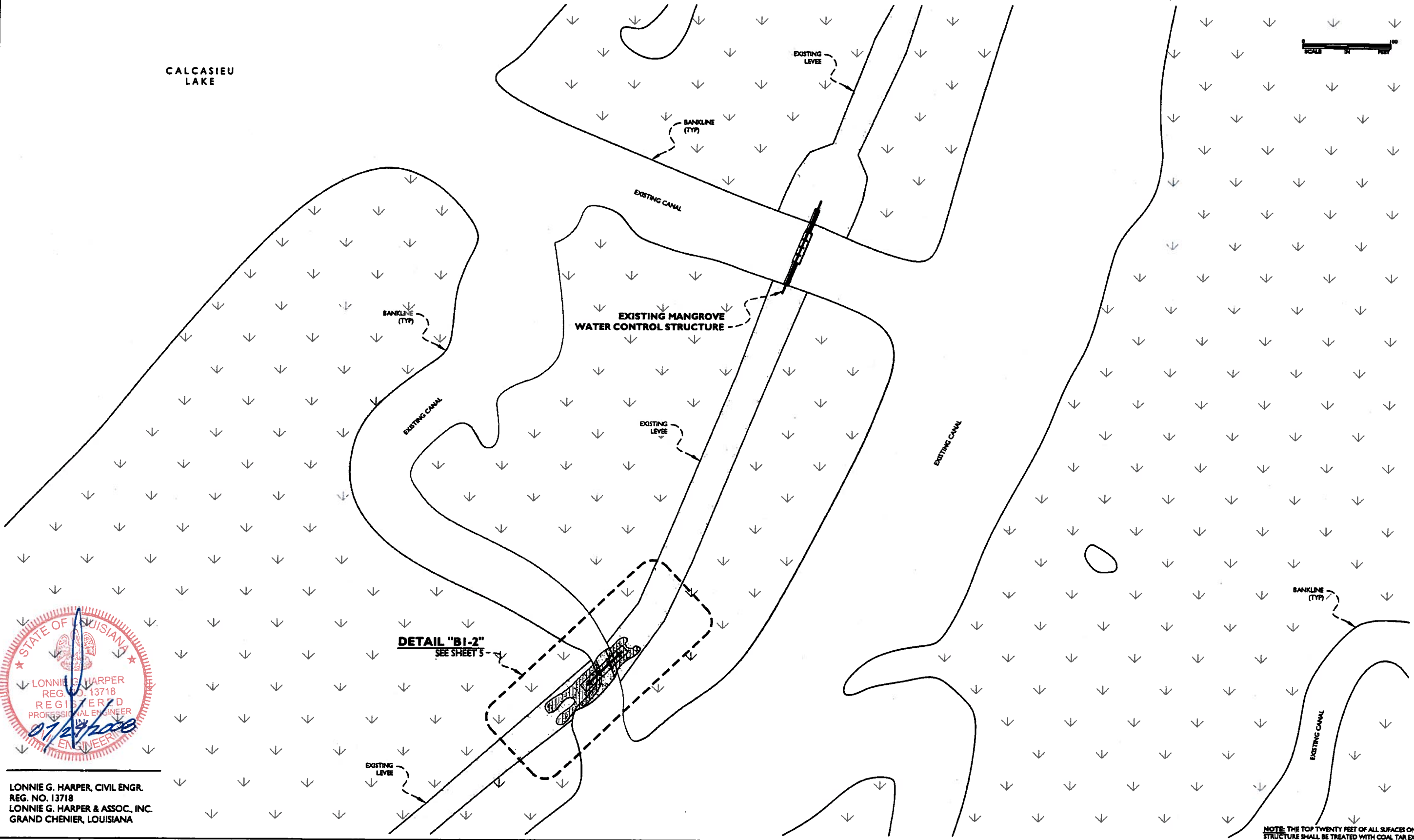
CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APR	AS-BUILT DRAWINGS	EDWIN
BY	REVISIONS	DATE

CS-04A
 PROJECT LOCATION
CS-04A REPAIR OF BREACHES

SCALE	1" = 3,500'
DATE	12-08-2006

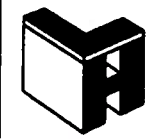
FILE NO.	STATE PROJECT NO.	PARISH	SHEET NO.
12/22/2006	CS-04A(B)	CAMERON	04



LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXCOPY.

DESIGNED:	
DRAWN:	A.P.H.
CHECKED:	L.G.H.
APPROVED:	L.G.H.



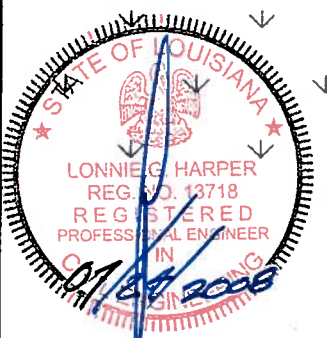
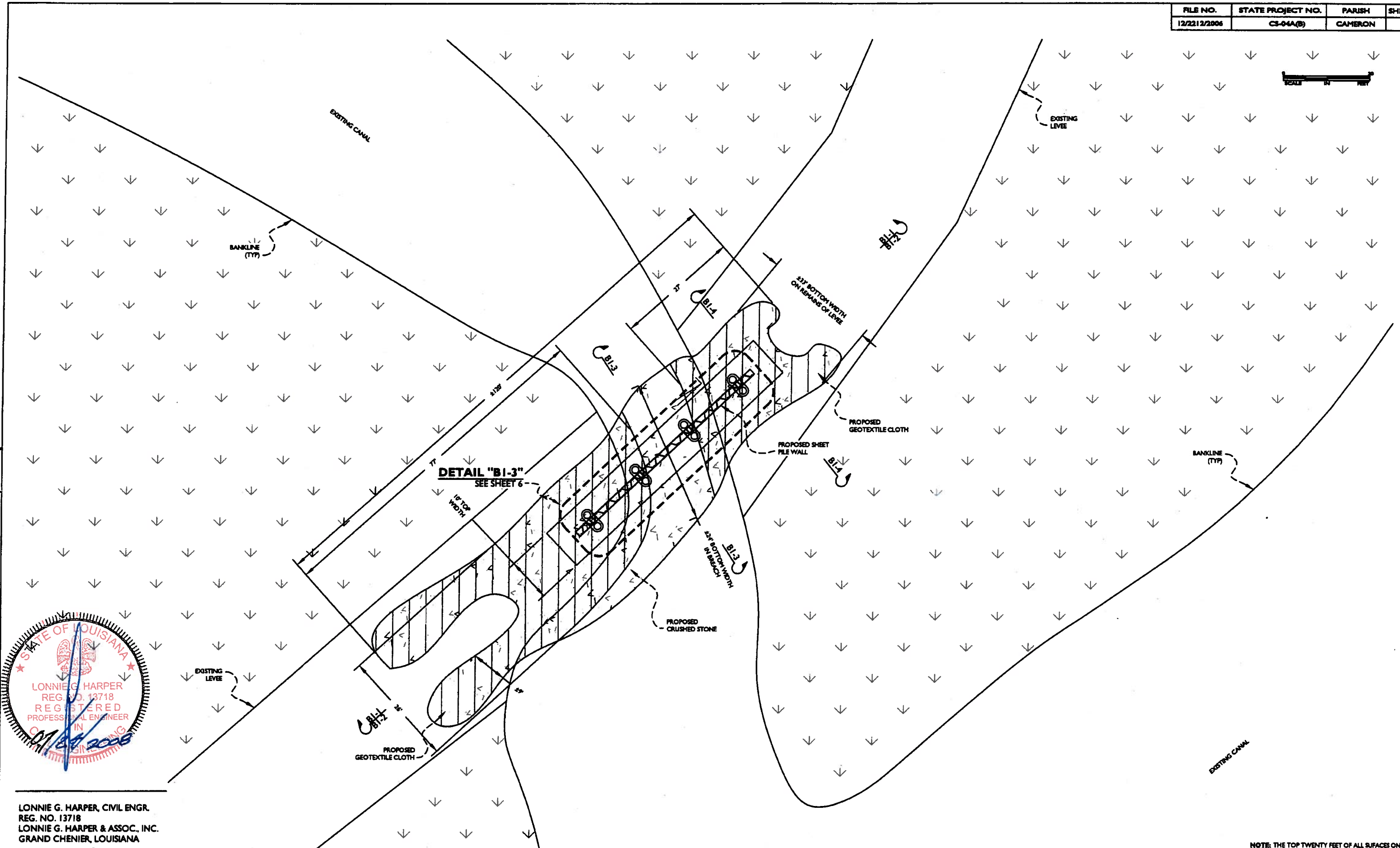
LONNIE G. HARPER
and Associates, Inc.
P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 528-2574

CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APR	AS-BUILT DRAWINGS	02/08/06
BY	REVISIONS	DATE

CS-04A
 DETAIL "BI-1"
 BREACH ADJACENT TO MANGROVE STRUCTURE
CS-04A REPAIR OF BREACHES

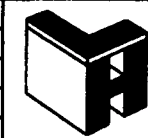
SCALE	1" = 100'
DATE	12-08-2006



LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXCOP.

DESIGNED:	
DRAWN:	A.P.H.
CHECKED:	L.G.H.
APPROVED:	L.G.H.



LONNIE G. HARPER
and Associates, Inc.
P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574

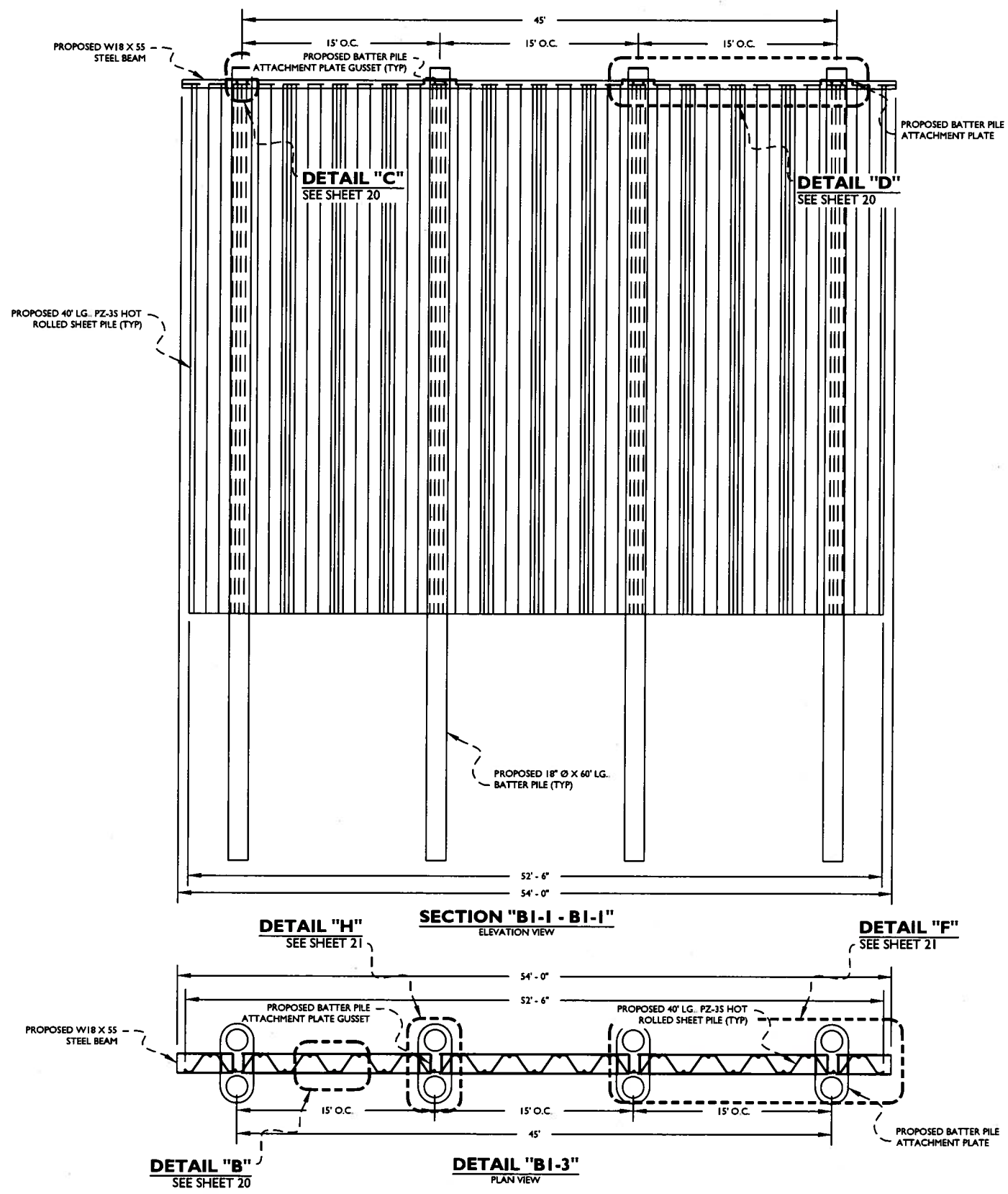
CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

BY	REVISIONS	DATE

CS-04A
 DETAIL "B1-2"
 BREACH ADJACENT TO MANGROVE STRUCTURE
CS-04A REPAIR OF BREACHES

SCALE	1" = 20'
DATE	12-08-2006

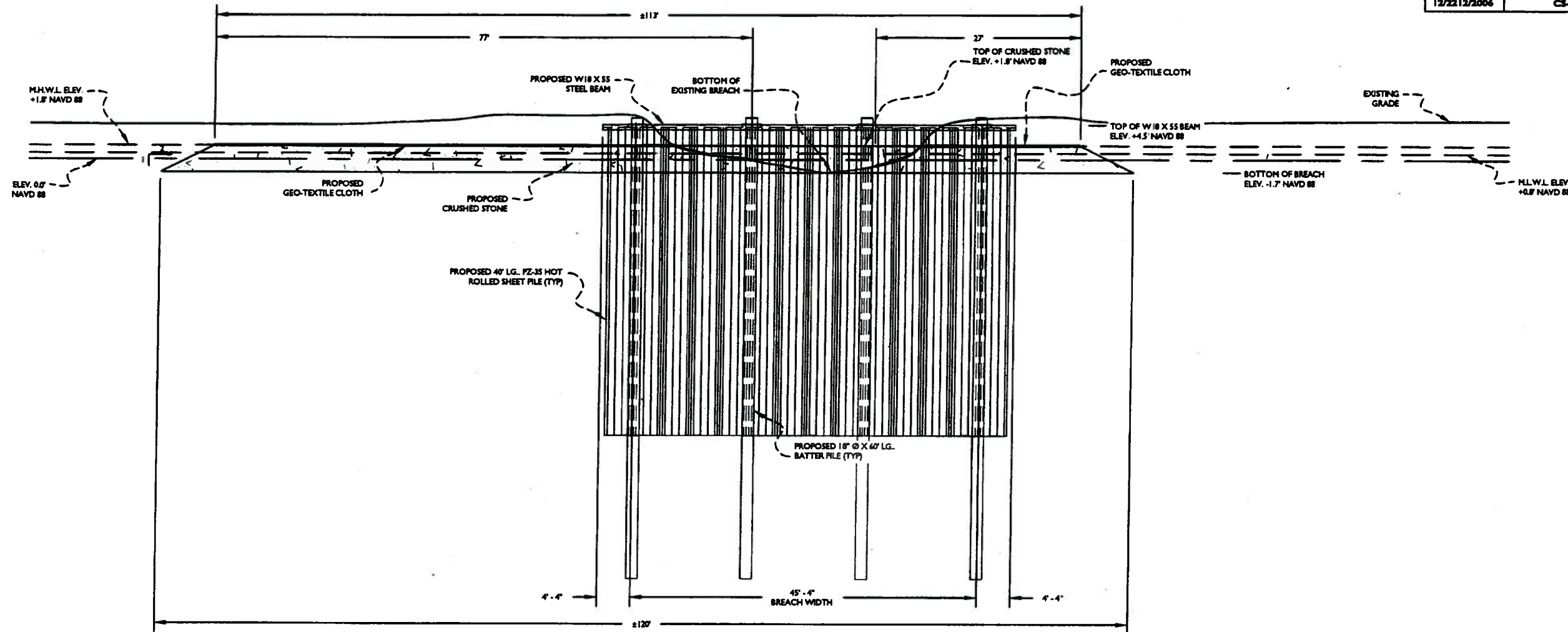
MANGROVE BREACH (B1) MATERIAL LIST		
ITEM NO.	DESCRIPTION	QUANTITY
1	40 FT. LG. PZ 35 HOT ROLLED STEEL SHEET PILES	26 SHEETS
2	18 IN. DIA. x 60 FT. LG. BATTER PILES	8 EA.
3	W18 x 55 STEEL BEAM	54 LF.
4	BATTER PILE PLATE GUSSETS	16 EA.
5	BATTER PILE GUSSET CONNECTOR PLATES	4 EA.
6	BATTER PILE ATTACHMENT PLATES	8 EA.
7	BATTER PILE COVER PLATES	8 EA.
8	GEOTEXTILE CLOTH	120 S.Y.
9	CRUSHED STONE	265 TONS
10	COAL TAR EPOXY OF TOP 20' OF STRUCTURE	LUMP SUM



