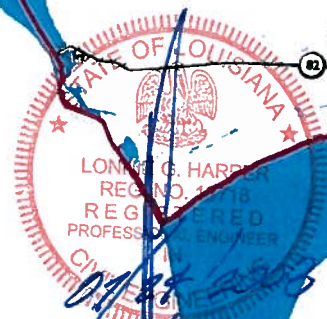
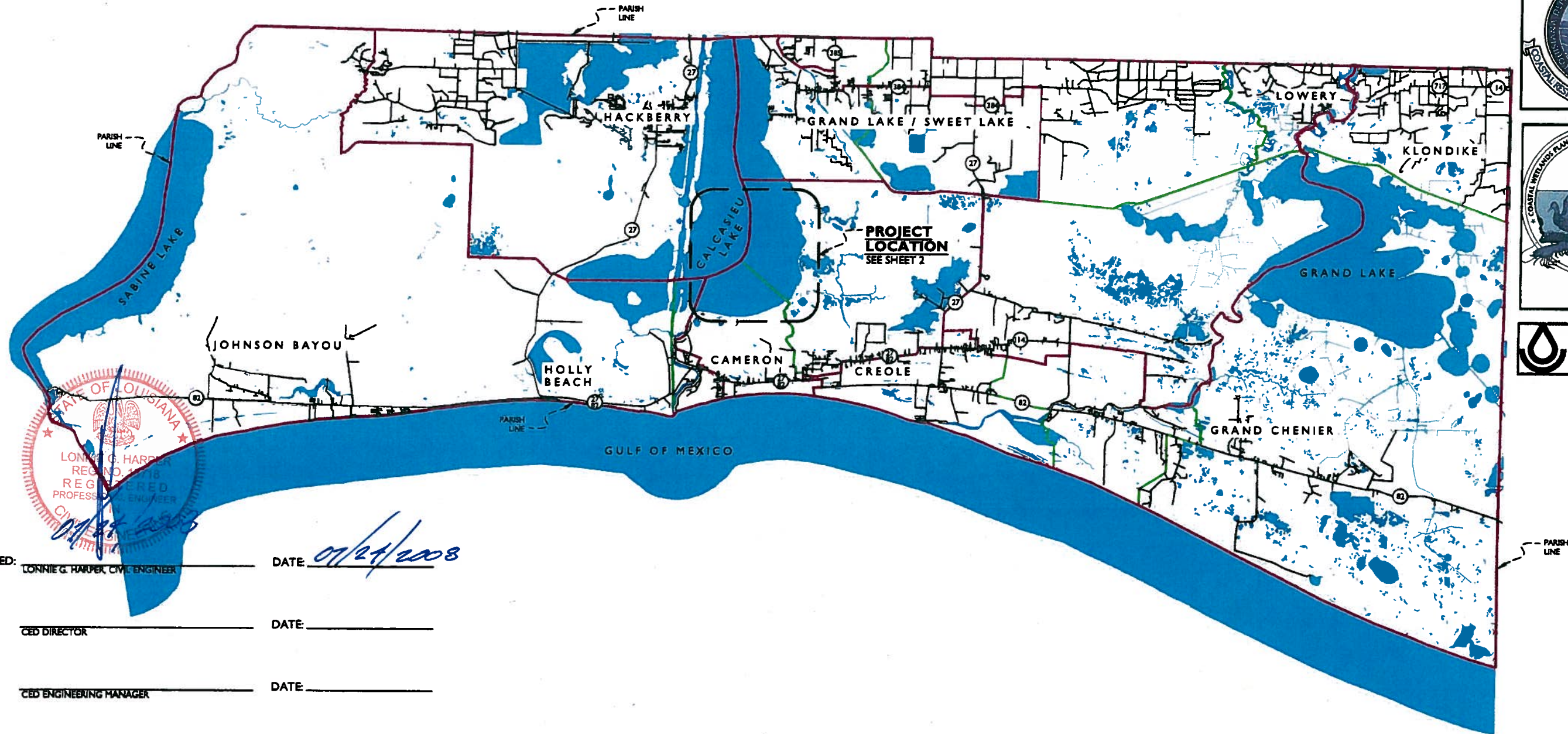


PROJECT CS-04A (B)
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT
CAMERON-CREOLE WATERSHED PROJECT
 SPONSORED BY:
U.S. FISH AND WILDLIFE SERVICE
NATIONAL RESOURCE CONSERVATION SERVICE
 &
LOUISIANA DEPARTMENT OF NATURAL RESOURCES

FILE NO.	STATE PROJECT NO.	PARISH	SHEET NO.
12/21/2006	CS-04A(B)	CAMERON	01



APPROVED: Lonnie G. Harper, Civil Engineer DATE: 07/24/2008

 CED DIRECTOR DATE: _____

 CED ENGINEERING MANAGER DATE: _____

 CED PROJECT MANAGER DATE: _____



DESIGNED: DRAWN: A.P.H. CHECKED: L.G.H. APPROVED: L.G.H.	LONNIE G. HARPER and Associates, Inc. <small>P. O. Box 225, Grand Chenier, Louisiana 70643 (337) 838-2574</small>	CAMERON-CREOLE WATERSHED PROJECT			CS-04A VICINITY MAP	SCALE
		U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT				1" = 30,000' 12-08-2006
		U.S. FISH AND WILDLIFE SERVICE NATIONAL RESOURCE CONSERVATION SERVICE & LOUISIANA DEPARTMENT OF NATURAL RESOURCES	CS-04A REPAIR OF BREACHES			

PROJECT FEATURES

BREACH "B1" LOCATED ADJACENT TO MANGROVE BAYOU STRUCTURE - PROJECT WILL RESTORE A 45' WIDE BREACH USING 54 L.F. OF STEEL SHEET PILE RETAINING WALL AND 300 TONS OF CRUSHED STONE. THE RETAINING WALL WILL BE CONSTRUCTED USING 40' LONG SHEET PILE WITH A MINIMUM EMBEDMENT DEPTH OF 34 L.F. BELOW THE WATER BOTTOM OF THE BREACH. THE FINISHED ELEVATION OF THE TOP OF THE STEEL SHEET PILE RETAINING WALL WILL BE +4.5' NAVD 88. CRUSHED STONE WILL BE TRANSPORTED TO THE PROJECT SITE BY MARINE VESSELS AND DEPOSITED ON BOTH SIDES OF THE RETAINING WALL. THE CRUSHED STONE DIKE WILL HAVE SIDE SLOPES OF ONE ON THREE AND A FINISHED ELEVATION OF +1.8 NAVD 88 ON BOTH SIDES OF THE PROPOSED SHEET PILE WALL. CRUSHED STONE WILL BE USED TO ARMOR THE LEVEE TO A DEPTH NO THICKER THAN TWICE THE DIAMETER OF THE STONE USED. APPROXIMATELY 120 SQ. YDS. OF GETOEXTILE FABRIC WILL BE PLACED LANDWARD OF THE BREACH PRIOR TO THE PLACEMENT OF THE CRUSHED STONE ARMOR DIKE TO CONTROL SETTLEMENT AND REDUCE THE POTENTIAL OF FUTURE EROSION ON THE PROJECT SITE.

BREACH "B2" LOCATED ADJACENT TO GRAND BAYOU STRUCTURE - PROJECT WILL RESTORE A 55' WIDE BREACH USING 84 L.F. OF STEEL SHEET PILE RETAINING WALL AND 3,000 TONS OF CRUSHED STONE. THE RETAINING WALL WILL BE CONSTRUCTED USING 45' LONG SHEET PILE WITH A MINIMUM EMBEDMENT DEPTH OF 32 L.F. BELOW THE WATER BOTTOM OF THE BREACH. THE FINISHED ELEVATION OF THE TOP OF THE STEEL SHEET PILE RETAINING WALL WILL BE +4.5' NAVD 88. CRUSHED STONE WILL BE TRANSPORTED TO THE PROJECT SITE BY MARINE VESSELS AND DEPOSITED ON BOTH SIDES OF THE RETAINING WALL. THE CRUSHED STONE DIKE WILL HAVE SIDE SLOPES OF ONE ON THREE AND A FINISHED ELEVATION OF +1.8 NAVD 88 ON BOTH SIDES OF THE PROPOSED SHEET PILE WALL. CRUSHED STONE WILL BE USED TO ARMOR THE LEVEE TO A DEPTH NO THICKER THAN TWICE THE DIAMETER OF THE STONE USED. APPROXIMATELY 150 SQ. YDS. OF GETOEXTILE FABRIC WILL BE PLACED UNDER THE CRUSHED STONE ARMOR DIKE TO CONTROL SETTLEMENT AND REDUCE THE POTENTIAL OF FUTURE EROSION ON THE PROJECT SITE.

BREACH "B3" LOCATED ADJACENT TO LAMBERT STRUCTURE - PROJECT WILL RESTORE A 181' WIDE BREACH USING 205 L.F. OF STEEL SHEET PILE RETAINING WALL AND 15,000 TONS OF CRUSHED STONE. THE RETAINING WALL WILL BE CONSTRUCTED USING 60' LONG SHEET PILE WITH A MINIMUM EMBEDMENT DEPTH OF 39 L.F. BELOW THE WATER BOTTOM OF THE BREACH. THE FINISHED ELEVATION OF THE TOP OF THE STEEL SHEET PILE RETAINING WALL WILL BE +4.5' NAVD 88. CRUSHED STONE WILL BE TRANSPORTED TO THE PROJECT SITE BY MARINE VESSELS AND DEPOSITED ON BOTH SIDES OF THE RETAINING WALL. THE CRUSHED STONE DIKE WILL HAVE SIDE SLOPES OF ONE ON THREE AND A FINISHED ELEVATION OF +1.8 NAVD 88 ON BOTH SIDES OF THE PROPOSED SHEET PILE WALL. CRUSHED STONE WILL BE USED TO ARMOR THE LEVEE TO A DEPTH NO THICKER THAN TWICE THE DIAMETER OF THE STONE USED. APPROXIMATELY 320 SQ. YDS. OF GETOEXTILE FABRIC WILL BE PLACED UNDER THE CRUSHED STONE ARMOR DIKE TO CONTROL SETTLEMENT AND REDUCE THE POTENTIAL OF FUTURE EROSION ON THE PROJECT SITE.

BREACH "B4" LOCATED ADJACENT TO NO NAME STRUCTURE - PROJECT WILL RESTORE A 250' WIDE BREACH USING 281 L.F. OF STEEL SHEET PILE RETAINING WALL AND 6,000 TONS OF CRUSHED STONE. THE RETAINING WALL WILL BE CONSTRUCTED USING 50' LONG SHEET PILE WITH A MINIMUM EMBEDMENT DEPTH OF 39 L.F. BELOW THE WATER BOTTOM OF THE BREACH. THE FINISHED ELEVATION OF THE TOP OF THE STEEL SHEET PILE RETAINING WALL WILL BE +4.5' NAVD 88. CRUSHED STONE WILL BE TRANSPORTED TO THE PROJECT SITE BY MARINE VESSELS AND DEPOSITED ON BOTH SIDES OF THE RETAINING WALL. THE CRUSHED STONE DIKE WILL HAVE SIDE SLOPES OF ONE ON THREE AND A FINISHED ELEVATION OF +1.8 NAVD 88 ON BOTH SIDES OF THE PROPOSED SHEET PILE WALL. CRUSHED STONE WILL BE USED TO ARMOR THE LEVEE TO A DEPTH NO THICKER THAN TWICE THE DIAMETER OF THE STONE USED. APPROXIMATELY 210 SQ. YDS. OF GETOEXTILE FABRIC WILL BE PLACED UNDER THE CRUSHED STONE ARMOR DIKE TO CONTROL SETTLEMENT AND REDUCE THE POTENTIAL OF FUTURE EROSION ON THE PROJECT SITE.