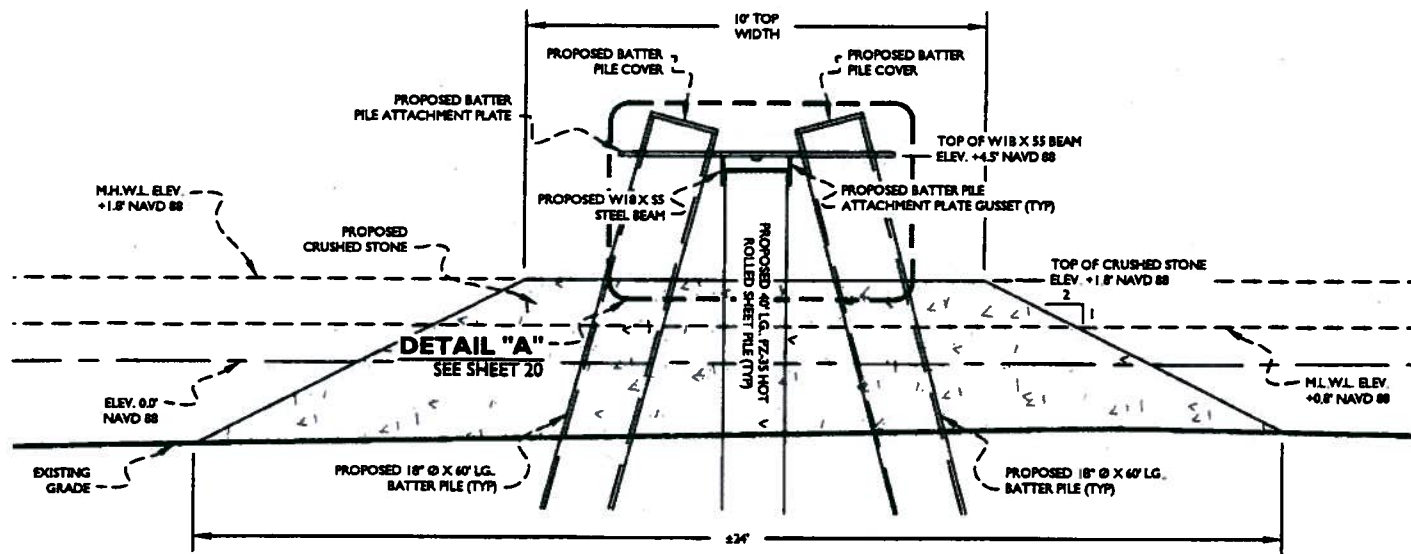
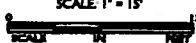
LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EPOXY.

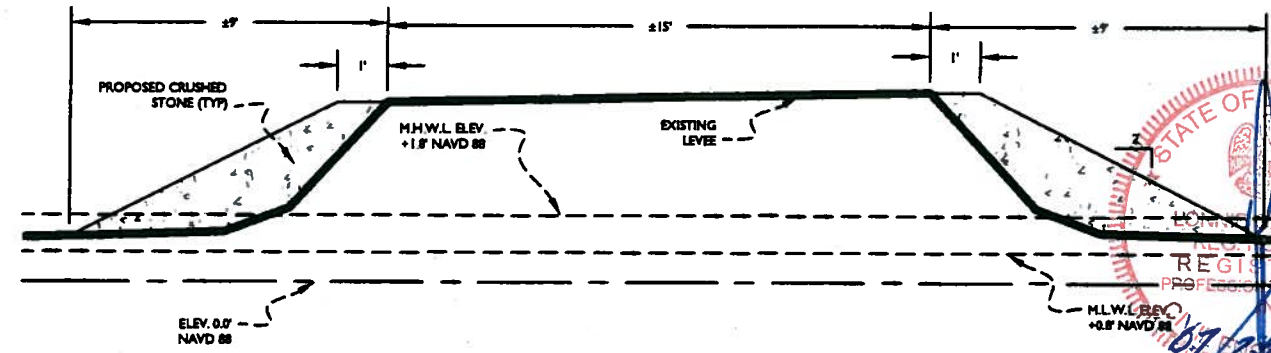
DESIGNED: DRAWN: A.P.H. CHECKED: L.G.H. APPROVED: L.G.H.	<p> LONNIE G. HARPER and Associates, Inc. <small>P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574</small> </p>	<p align="center"> CAMERON-CREOLE WATERSHED PROJECT U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT </p>	<table border="1"> <tr> <td>AS-BUILT DRAWINGS</td> <td>07/28/08</td> </tr> <tr> <td>REVISIONS</td> <td>DATE</td> </tr> </table>	AS-BUILT DRAWINGS	07/28/08	REVISIONS	DATE	<p align="center"> CS-04A SECTION "B1-1 - B1-1" & DETAIL "B1-3" BREACH ADJACENT TO MANGROVE STRUCTURE </p> <p align="center"> CS-04A REPAIR OF BREACHES </p>	<p>SCALE</p> <p align="center">1" = 10'</p> <p align="center">12-08-2006</p> <p>DATE</p>
AS-BUILT DRAWINGS	07/28/08								
REVISIONS	DATE								



SECTION "BI-2 - BI-2"
SCALE: 1" = 15'



SECTION "BI-3 - BI-3"
SCALE: 1" = 4'



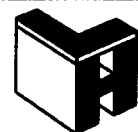
SECTION "BI-4 - BI-4"
SCALE: 1" = 5'



Lonnie G. Harper, Civil Engr.
Reg. No. 13718
Lonnie G. Harper & Assoc., Inc.
Grand Chenier, Louisiana

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXPOXY.

DESIGNED:
DRAWN: A.P.H.
CHECKED: L.G.H.
APPROVED: L.G.H.



LONNIE G. HARPER and Associates, Inc.

P. O. Box 237, Grand Chenier, Louisiana 70643 (504) 838-2574

CAMERON-CREOLE WATERSHED PROJECT

U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APR	ASBURY DRAWING	CONNO
BY	REVISIONS	DATE

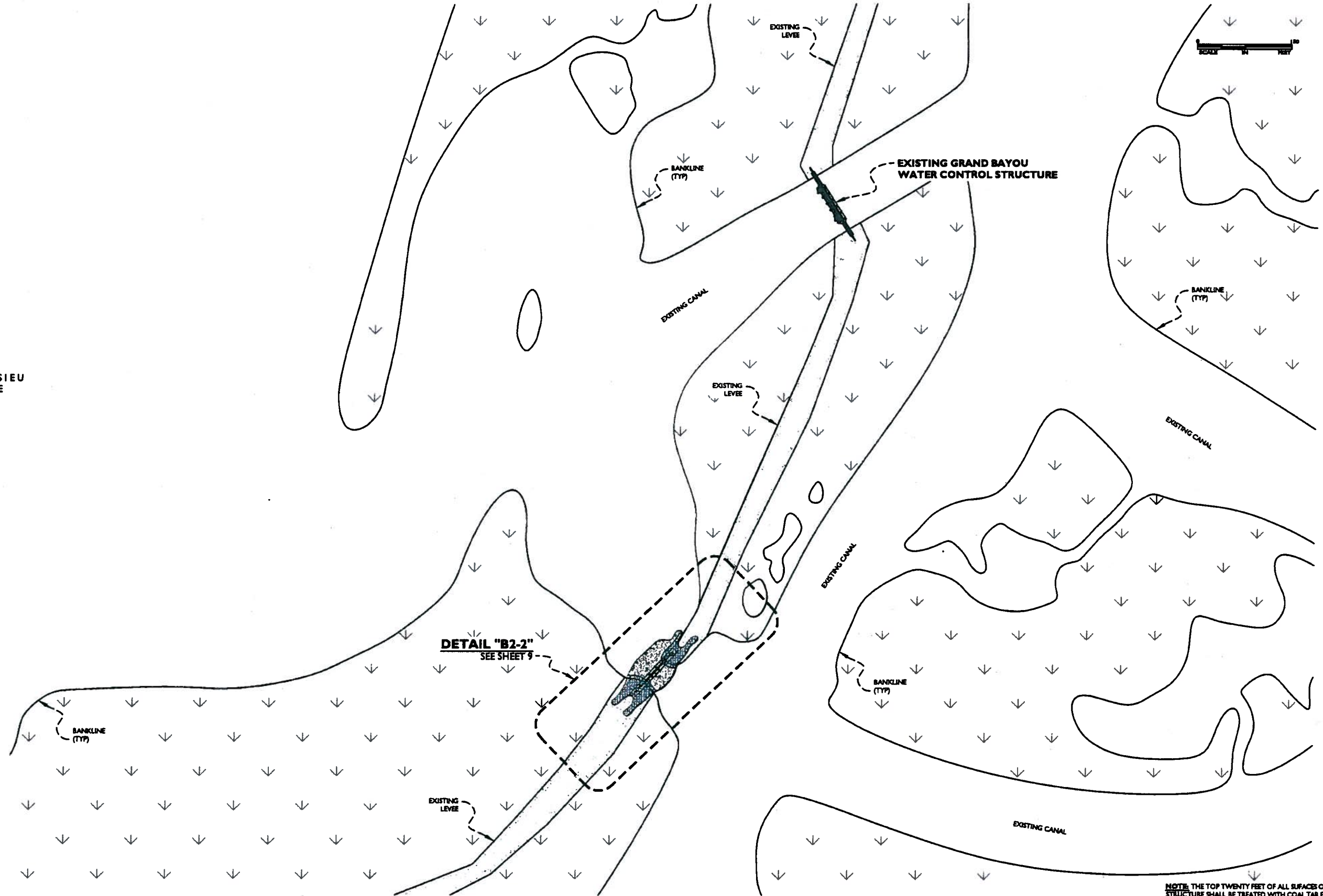
CS-04A
SECTION "BI-2 - BI-2", "BI-3 - BI-3" & "BI-4 - BI-4"
BREACH ADJACENT TO MANGROVE STRUCTURE

CS-04A REPAIR OF BREACHES

SCALE
1" = 15'
12-08-2006
DATE

FILE NO.	STATE PROJECT NO.	PARISH	SHEET NO.
12/22/2006	CS-04A(B)	CAMERON	08

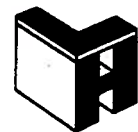
CALCASIEU LAKE



LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXOXY.

DESIGNED:	
DRAWN:	A.P.H.
CHECKED:	L.G.H.
APPROVED:	L.G.H.



LONNIE G. HARPER
and Associates, Inc.

P. O. Box 229, Grand Chenier, Louisiana 70643 (237) 528-2574

CAMERON-CREOLE WATERSHED PROJECT

U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

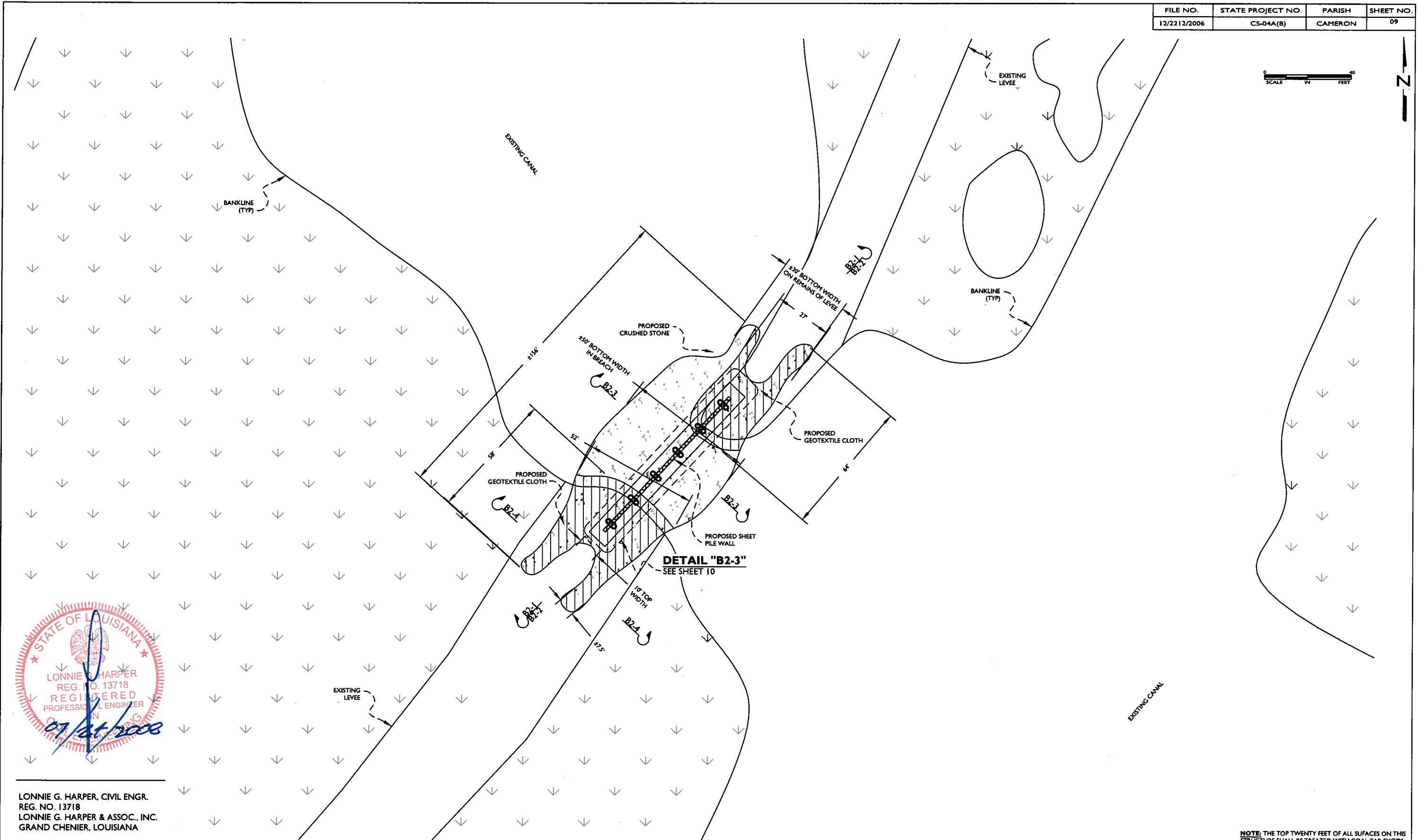
DATE		
BY	REVISIONS	DATE

CS-04A
 DETAIL "B2-1"
 BREACH ADJACENT TO GRAND BAYOU STRUCTURE

CS-04A REPAIR OF BREACHES

SCALE	1" = 150'
DATE	12-08-2006

FILE NO.	STATE PROJECT NO.	PARISH	SHEET NO.
12/2212/2006	CS-04A(B)	CAMERON	09



DETAIL "B2-3"
SEE SHEET 10

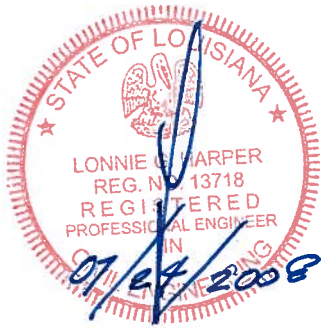
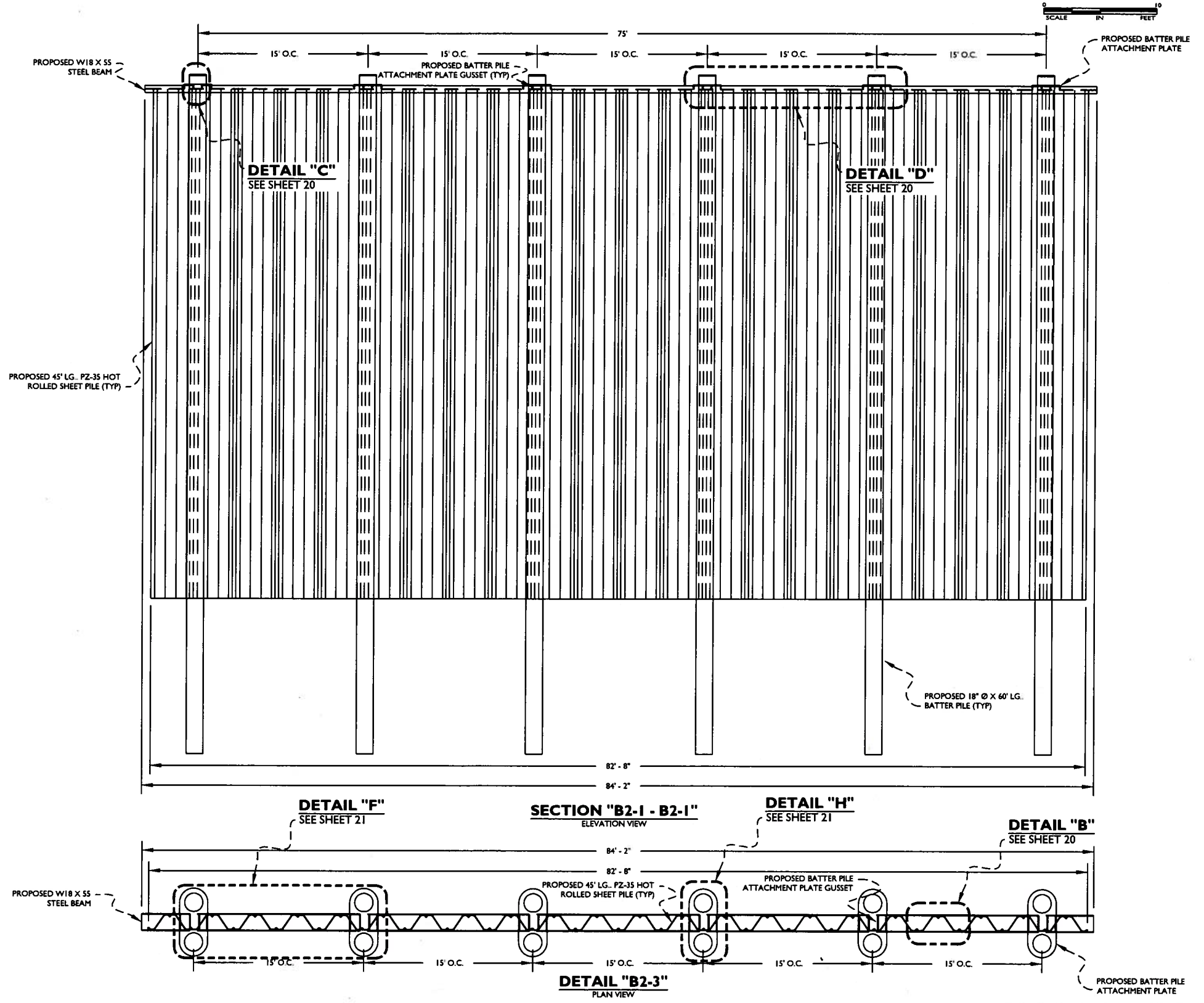


LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXOPY.

DESIGNED:		LONNIE G. HARPER and Associates, Inc. <small>P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574</small>	CAMERON-CREOLE WATERSHED PROJECT U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT	CS-04A DETAIL "B2-2" BREACH ADJACENT TO GRAND BAYOU STRUCTURE	SCALE
DRAWN: A.P.H.				1" = 30'	
CHECKED: L.G.H.				12-08-2006	
APPROVED: L.G.H.				DATE	
				CS-04A REPAIR OF BREACHES	DATE

GRAND BAYOU BREACH (B2) MATERIAL LIST		
ITEM NO.	DESCRIPTION	QUANTITY
1	45 FT. LG. PZ 35 HOT ROLLED STEEL SHEET PILES	48 SHEETS
2	18 IN. DIA. x 60 FT. LG. BATTER PILES	12 EA.
3	W18 x 55 STEEL BEAM	85 LF.
4	BATTER PILE PLATE GUSSETS	24 EA.
5	BATTER PILE GUSSET CONNECTOR PLATES	6 EA.
6	BATTER PILE ATTACHMENT PLATES	12 EA.
7	BATTER PILE COVER PLATES	12 EA.
8	GEOTEXTILE CLOTH	150 S.Y.
9	CRUSHED STONE	1,760 TONS
10	COAL TAR EPOXY OF TOP 20" OF STRUCTURE	LUMP SUM

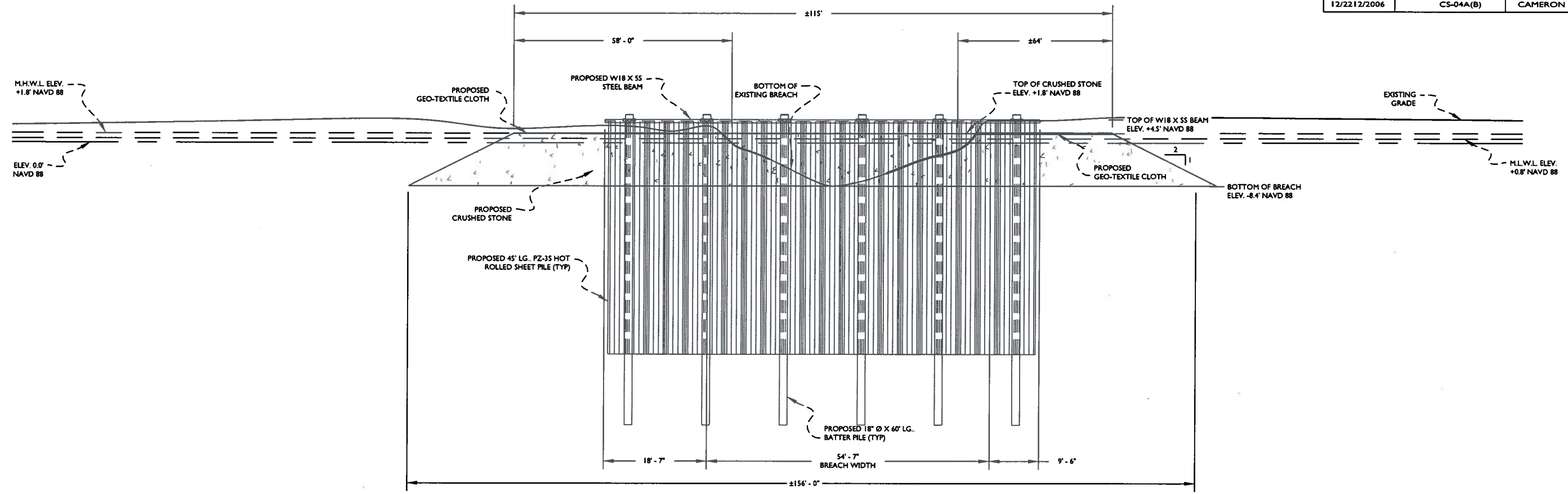


LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

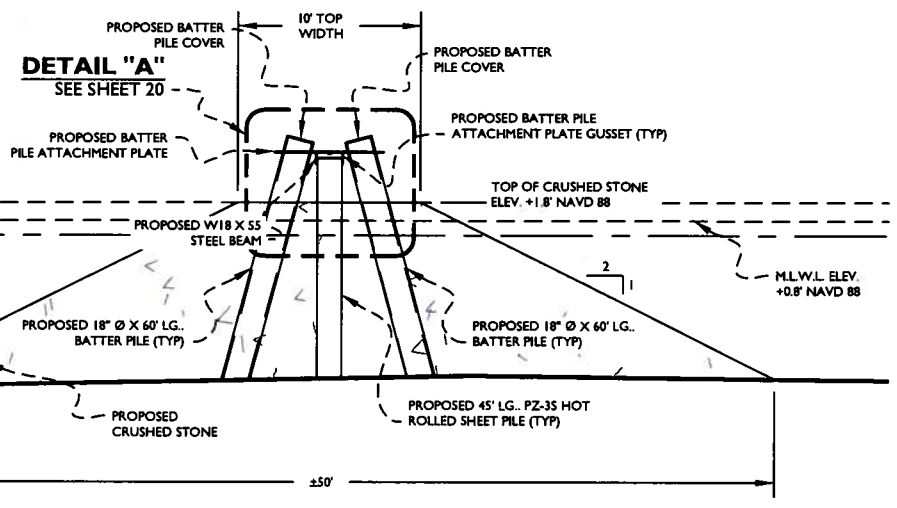
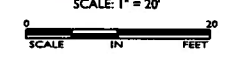
NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EPOXY.

DESIGNED: DRAWN: A.P.H. CHECKED: L.G.H. APPROVED: L.G.H.	<p> LONNIE G. HARPER and Associates, Inc. <small>P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574</small> </p>	<p align="center">CAMERON-CREOLE WATERSHED PROJECT</p> <p align="center"> <small>U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT</small> </p>	<table border="1"> <tr> <td>AS-BUILT DRAWINGS</td> <td>07/08/08</td> </tr> <tr> <td>REVISIONS</td> <td>DATE</td> </tr> </table>	AS-BUILT DRAWINGS	07/08/08	REVISIONS	DATE	<p align="center"> CS-04A SECTION "B2-1 - B2-1" & DETAIL "B2-3" BREACH ADJACENT TO GRAND BAYOU STRUCTURE </p> <p align="center">CS-04A REPAIR OF BREACHES</p>	<p>SCALE</p> <p>1" = 10'</p> <p>12-08-2006</p> <p>DATE</p>
AS-BUILT DRAWINGS	07/08/08								
REVISIONS	DATE								

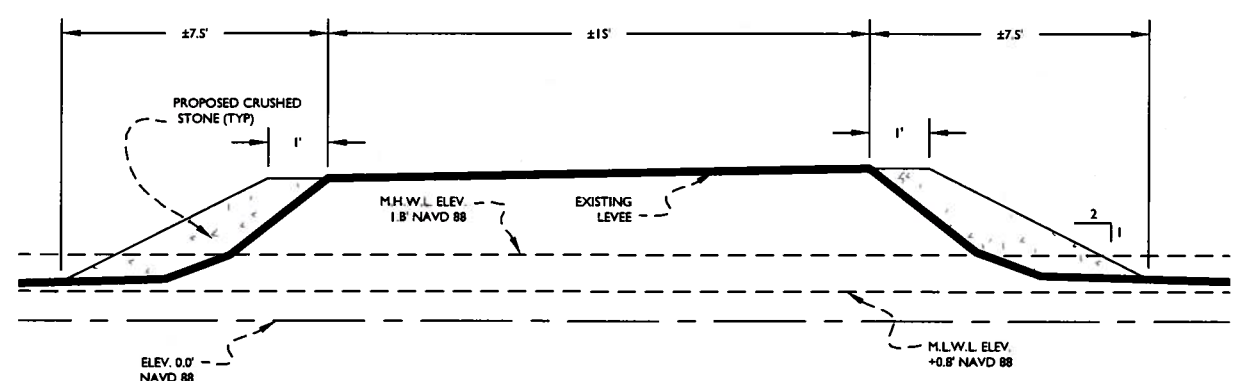
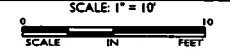
FILE NO.	STATE PROJECT NO.	PARISH	SHEET NO.
12/2212/2006	CS-04A(B)	CAMERON	11



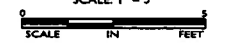
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SCALE: 1" = 20'



SECTION "B2-3 - B2-3"
SCALE: 1" = 10'



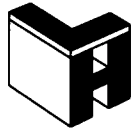
SECTION "B2-4 - B2-4"
SCALE: 1" = 5'



NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXOPY.

LONGIE G. HARPER, CIVIL ENGR.
REG. NO. 13718
LONGIE G. HARPER & ASSOC., INC.
GRAND CHENIER, LOUISIANA

DESIGNED:	
DRAWN:	A.P.H.
CHECKED:	L.G.H.
APPROVED:	L.G.H.



LONGIE G. HARPER and Associates, Inc.
P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574

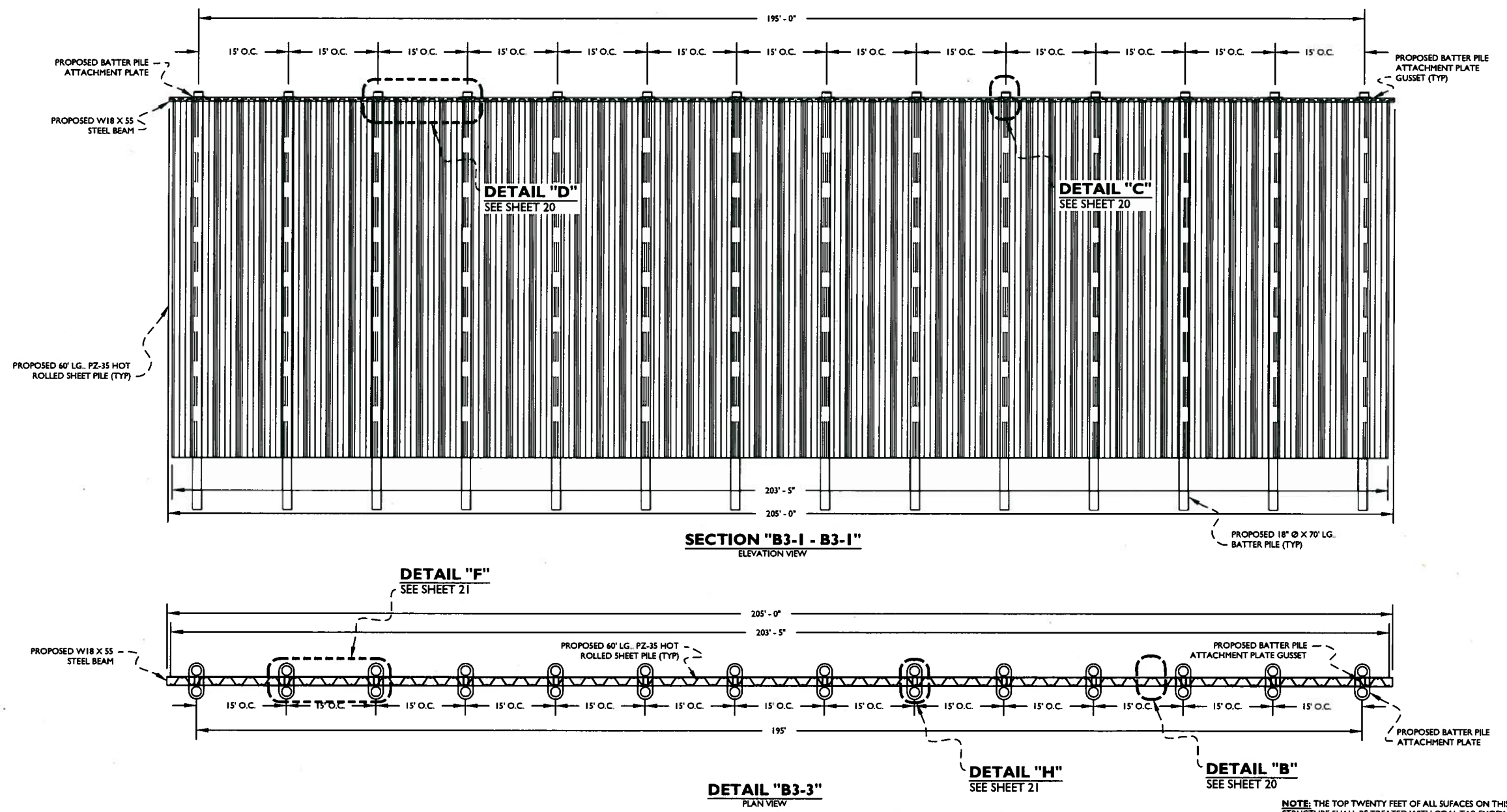
CAMERON-CREOLE WATERSHED PROJECT
U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

A.P.H.	AS-BUILT DRAWINGS	07/09/08
BY	REVISIONS	DATE

CS-04A
SECTION "B2-2 - B2-2", "B2-3 - B2-3" & "B2-4 - B2-4"
BREACH ADJACENT TO GRAND BAYOU STRUCTURE
CS-04A REPAIR OF BREACHES

SCALE	1" = 10'
DATE	12-08-2006

LAMBERT BREACH (B3) MATERIAL LIST		
ITEM NO.	DESCRIPTION	QUANTITY
1	60 FT. LG. PZ 35 HOT ROLLED STEEL SHEET PILES	108 SHEETS
2	18 IN. DIA. x 70 FT. LG. BATTER PILES	28 EA.
3	W18 x 55 STEEL BEAM	205 L.F.
4	BATTER PILE PLATE GUSSETS	56 EA.
5	BATTER PILE GUSSET CONNECTOR PLATES	14 EA.
6	BATTER PILE ATTACHMENT PLATES	28 EA.
7	BATTER PILE COVER PLATES	28 EA.
8	GEOTEXTILE CLOTH	320 S.Y.
9	CRUSHED STONE	7,245 TONS
10	COAL TAR EPOXY OF TOP 20' OF STRUCTURE	LUMP SUM