INDEX TO SHEETS

DESCRIPTION	SHEET(S)
TITLE SHEET	1
INDEX TO SHEETS, PROJECT FEATURES, & SUMMARY OF BID ITEMS	2
PROJECT LOCATION	3
DETAIL "B1-1"	4
DETAIL "B1-2"	5
SECTION "B1-1 - B1-1" & DETAIL "B1-3"	6
SECTION "B1-2 - B1-2", "B1-3 - B1-3" & "B1-4 - B1-4"	7
DETAIL "B2-1"	8
DETAIL "B2-2"	9
SECTION "B2-1 - B2-1" & DETAIL "B2-3"	10
SECTION "B2-2 - B2-2", "B2-3 - B2-3" & "B2-4 - B2-4"	11
DETAIL "B3-1"	12
DETAIL "B3-2"	13
SECTION "B3-1 - B3-1" & DETAIL "B3-3"	14
SECTION "B3-2 - B3-2", "B3-3 - B3-3" & "B3-4 - B3-4"	15
DETAIL "B4-1"	16
DETAIL "B4-2"	17
SECTION "B4-1 - B4-1" & DETAIL "B4-3"	18
SECTION "B4-2 - B4-2", "B4-3 - B4-3" & "B4-4 - B4-4"	19
DETAILS "A" THRU "D"	20
DETAILS "E" THRU "I"	21
DETAILS "J" THRU "O"	22

SUMMARY OF BID ITEMS

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	MOBILIZATION	-----	LUMP SUM
2	TEMPORARY SIGNS AND BARRICADES	-----	LUMP SUM
3	INSTALLATION OF CRUSHED STONE	24,500	TONS
4	INSTALLATION OF PZ-35 SHEET PILE	330	SHEETS
5	INSTALLATION OF BATTER PILE	86	EA.
6	INSTALLATION OF GEO-TEXTILE FILTER CLOTH	800	S.Y.

(BID ITEM NO. 1) MOBILIZATION

ITEM NO.	DESCRIPTION	QUANTITY
1-1	MANGROVE BREACH (B1)	LUMP SUM
1-2	GRAND BAYOU BREACH (B2)	LUMP SUM
1-3	LAMBERT BREACH (B3)	LUMP SUM
1-4	NO NAME BREACH (B4)	LUMP SUM

(BID ITEM NO. 4) INSTALLATION OF PZ-35 SHEET PILE

ITEM NO.	DESCRIPTION	QUANTITY
4-1	MANGROVE BREACH (B1)	26 SHEETS
4-2	GRAND BAYOU BREACH (B2)	48 SHEETS
4-3	LAMBERT BREACH (B3)	108 SHEETS
4-4	NO NAME BREACH (B4)	148 SHEETS

(BID ITEM NO. 2) TEMPORARY SIGNS AND BARRICADES

ITEM NO.	DESCRIPTION	QUANTITY
2-1	MANGROVE BREACH (B1)	LUMP SUM
2-2	GRAND BAYOU BREACH (B2)	LUMP SUM
2-3	LAMBERT BREACH (B3)	LUMP SUM
2-4	NO NAME BREACH (B4)	LUMP SUM

(BID ITEM NO. 5) INSTALLATION OF BATTER PILE

ITEM NO.	DESCRIPTION	QUANTITY
5-1	MANGROVE BREACH (B1)	8 EA.
5-2	GRAND BAYOU BREACH (B2)	12 EA.
5-3	LAMBERT BREACH (B3)	28 EA.
5-4	NO NAME BREACH (B4)	38 EA.

(BID ITEM NO. 3) INSTALLATION OF CRUSHED STONE

ITEM NO.	DESCRIPTION	QUANTITY
3-1	MANGROVE BREACH (B1)	500 TONS
3-2	GRAND BAYOU BREACH (B2)	3,000 TONS
3-3	LAMBERT BREACH (B3)	15,000 TONS
3-4	NO NAME BREACH (B4)	6,000 TONS

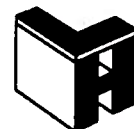
(BID ITEM NO. 6) INSTALLATION OF GEO-TEXTILE FILTER CLOTH

ITEM NO.	DESCRIPTION	QUANTITY
6-1	MANGROVE BREACH (B1)	120 S.Y.
6-2	GRAND BAYOU BREACH (B2)	150 S.Y.
6-3	LAMBERT BREACH (B3)	320 S.Y.
6-4	NO NAME BREACH (B4)	210 S.Y.



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 229, Grand Chenier, Louisiana 70640 (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

APPROVED	AS-BUILT DRAWINGS	DATE
BY	REVISIONS	DATE

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

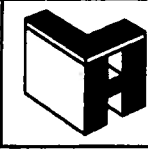
SCALE
 12-08-2006
 DATE



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 70648 (337) 528-2574

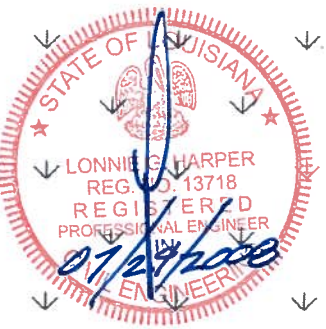
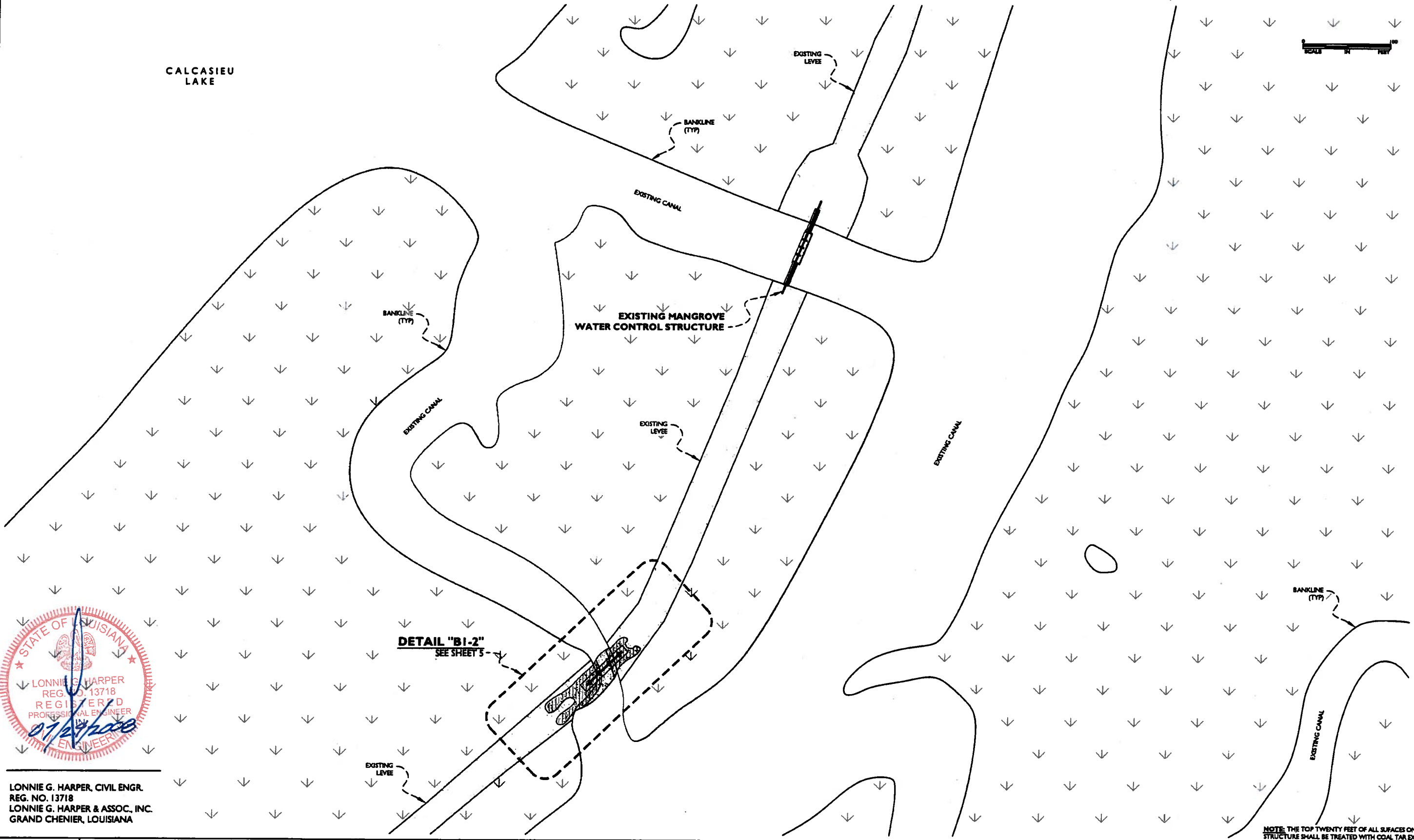
CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

APR	AS-BUILT DRAWINGS	EDWIN
BY	REVISIONS	DATE

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

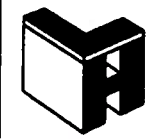
SCALE	1" = 3,500'
DATE	12-08-2006

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

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



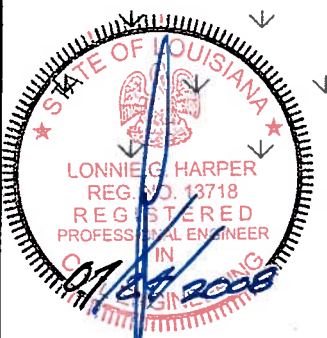
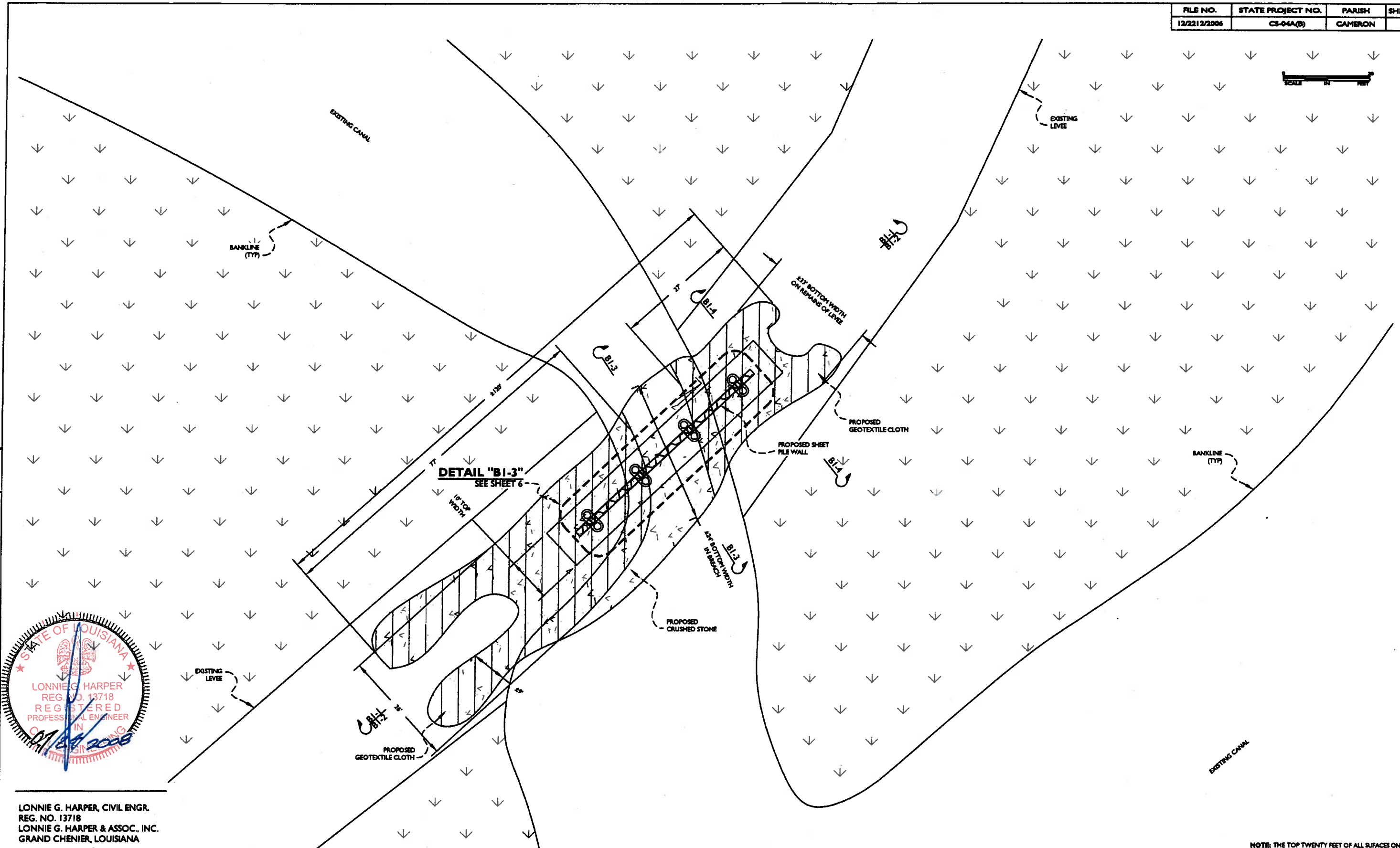
LONNIE G. HARPER
and Associates, Inc.
P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 528-2574