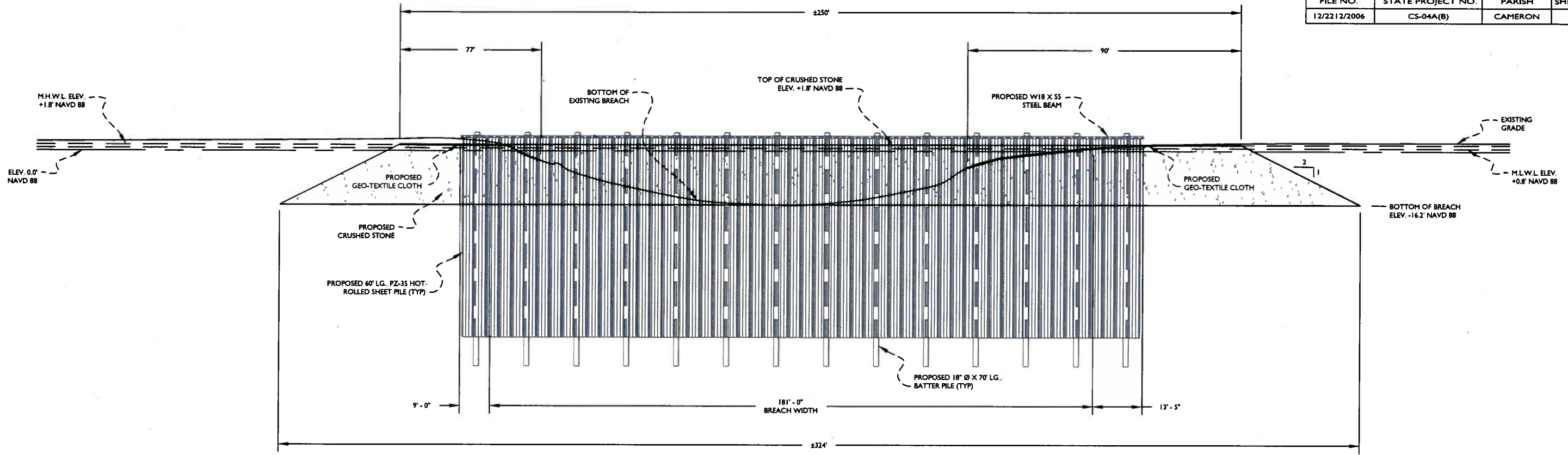


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 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

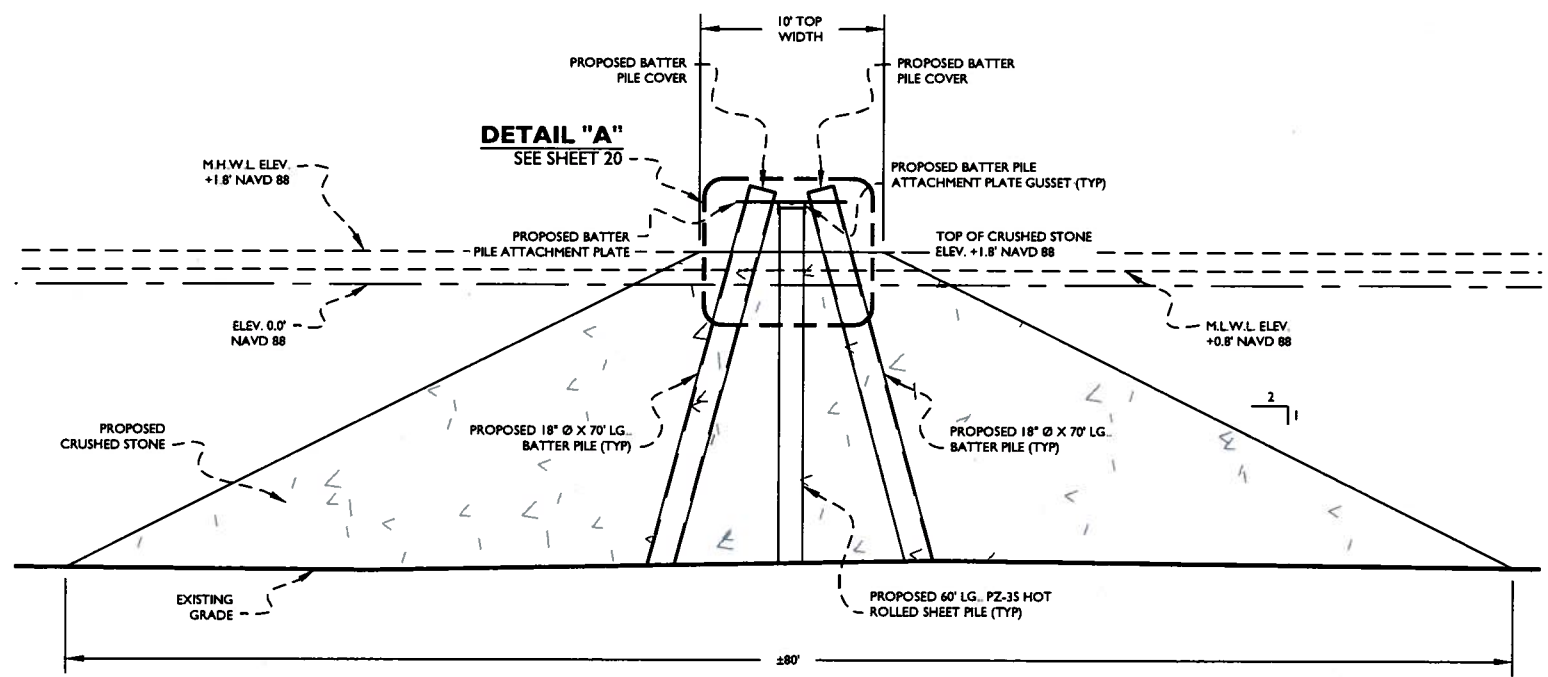
NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EPOXY.

DESIGNED: DRAWN: A.P.H. CHECKED: L.G.H. APPROVED: L.G.H.	<p>LONNIE G. HARPER and Associates, Inc. P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574</p>	<p>CAMERON-CREOLE WATERSHED PROJECT</p> <p>U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT</p>	<table border="1"> <tr> <td>BY</td> <td>AS-BUILT DRAWINGS</td> <td>07/28/06</td> </tr> <tr> <td></td> <td>REVISIONS</td> <td>DATE</td> </tr> </table>	BY	AS-BUILT DRAWINGS	07/28/06		REVISIONS	DATE	<p>CS-04A SECTION "B3-1 - B3-1" & DETAIL "B3-3" BREACH ADJACENT TO LAMBERT STRUCTURE</p> <p>CS-04A REPAIR OF BREACHES</p>	<p>SCALE</p> <p>1" = 10'</p> <p>12-08-2006</p> <p>DATE</p>
BY	AS-BUILT DRAWINGS	07/28/06									
	REVISIONS	DATE									

FILE NO.	STATE PROJECT NO.	PARISH	SHEET NO.
12/2212/2006	CS-04A(B)	CAMERON	15

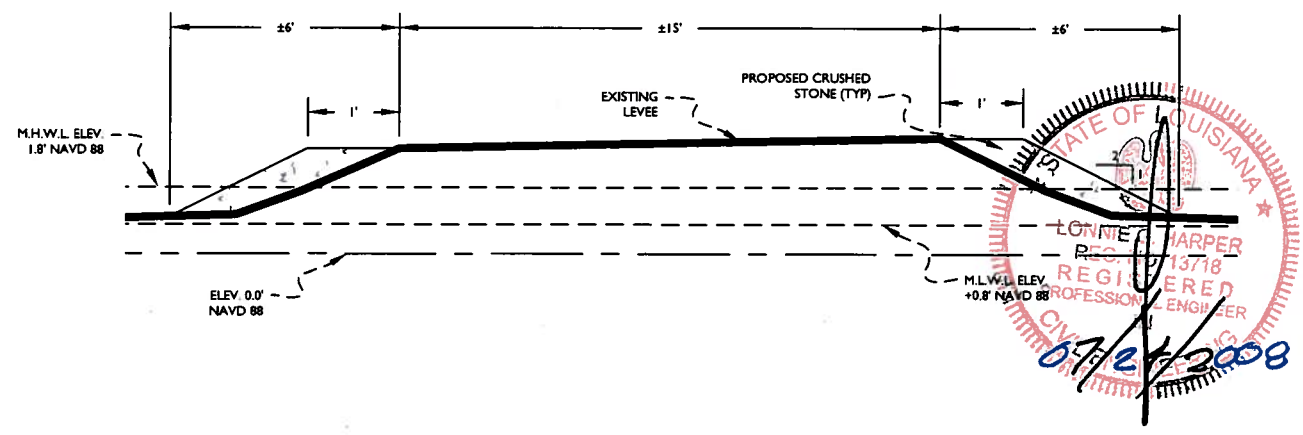


SECTION "B3-2 - B3-2"
SCALE: 1" = 30'

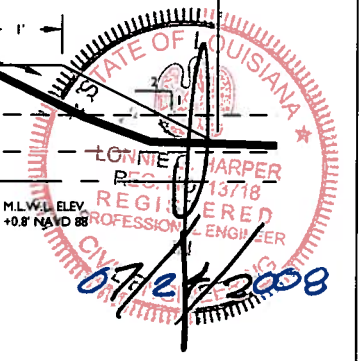


DETAIL "A"
SEE SHEET 20

SECTION "B3-3 - B3-3"
SCALE: 1" = 10'



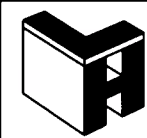
SECTION "B3-4 - B3-4"
SCALE: 1" = 5'



LONNIE G. HARPER, CIVIL ENGR.
REG. NO. 13718
LONNIE G. HARPER & ASSOC., INC.
GRAND CHENIER, LOUISIANA

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXOPY.

DESIGNED:	
DRAWN:	A.P.H.
CHECKED:	L.G.H.
APPROVED:	L.G.H.



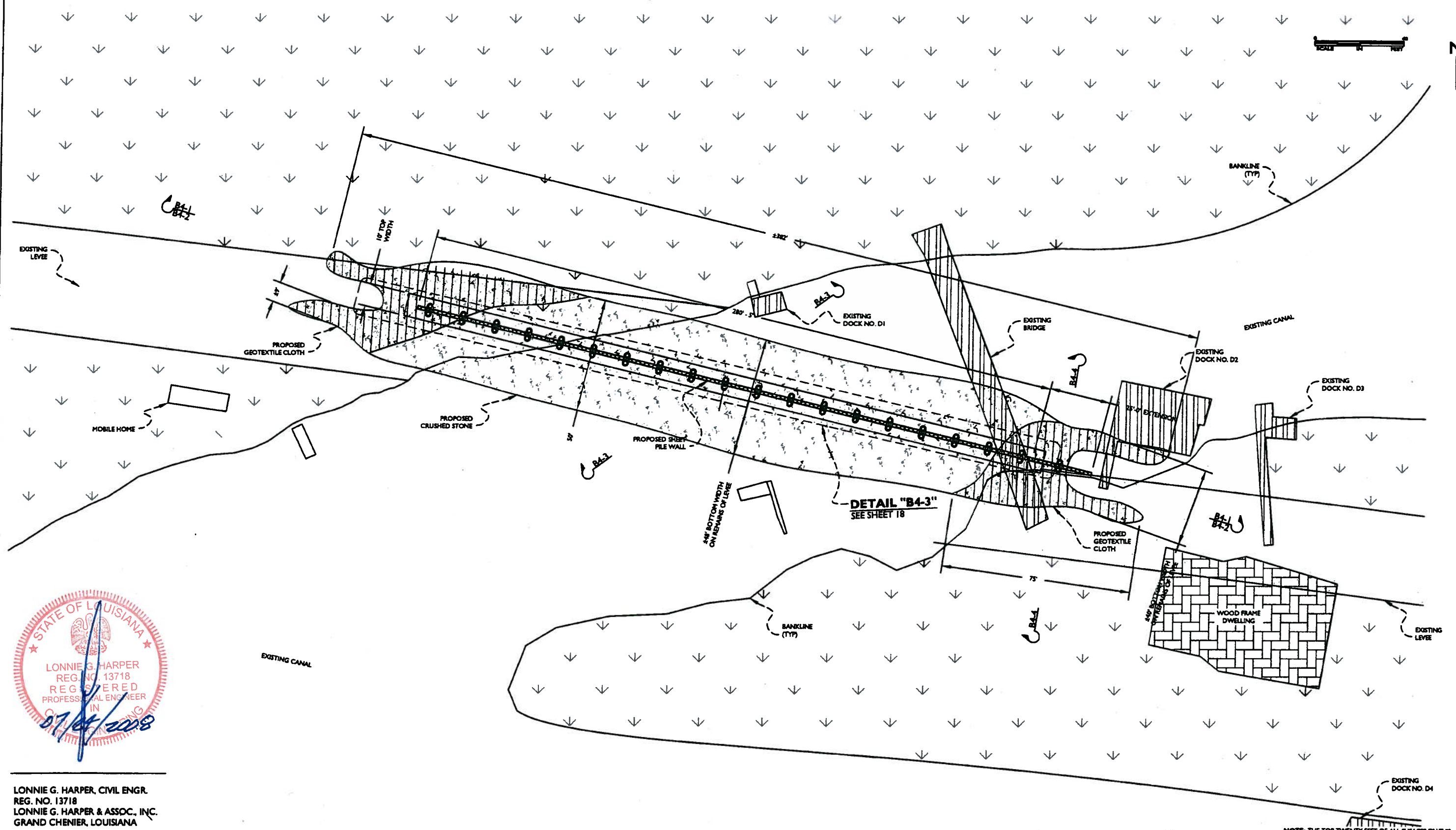
LONNIE G. HARPER
and Associates, Inc.
P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574

CAMERON-CREOLE WATERSHED PROJECT
U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

AS-BUILT DRAWINGS	07/08/08
REVISIONS	DATE

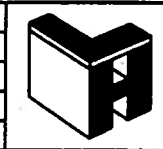
CS-04A
SECTION "B3-2 - B3-2", "B3-3 - B3-3" & "B3-4 - B3-4"
BREACH ADJACENT TO LAMBERT STRUCTURE
CS-04A REPAIR OF BREACHES

SCALE	1" = 30'
DATE	12-08-2006



LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

DESIGNED:	
DRAWN:	APM
CHECKED:	LGH
APPROVED:	LGH



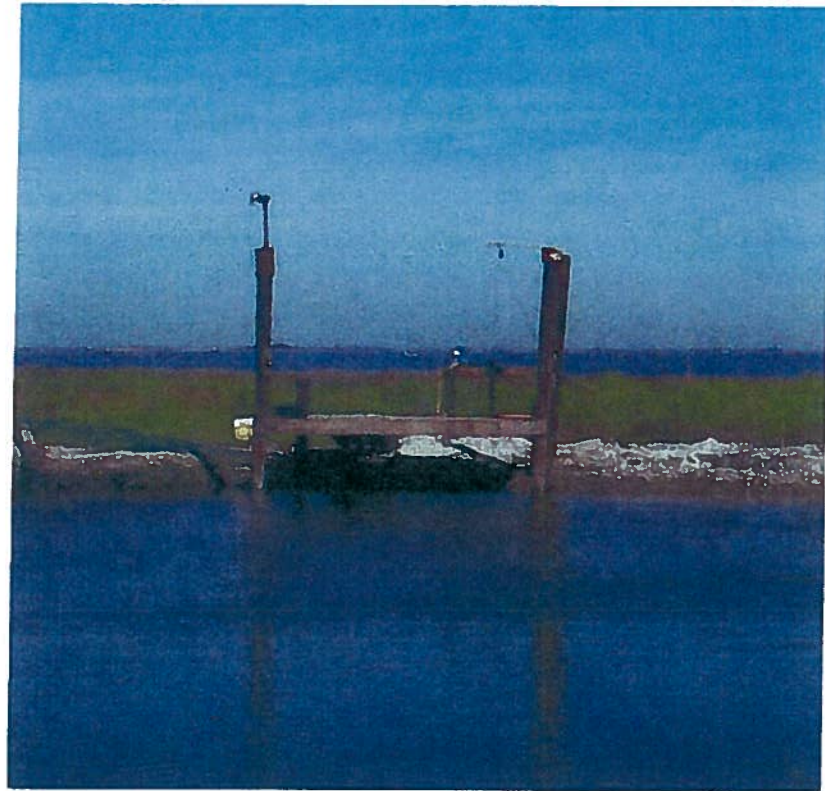
LONNIE G. HARPER
and Associates, Inc.
P. O. Box 235, Grand Chenier, Louisiana 70643 (337) 538-2574

CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

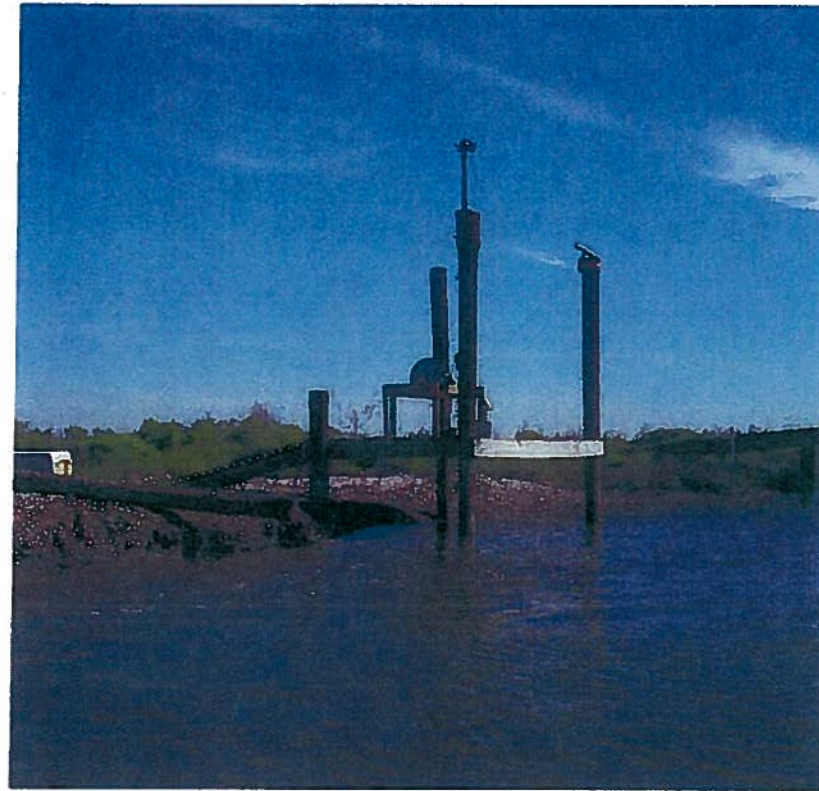
BY	REVISIONS	DATE
APM	AS-BUILT DRAWINGS	08/08/08

CS-04A
 DETAIL "B4-2"
 BREACH ADJACENT TO NO NAME STRUCTURE
CS-04A REPAIR OF BREACHES

SCALE	1" = 40'
DATE	12-08-2006



DOCK NO. 1



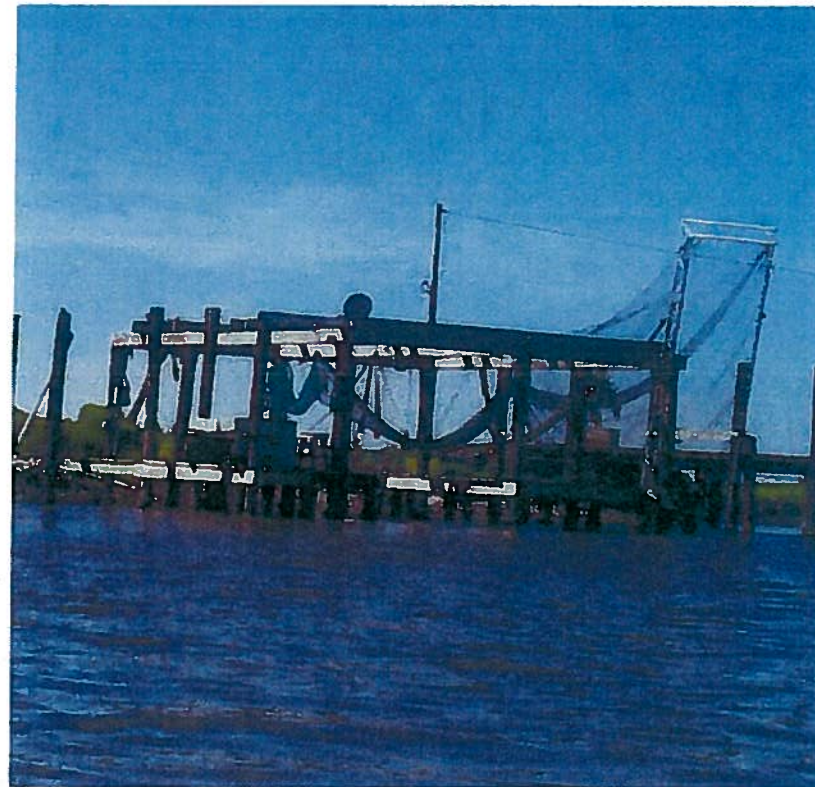
DOCK NO. 1



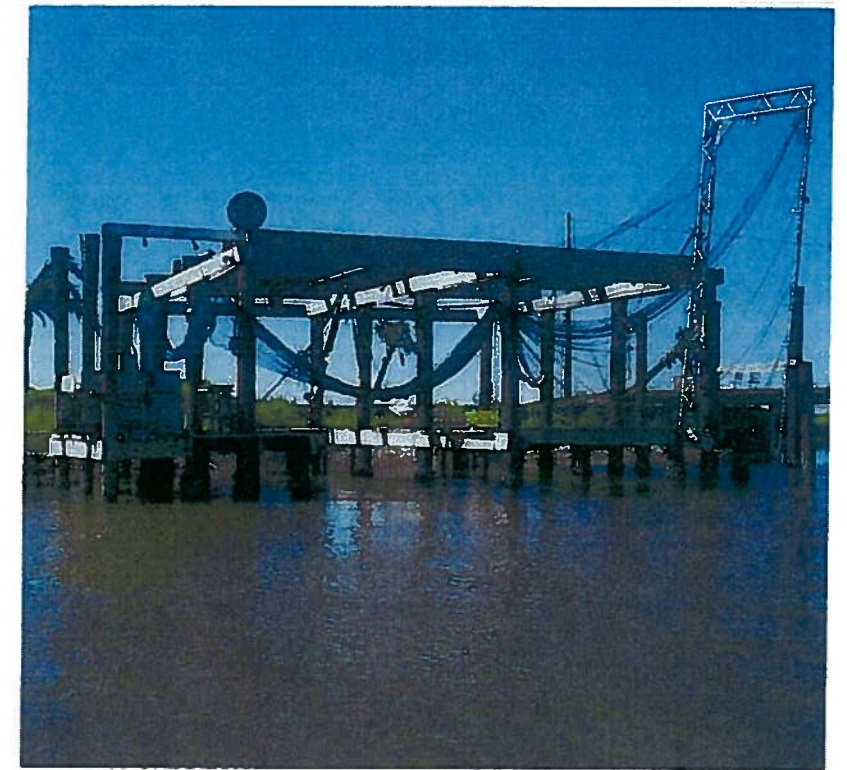
DOCK NO. 1



DOCK NO. 2

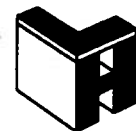


DOCK NO. 2



DOCK NO. 2

DESIGNED:
DRAWN: A.P.H.
CHECKED: L.G.H.
APPROVED: L.G.H.



**LONNIE G. HARPER
and Associates, Inc.**

P. O. Box 229, Grand Chenier, Louisiana 70640 (337) 838-2574

CAMERON-CREOLE WATERSHED PROJECT

U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APPH	ADULT DRAWING	DATE
BY	REVISIONS	DATE

CS-04A
PHOTOS OF POSSIBLE
OBSTRUCTIONS

CS-04A REPAIR OF BREACHES

SCALE
N.T.S.
12-08-2006
DATE



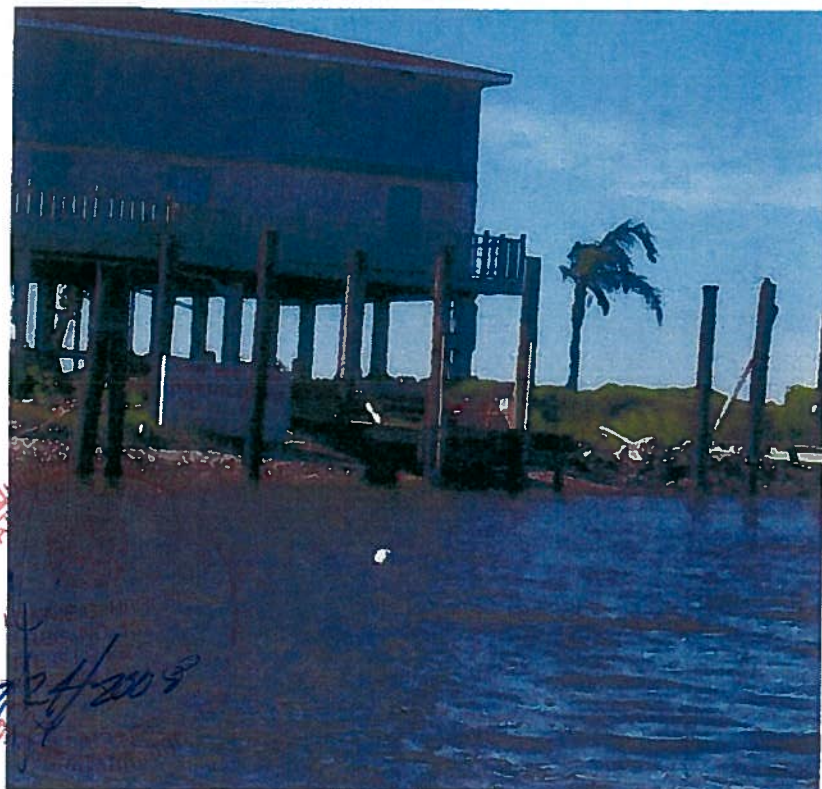
DOCK NO. 2



DOCK NO. 2



DOCK NO. 3



DOCK NO. 3



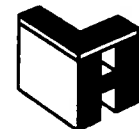
DOCK NO. 3



DOCK NO. 3

STAR
12/24/2006

DESIGNED:
DRAWN: A.P.H.
CHECKED: L.G.H.
APPROVED: L.G.H.



**LONNIE G. HARPER
and Associates, Inc.**

P. O. Box 225, Grand Chenier, Louisiana 70648 (337) 538-3374

CAMERON-CREOLE WATERSHED PROJECT

U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APR	AS BUILT DRAWING	ORIGIN
BY	REVISIONS	DATE

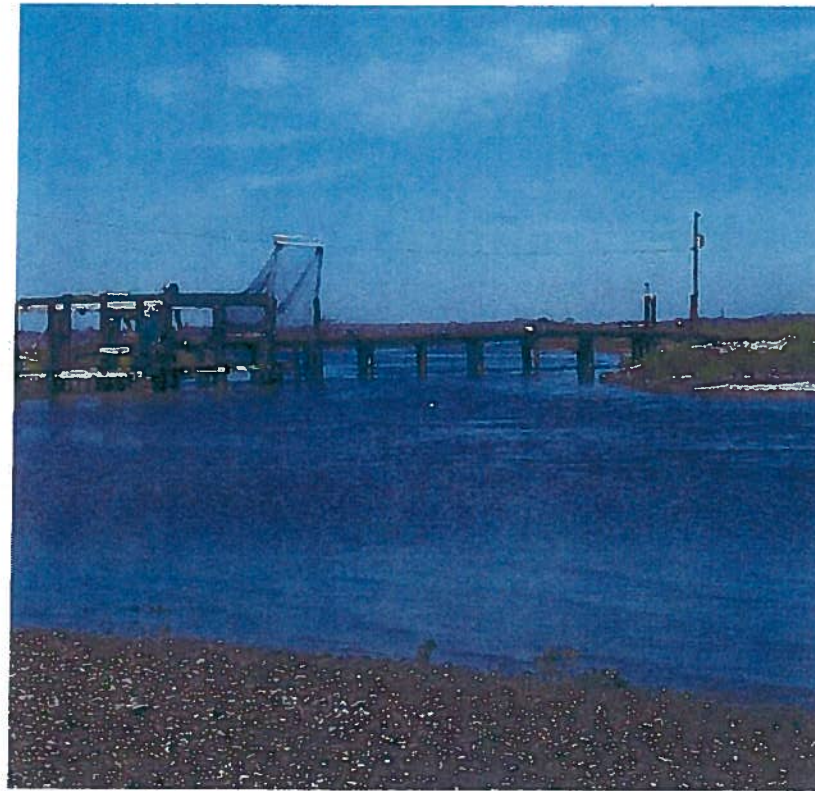
CS-04A
PHOTOS OF POSSIBLE
OBSTRUCTIONS

CS-04A REPAIR OF BREACHES

SCALE	N.T.S.
DATE	12-08-2006



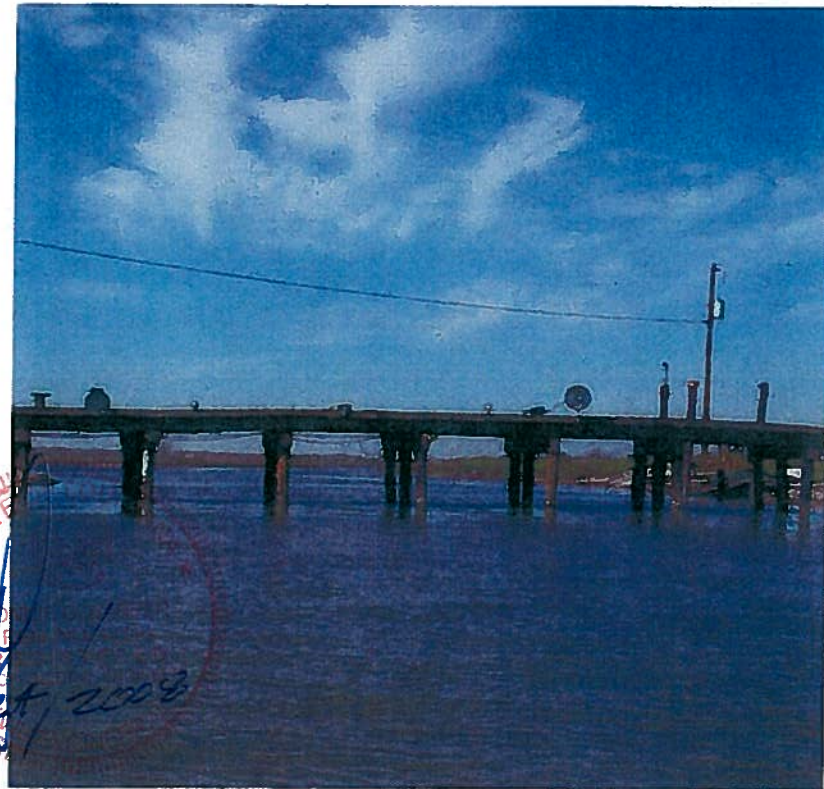
DOCK NO. 4



BRIDGE NO. 1



BRIDGE NO. 1



BRIDGE NO. 1



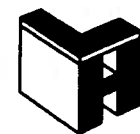
BRIDGE NO. 1



BRIDGE NO. 1

STATE
07/28/2008

DESIGNED:
DRAWN: A.P.H.
CHECKED: L.G.H.
APPROVED: L.G.H.