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

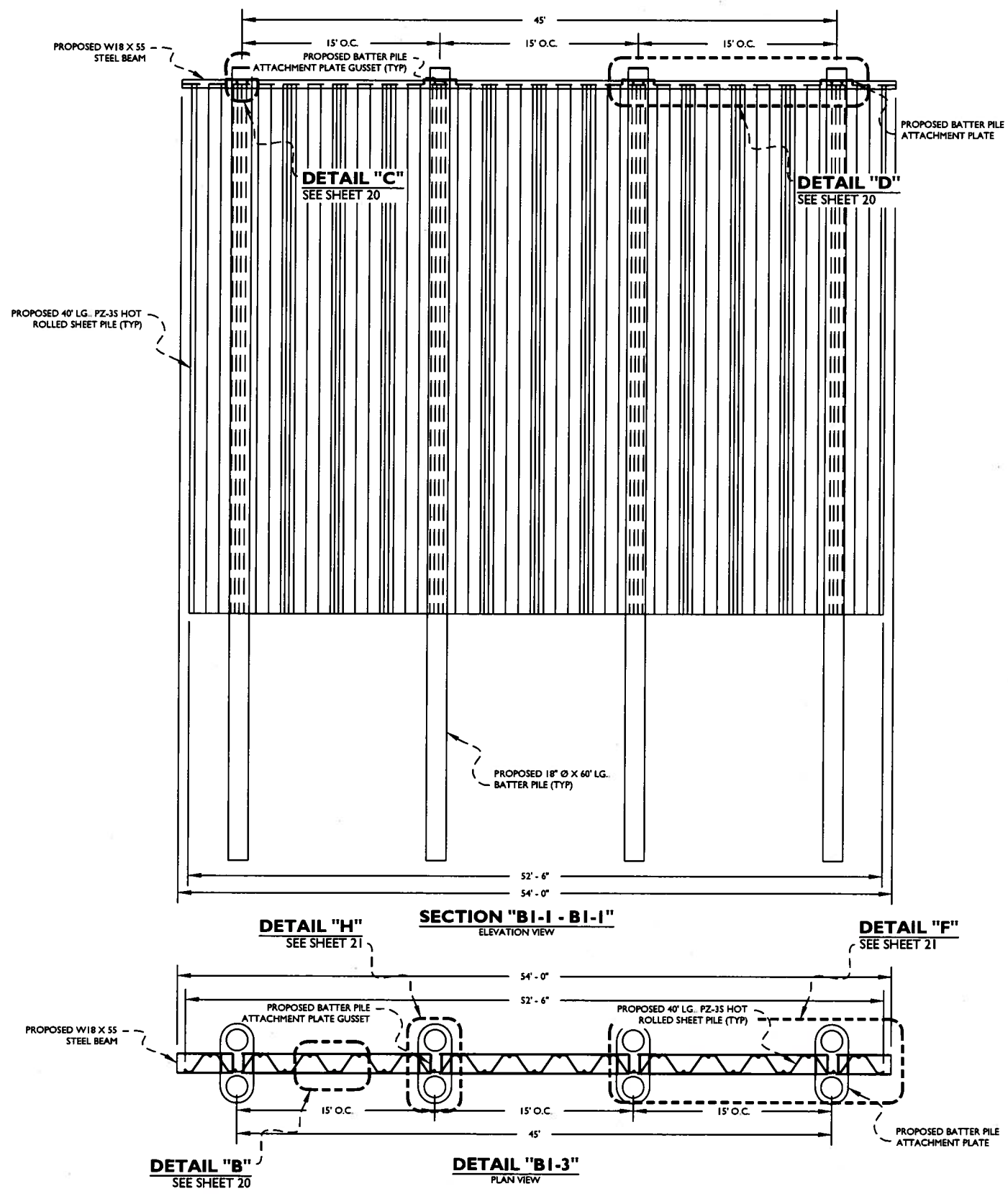


LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

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.	<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>	CS-04A DETAIL "B1-2" BREACH ADJACENT TO MANGROVE STRUCTURE	SCALE 1" = 20' 12-08-2006				
<table border="1"> <tr> <td>BY</td> <td>REVISIONS</td> <td>DATE</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>			BY	REVISIONS	DATE			
BY	REVISIONS	DATE						

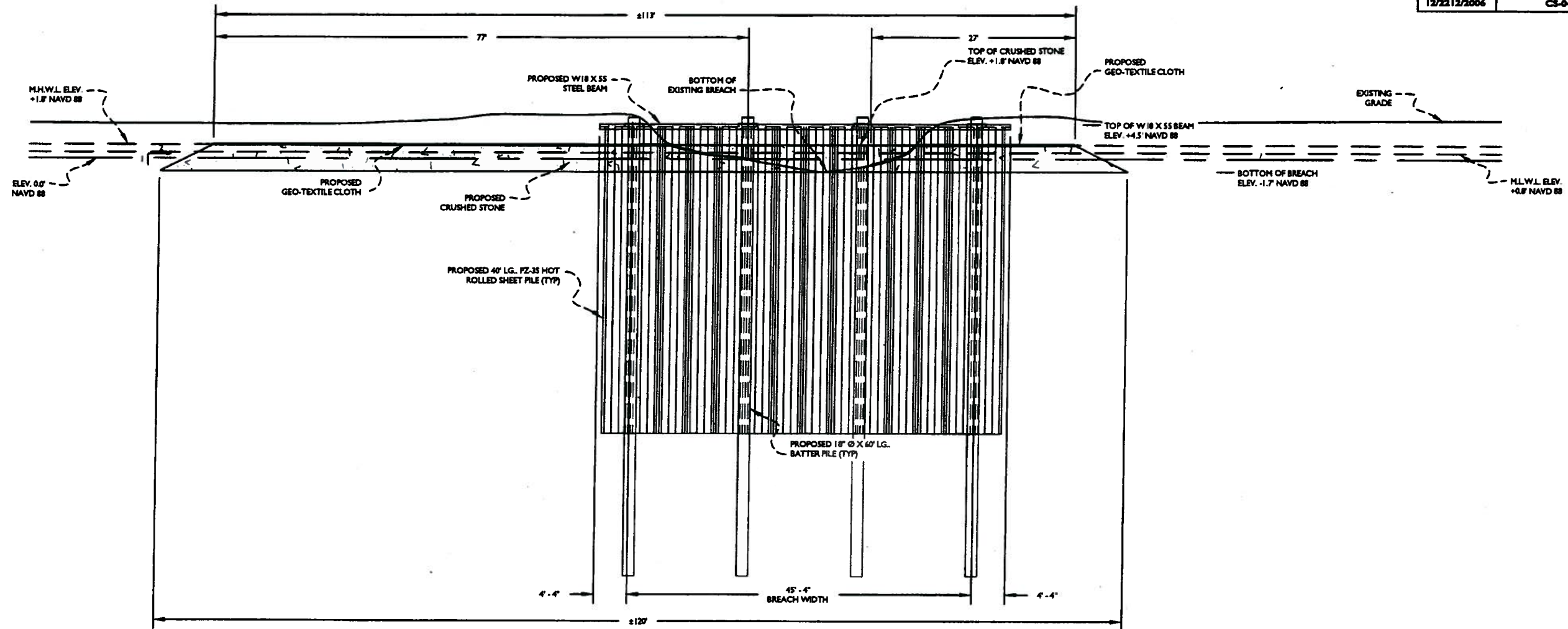
MANGROVE BREACH (B1) MATERIAL LIST		
ITEM NO.	DESCRIPTION	QUANTITY
1	40 FT. LG. PZ 35 HOT ROLLED STEEL SHEET PILES	26 SHEETS
2	18 IN. DIA. x 60 FT. LG. BATTER PILES	8 EA.
3	W18 x 55 STEEL BEAM	54 LF.
4	BATTER PILE PLATE GUSSETS	16 EA.
5	BATTER PILE GUSSET CONNECTOR PLATES	4 EA.
6	BATTER PILE ATTACHMENT 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



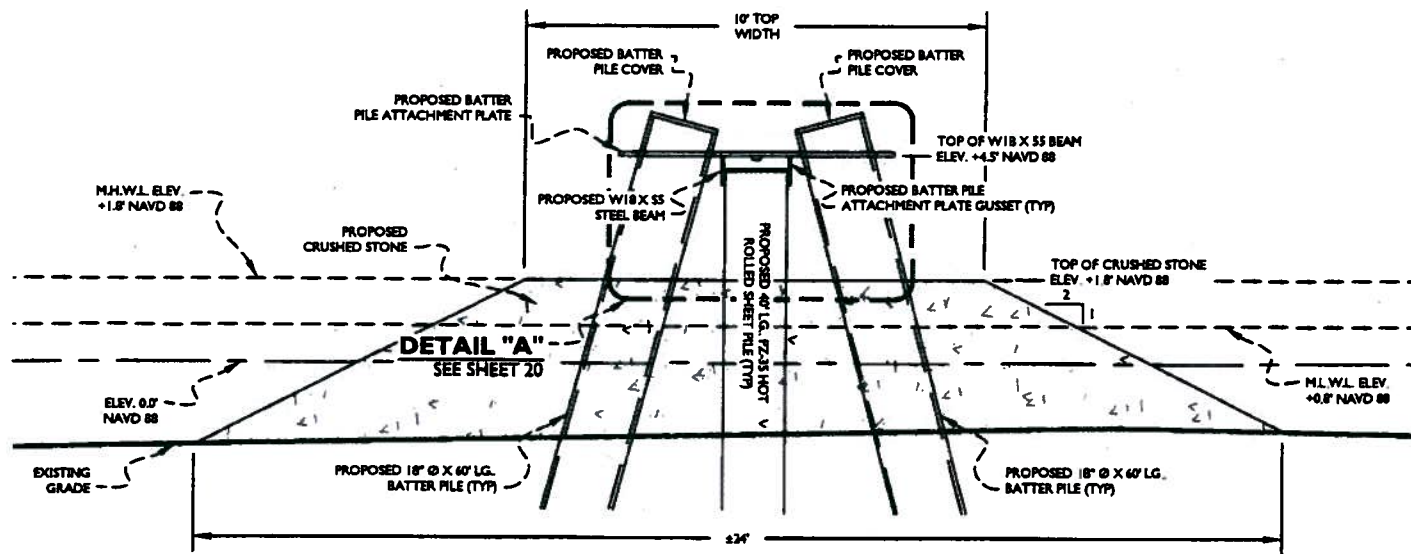
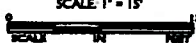
LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

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

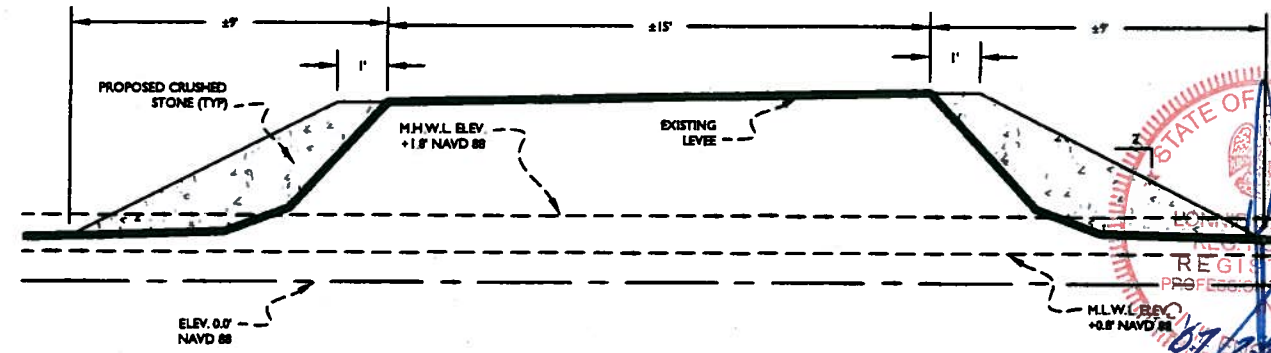
DESIGNED: DRAWN: A.P.H. CHECKED: L.G.H. APPROVED: L.G.H.	<p> LONNIE G. HARPER and Associates, Inc. <small>P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574</small> </p>	<p align="center"> CAMERON-CREOLE WATERSHED PROJECT U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES 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 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 EXCOPY.