**LONNIE G. HARPER
and Associates, Inc.**

P. O. Box 225, Grand Chenier, Louisiana 70648 (507) 589-5274

CAMERON-CREOLE WATERSHED PROJECT

U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APR	ASBELY DRAVING	08/08
BY	REVISIONS	DATE

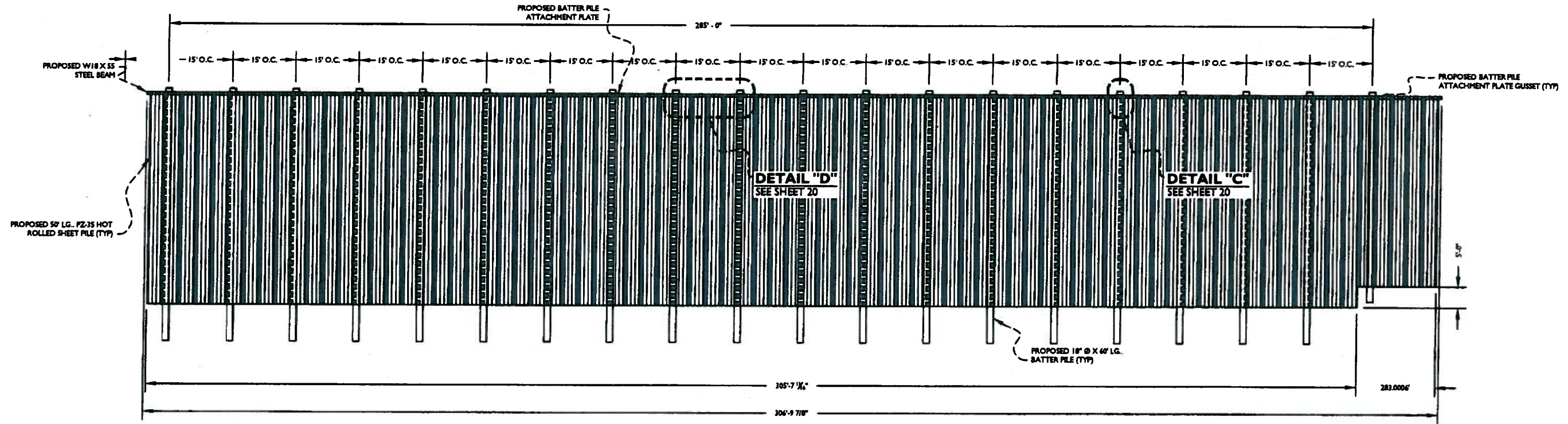
CS-04A
PHOTOS OF POSSIBLE
OBSTRUCTIONS

CS-04A REPAIR OF BREACHES

SCALE	N.T.S.
DATE	12-08-2006

**NO NAME BREACH (B4)
MATERIAL LIST**

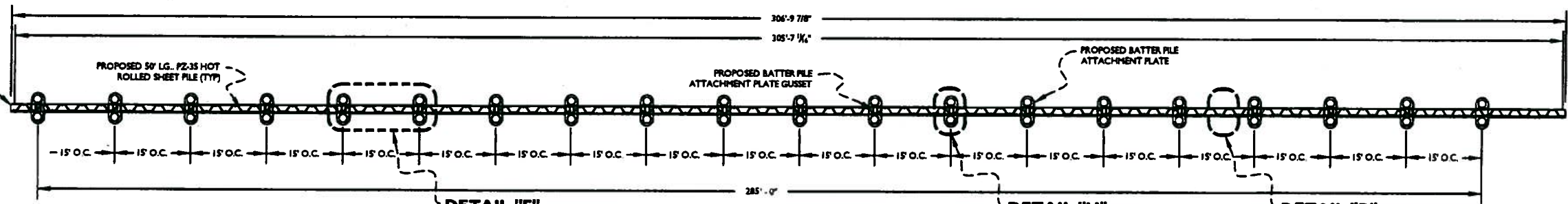
ITEM NO.	DESCRIPTION	QUANTITY			
1	50 FT. LG. PZ 35 HOT ROLLED STEEL SHEET PILES	148 SHEETS	10	GEOTEXTILE CLOTH	210 S.Y.
2	45 FT. LG. PZ 35 HOT ROLLED STEEL SHEET PILES	10 SHEETS	11	CRUSHED STONE	4,022 TONS
3	18 IN. DIA. x 60 FT. LG. BATTER PILES	38 EA.	12	COAL TAR EPOXY OF TOP 20' OF STRUCTURE	LUMP SUM
4	18 IN. DIA. x 40 FT. LG. BATTER PILES	2 EA.			
5	W18 x 55 STEEL BEAM	285 L.F.			
6	BATTER PILE PLATE GUSSETS	76 EA.			
7	BATTER PILE GUSSET CONNECTOR PLATES	19 EA.			
8	BATTER PILE ATTACHMENT PLATES	38 EA.			
9	BATTER PILE COVER PLATES	38 EA.			



SECTION "B4-1 - B4-1"
ELEVATION VIEW



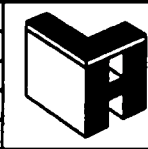
LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA



SECTION "B4-3"
PLAN VIEW

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EPOXY.

DESIGNED:	
DRAWN:	APJL
CHECKED:	L.G.H.
APPROVED:	L.G.H.



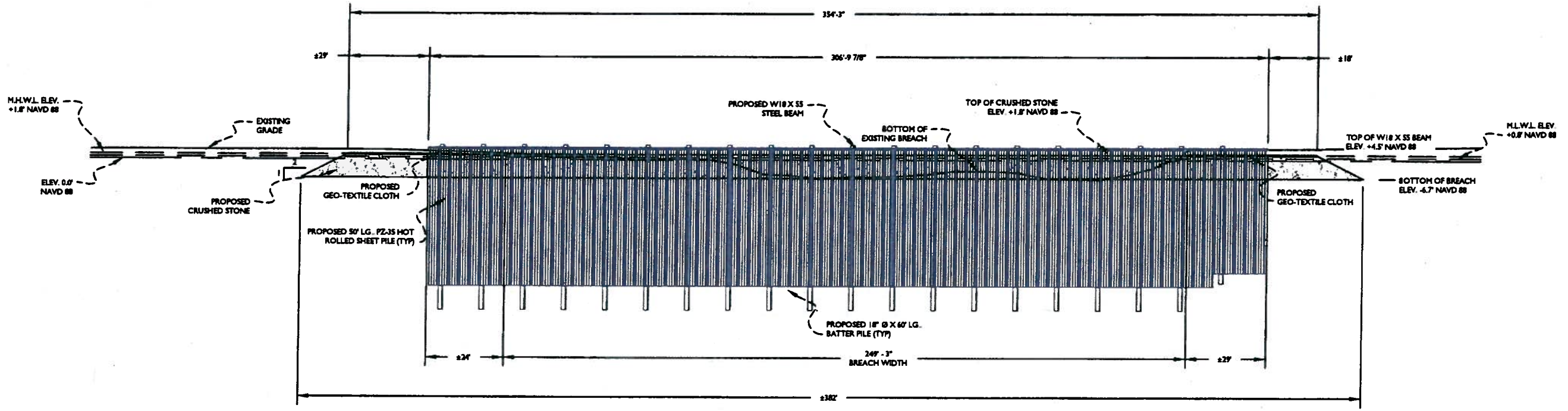
LONNIE G. HARPER
and Associates, Inc.
 P. O. Box 225, Grand Chenier, Louisiana 70643 (237) 538-2574

CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

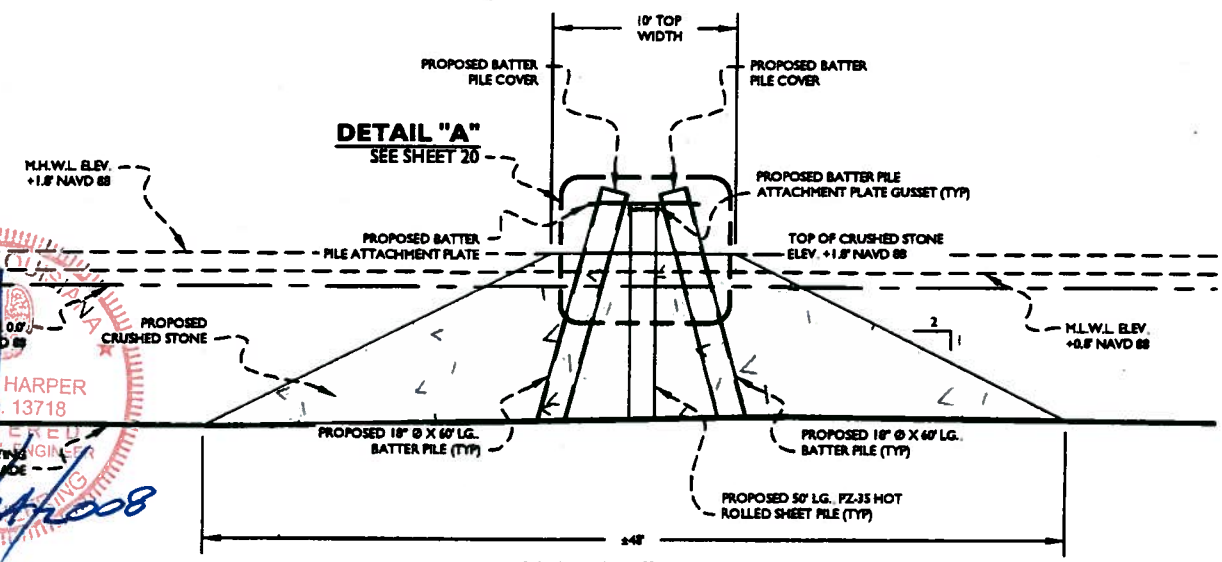
BY	APJL	DATE	
REVISIONS			

CS-04A
 SECTION "B4-1 - B4-1" & DETAIL "B4-3"
 BREACH ADJACENT TO NO NAME STRUCTURE
CS-04A REPAIR OF BREACHES

SCALE	1" = 15'
DATE	12-08-2006

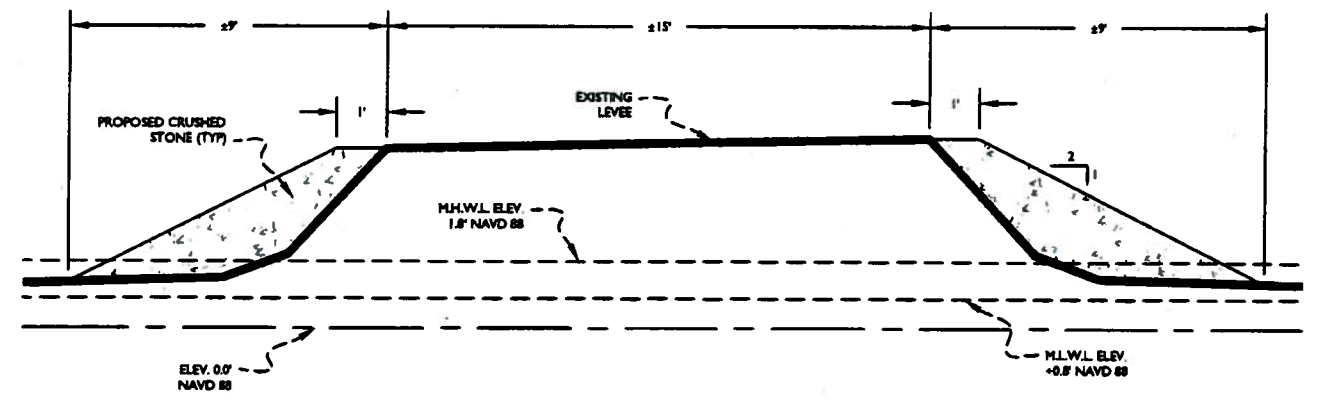


SECTION "B4-2 - B4-2"
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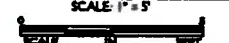


DETAIL "A"
SEE SHEET 20

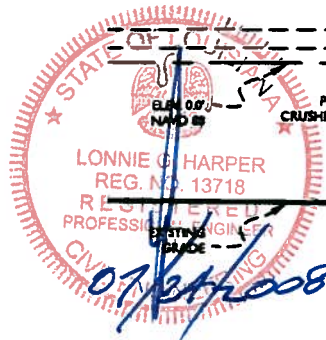
SECTION "B4-3 - B4-3"
SCALE 1" = 10'



SECTION "B4-4 - B4-4"
SCALE 1" = 5'

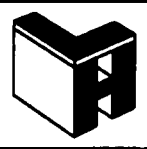


NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXOPY.



LONNIE G. HARPER, CIVIL ENGR.
REG. NO. 13718
LONNIE G. HARPER & ASSOC., INC.
GRAND CHENIER, LOUISIANA

DESIGNED:	
DRAWN:	A.P.H.
CHECKED:	L.G.H.
APPROVED:	L.G.H.



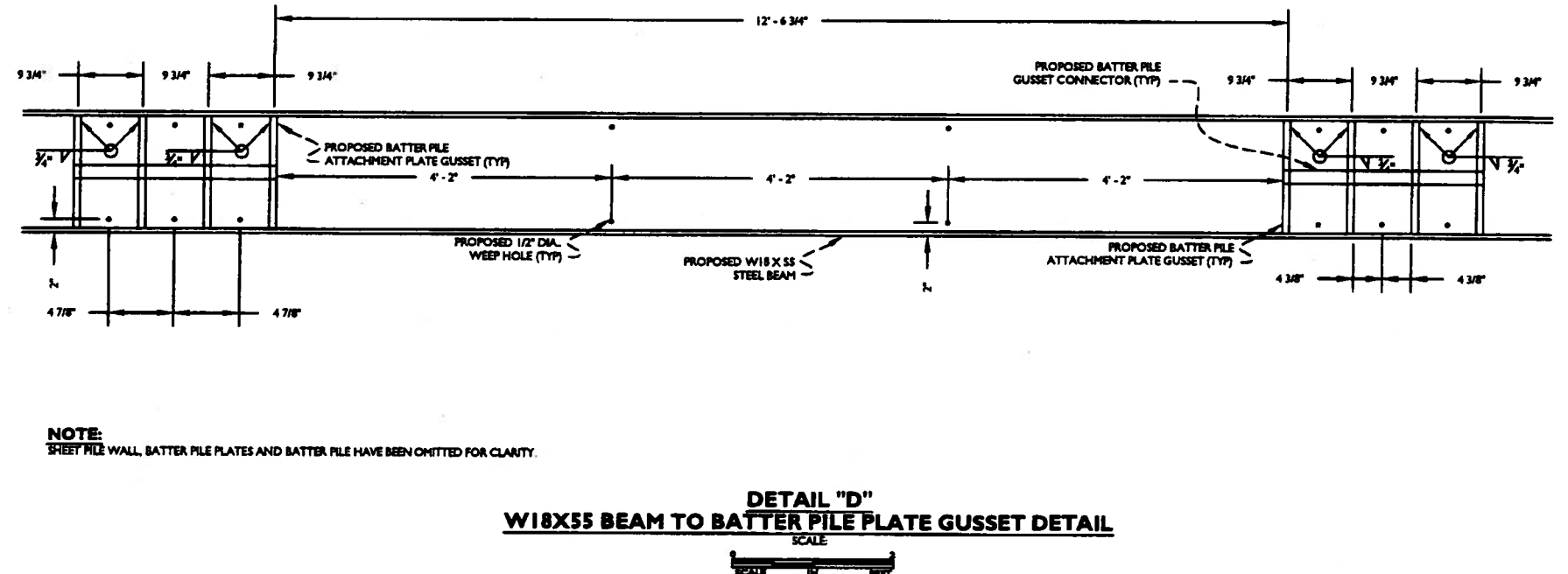
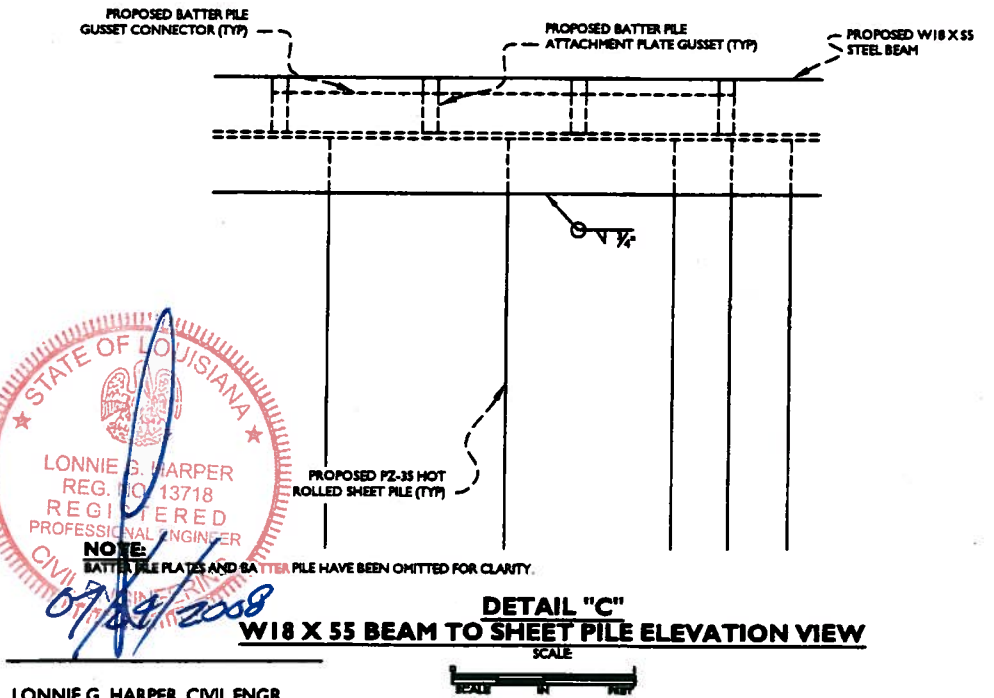
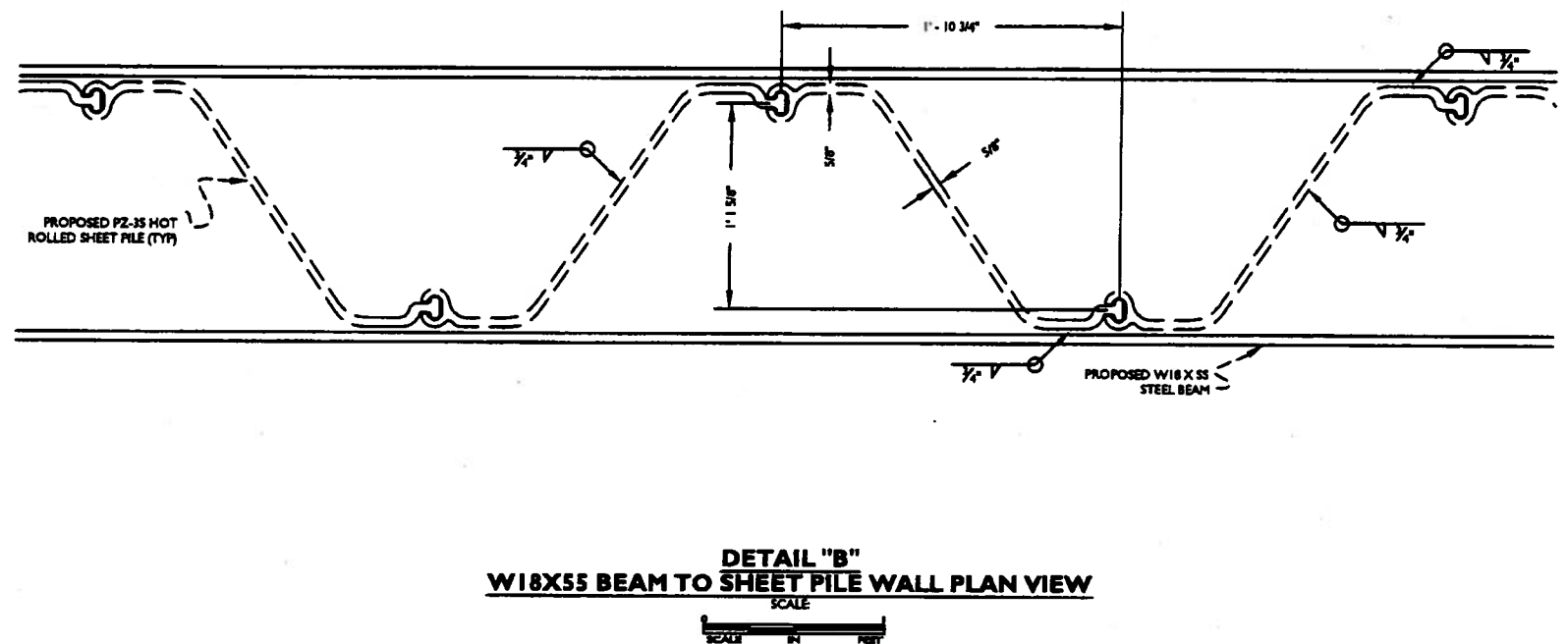
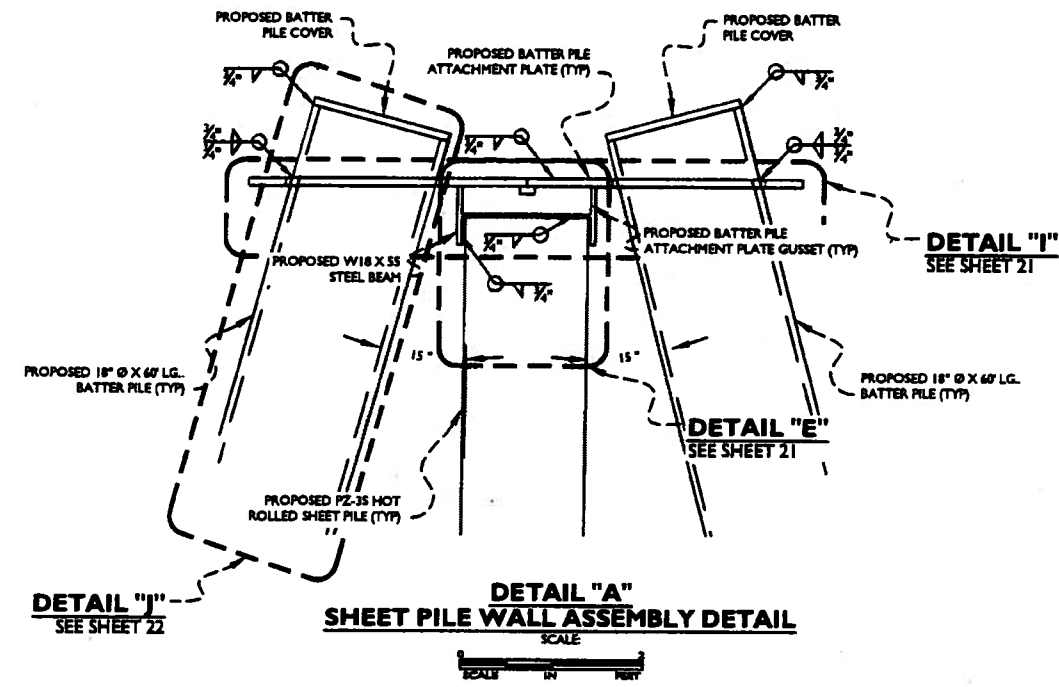
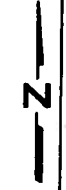
LONNIE G. HARPER
and Associates, Inc.
P. O. Box 225, Grand Chenier, Louisiana 70643 (337) 538-2574

CAMERON-CREOLE WATERSHED PROJECT
U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APR	AS-BUILT DRAWINGS	
BY	REVISIONS	DATE

CS-04A
SECTION "B4-2 - B4-2", "B4-3 - B4-3" & "B4-4 - B4-4"
BREACH ADJACENT TO NO NAME STRUCTURE
CS-04A REPAIR OF BREACHES

SCALE	1" = 40'
DATE	12-08-2006

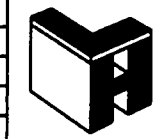


NOTE: SHEET PILE WALL, BATTER PILE PLATES AND BATTER PILE HAVE BEEN OMITTED FOR CLARITY.

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXPOXY.

STATE OF LOUISIANA
 LONNIE G. HARPER
 REG. NO. 13718
 REGISTERED
 PROFESSIONAL ENGINEER
 CIVIL
 07/23/2008

LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA



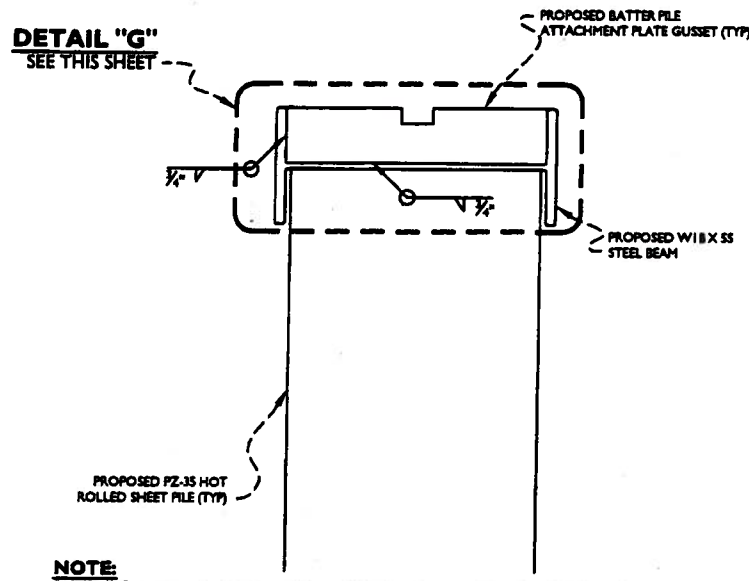
LONNIE G. HARPER
 and Associates, Inc.
 P. O. Box 229, Grand Chenier, Louisiana 70640 (257) 538-2574

CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

DESIGNED:	DRAWN:	CHECKED:	APPROVED:
	A.P.H.	L.G.H.	L.G.H.

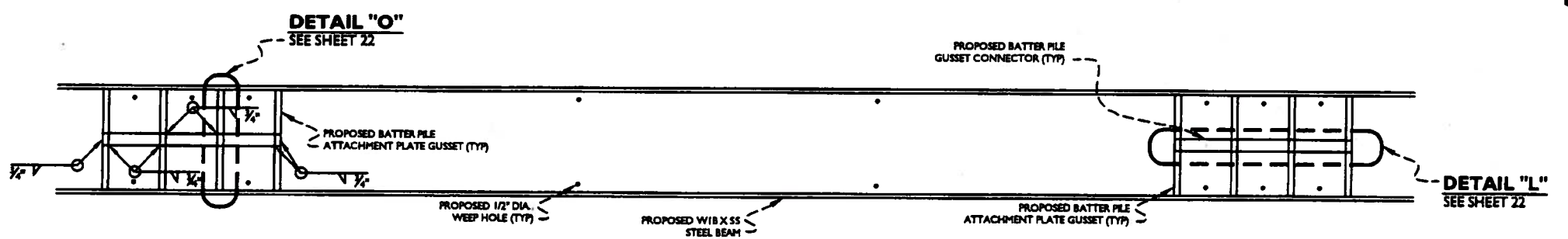
CS-04A
 DETAILS "A" THRU "D"
 TYPICAL DETAILS
CS-04A REPAIR OF BREACHES

SCALE
AS NOTED
12-08-2006
DATE



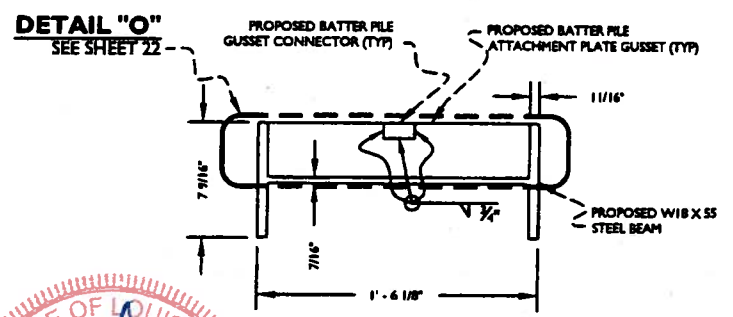
NOTE:
BATTER PILE GUSSET CONNECTOR, AND BATTER PILE PLATES HAVE BEEN OMITTED FOR CLARITY.

DETAIL "E"
W18 X 55 BEAM TO GUSSETS
SCALE



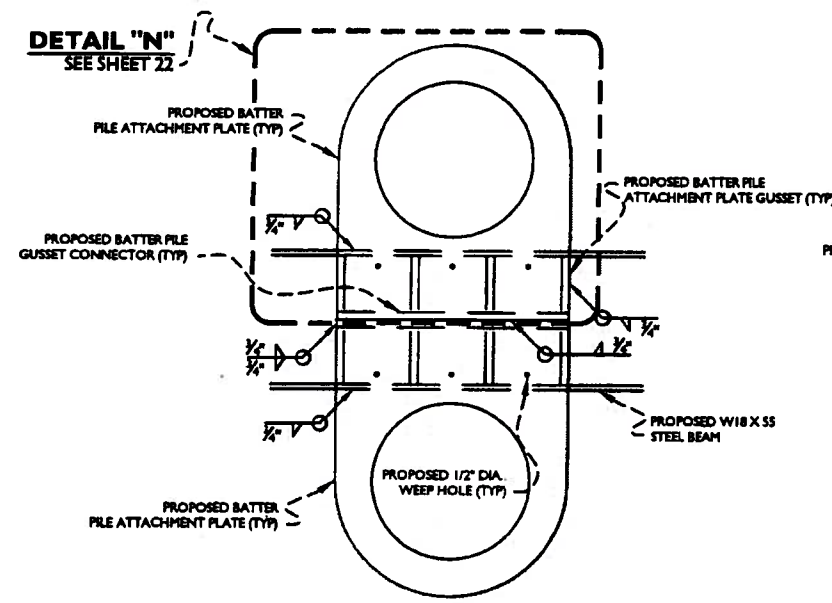
NOTE:
SHEET PILE WALL, BATTER PILE PLATES AND BATTER PILES HAVE BEEN OMITTED FOR CLARITY.

DETAIL "F"
BATTER PILE PLATE GUSSET TO CONNECTOR DETAIL
SCALE

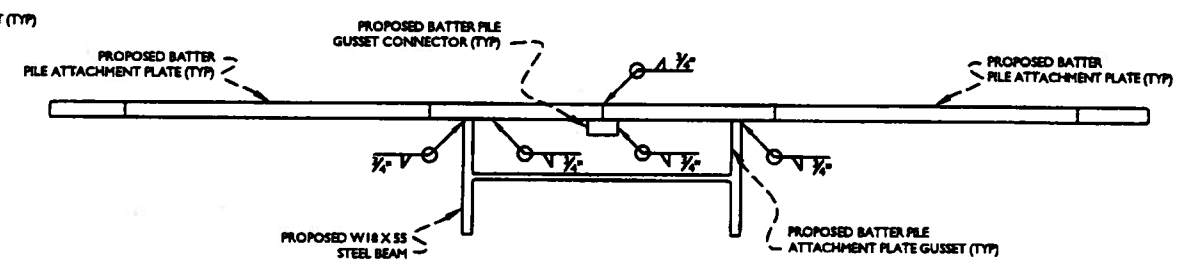


NOTE:
SHEET PILE WALL, BATTER PILES, AND BATTER PILE PLATES HAVE BEEN OMITTED FOR CLARITY.

DETAIL "G"
BATTER PILE PLATE GUSSET TO CONNECTOR DETAIL
SCALE

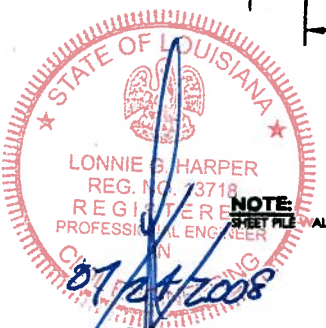


DETAIL "H"
W18 X 55 BEAM TO BATTER PILE PLATE AND GUSSETS
SCALE



NOTE:
SHEET PILE WALL AND BATTER PILES HAVE BEEN OMITTED FOR CLARITY.

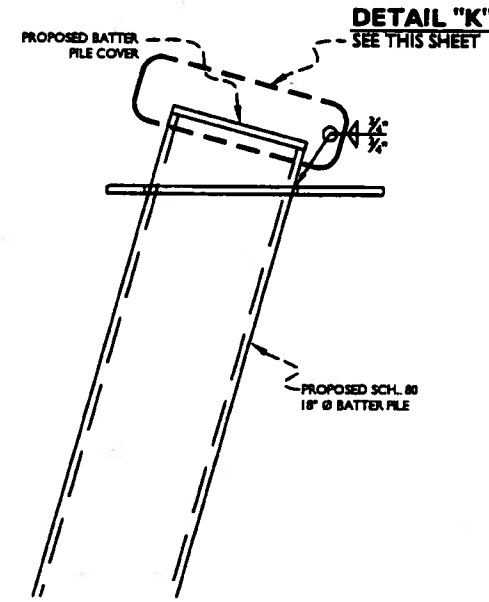
DETAIL "I"
BATTER PILE PLATE TO GUSSETS, CONNECTOR, AND W18 X 55 BEAM
SCALE



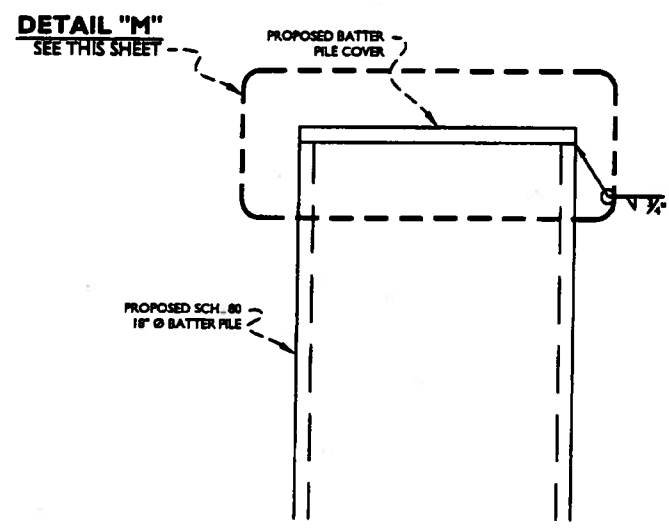
LONNIE G. HARPER, CIVIL ENGR.
REG. NO. 13718
LONNIE G. HARPER & ASSOC., INC.
GRAND CHENIER, LOUISIANA

NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXCOPY.