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 (507) 838-2574

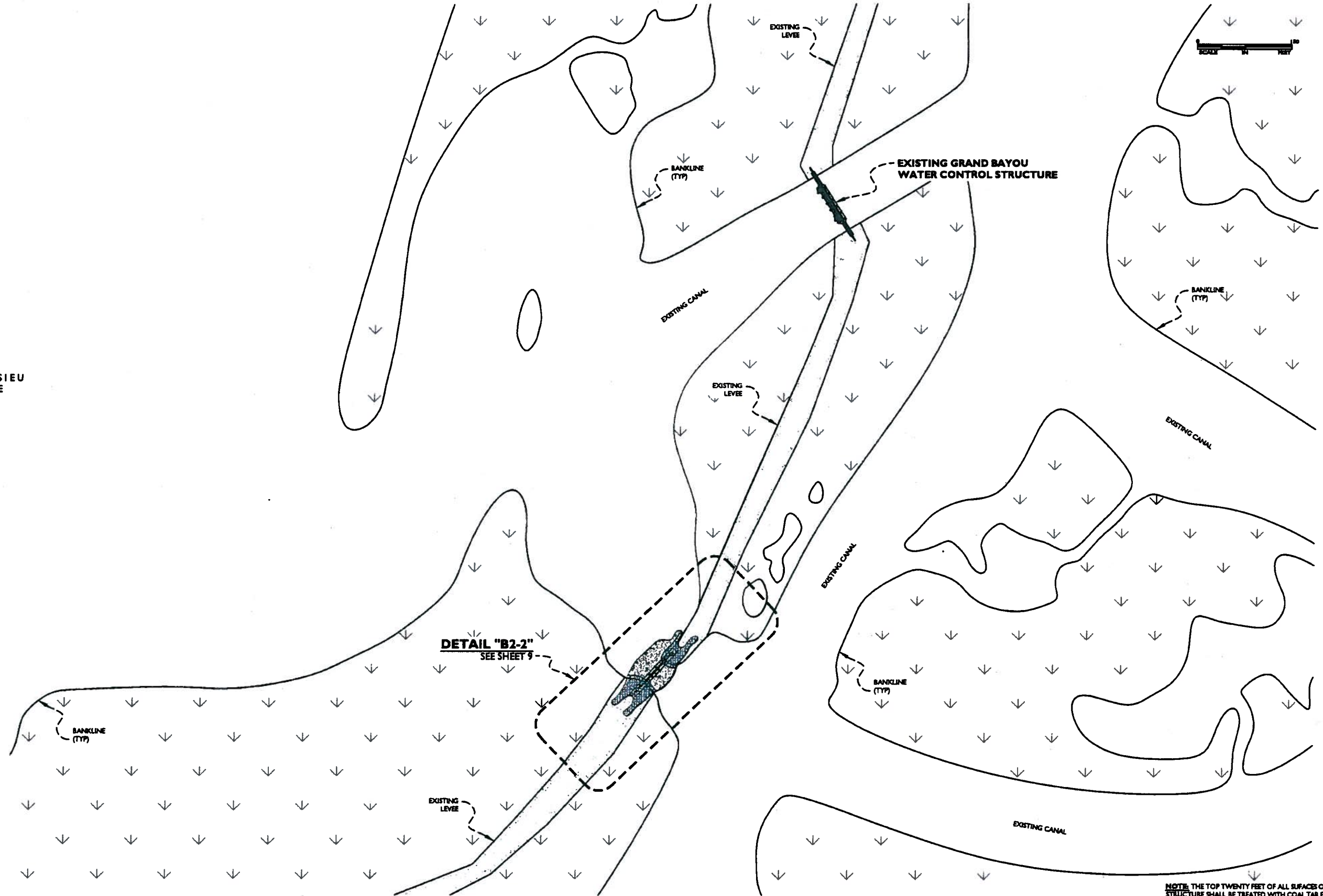
CAMERON-CREOLE WATERSHED PROJECT
U.S. FISH AND WILDLIFE SERVICE
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

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'
DATE	12-08-2006

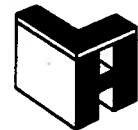
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LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

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 (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