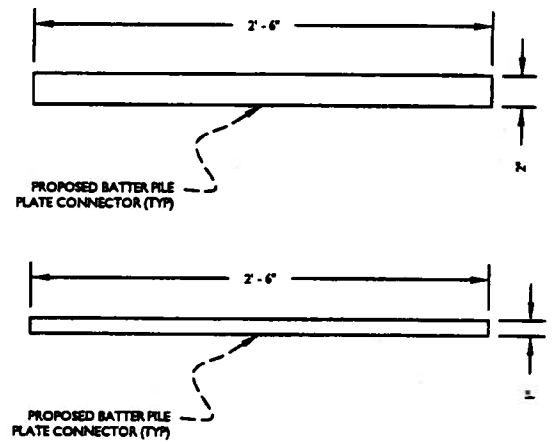
DESIGNED:		LONNIE G. HARPER and Associates, Inc. P. O. Box 225, Grand Chenier, Louisiana 70643 (337) 538-3574	CAMERON-CREOLE WATERSHED PROJECT U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT	CS-04A DETAILS "E" THRU "I" TYPICAL DETAILS	SCALE
DRAWN: A.P.H.				AS NOTED	
CHECKED: L.G.H.				12-08-2006	
APPROVED: L.G.H.				DATE	
				CS-04A REPAIR OF BREACHES	



NOTE:
SHEET PILE WALL, W18 X35 BEAM, AND BATTER PILE PLATE GUSSETS HAVE BEEN OMITTED FOR CLARITY.

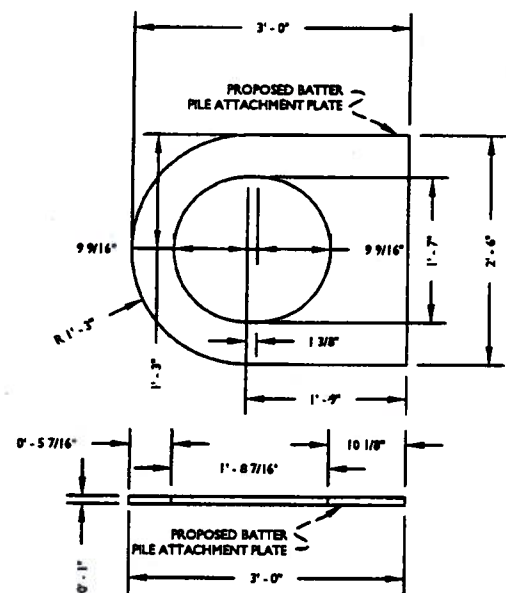
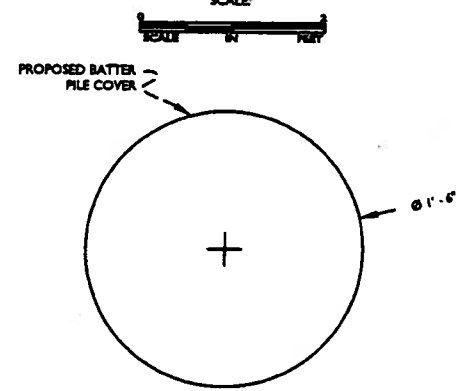


**DETAIL "K"
BATTER PILE COVER
ATTACHMENT DETAIL**



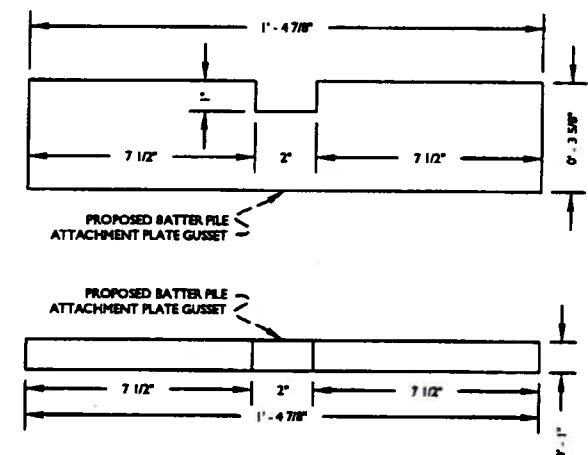
NOTE:
ALL BATTER PILE COVERS WILL BE FABRICATED USING ROLLED 1 INCH THICK PLATE CONFORMING TO ASTM A-36.

**DETAIL "J"
BATTER PILE
ATTACHMENT PLATE DETAIL**



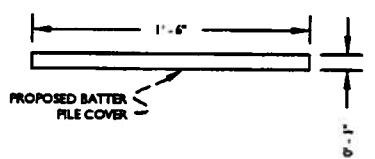
NOTE:
ALL BATTER PILE PLATES WILL BE FABRICATED USING ROLLED 1 INCH THICK PLATE CONFORMING TO ASTM A-36.

**DETAIL "L"
BATTER PILE GUSSET
CONNECTOR DETAIL**



NOTE:
ALL BATTER PILE COVERS WILL BE FABRICATED USING ROLLED 1 INCH THICK PLATE CONFORMING TO ASTM A-36.

**DETAIL "M"
BATTER PILE COVER PLATE**

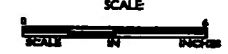


NOTE:
ALL BATTER PILE COVERS WILL BE FABRICATED USING ROLLED 1 INCH THICK PLATE CONFORMING TO ASTM A-36.

**DETAIL "N"
BATTER PILE PLATE DETAIL**



**DETAIL "O"
BATTER PILE PLATE GUSSET DETAIL**

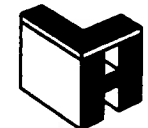


NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXPOXY.



LONNIE G. HARPER, CIVIL ENGR.
REG. NO. 13718
LONNIE G. HARPER & ASSOC., INC.
GRAND CHENIER, LOUISIANA

DESIGNED:	
DRAWN:	A.P.H.
CHECKED:	L.G.H.
APPROVED:	L.G.H.



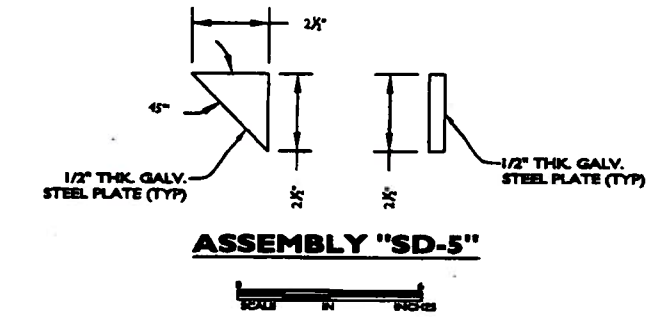
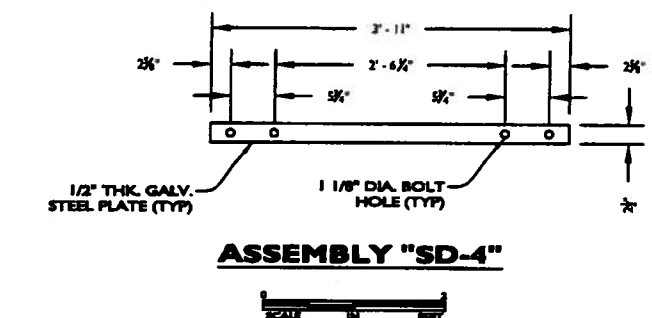
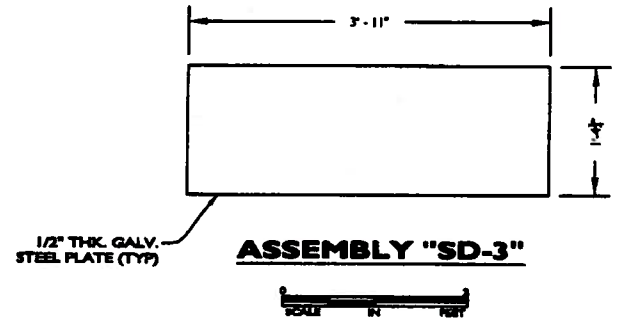
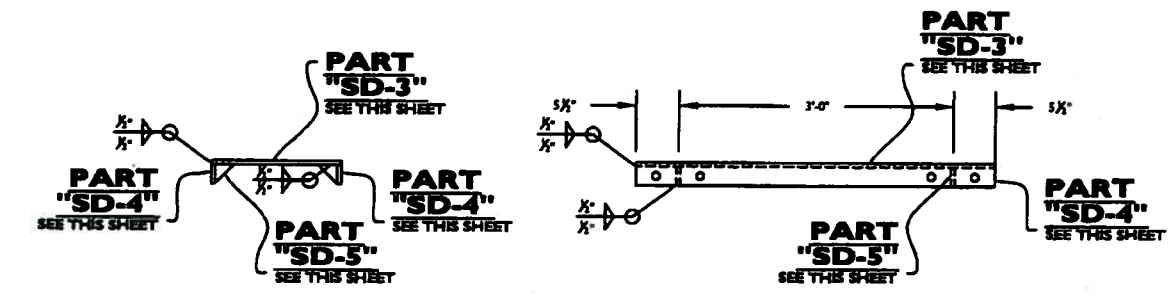
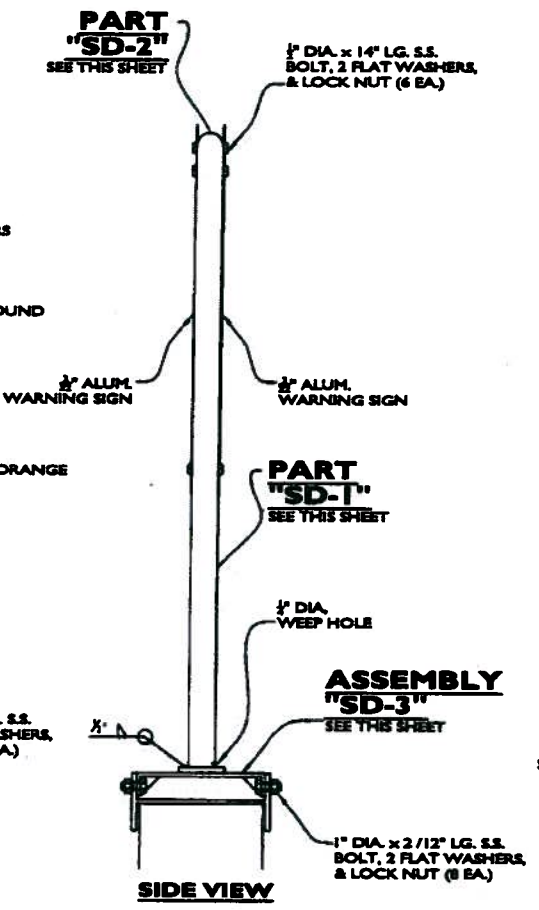
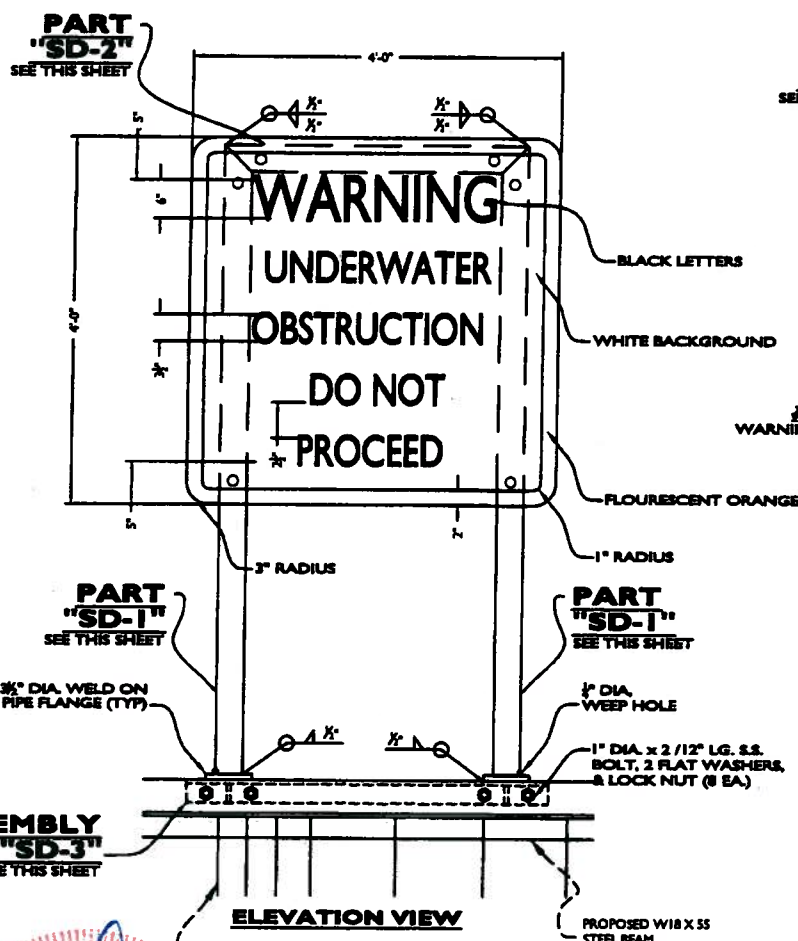
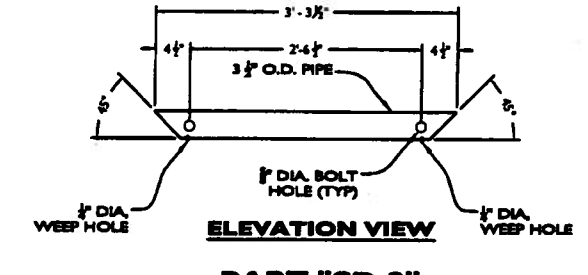
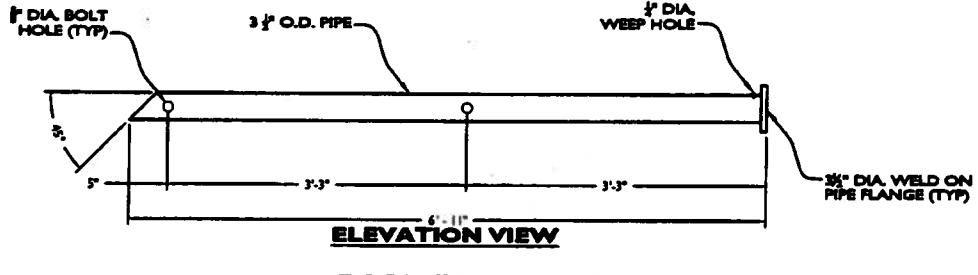
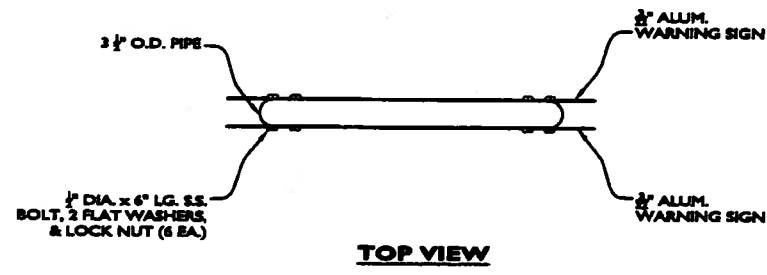
**LONNIE G. HARPER
and Associates, Inc.**
P. O. Box 225, Grand Chenier, Louisiana 70648 (337) 538-2574

CAMERON-CREOLE WATERSHED PROJECT
U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

DATE	AS-BUILT DRAWING	ISSUED
BY	REVISIONS	DATE

CS-04A
DETAILS "J" THRU "O"
TYPICAL DETAILS
CS-04A REPAIR OF BREACHES

SCALE	AS NOTED
DATE	12-08-2006



LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

DESIGNED:	
DRAWN:	APK
CHECKED:	LQH
APPROVED:	LQH



LONNIE G. HARPER
and Associates, Inc.
P. O. Box 225, Grand Chenier, Louisiana 70643 (337) 538-3574

CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APK	ASSEMBLY DRAWINGS	03/12/08
BY	REVISIONS	DATE

CS-04A
 WARNING SIGN
 DETAILS
CS-04A REPAIR OF BREACHES

SCALE	AS NOTED
DATE	12-08-2006