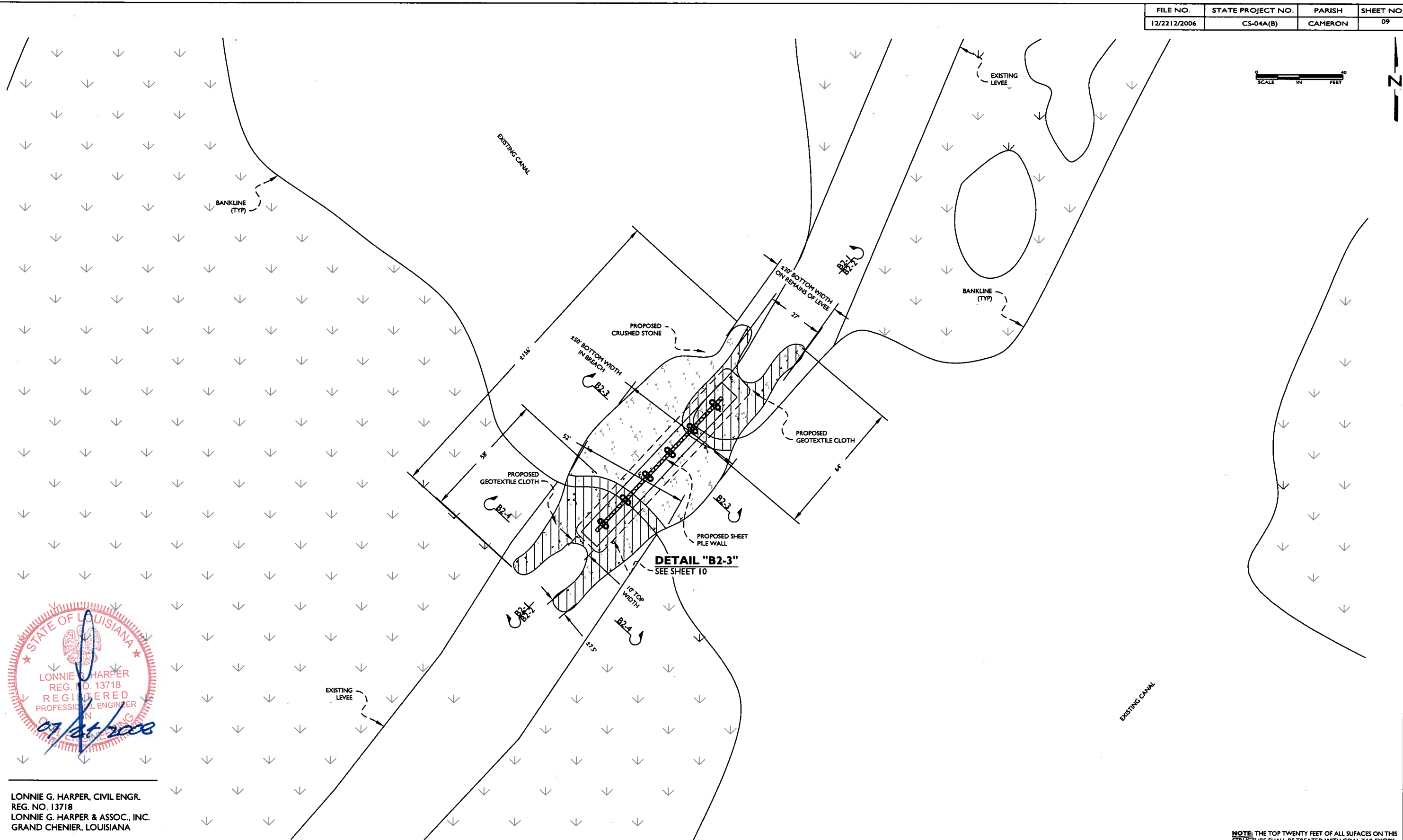
APR	ASBUILT DRAWINGS	DATE
BY	REVISIONS	DATE

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

CS-04A REPAIR OF BREACHES

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

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



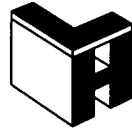
DETAIL "B2-3"
SEE SHEET 10



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



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

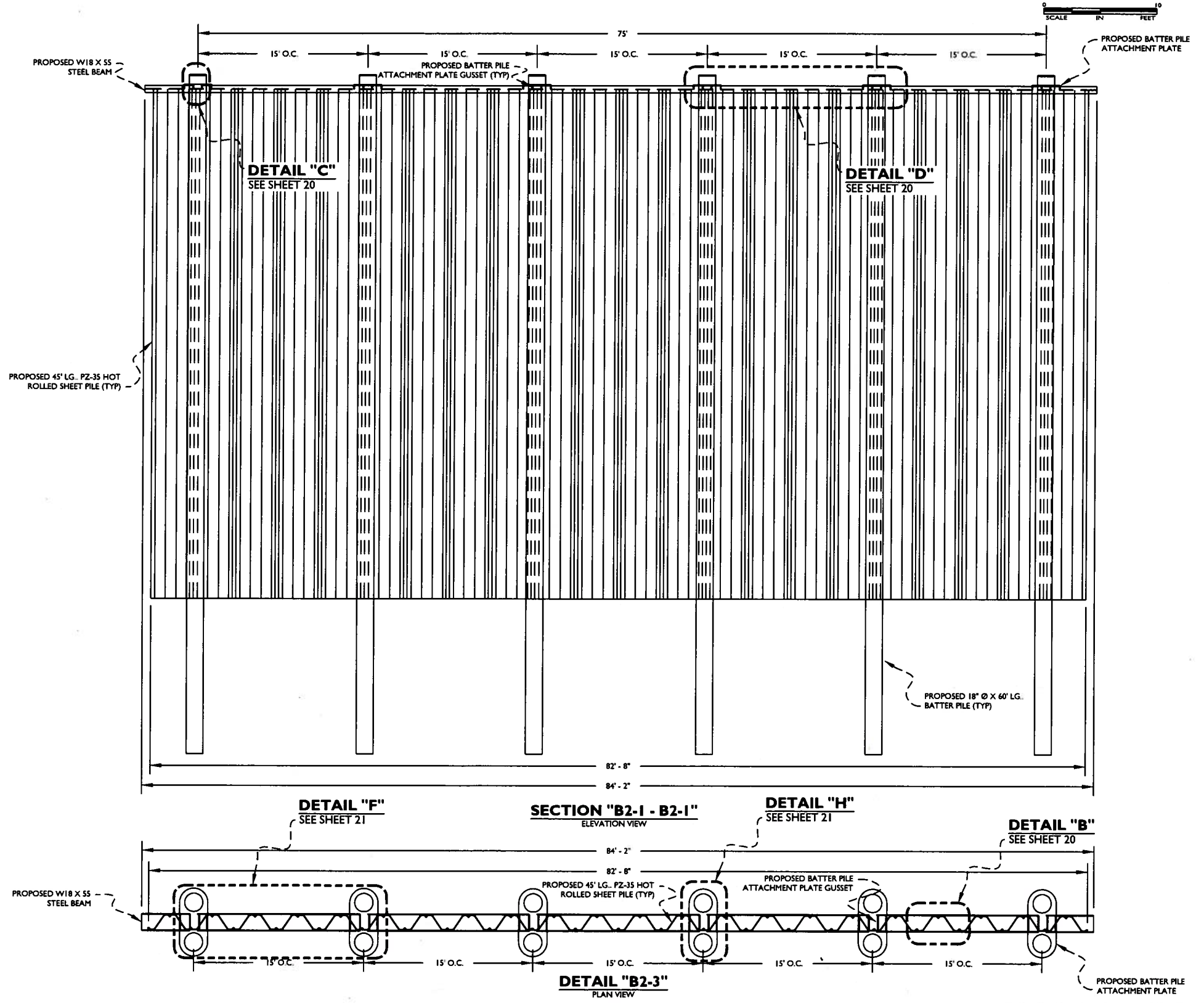
CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

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

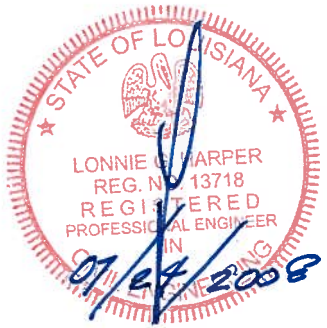
CS-04A
 DETAIL "B2-2"
 BREACH ADJACENT TO GRAND BAYOU STRUCTURE
CS-04A REPAIR OF BREACHES

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

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

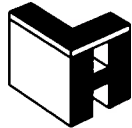


NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EPOXY.



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 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

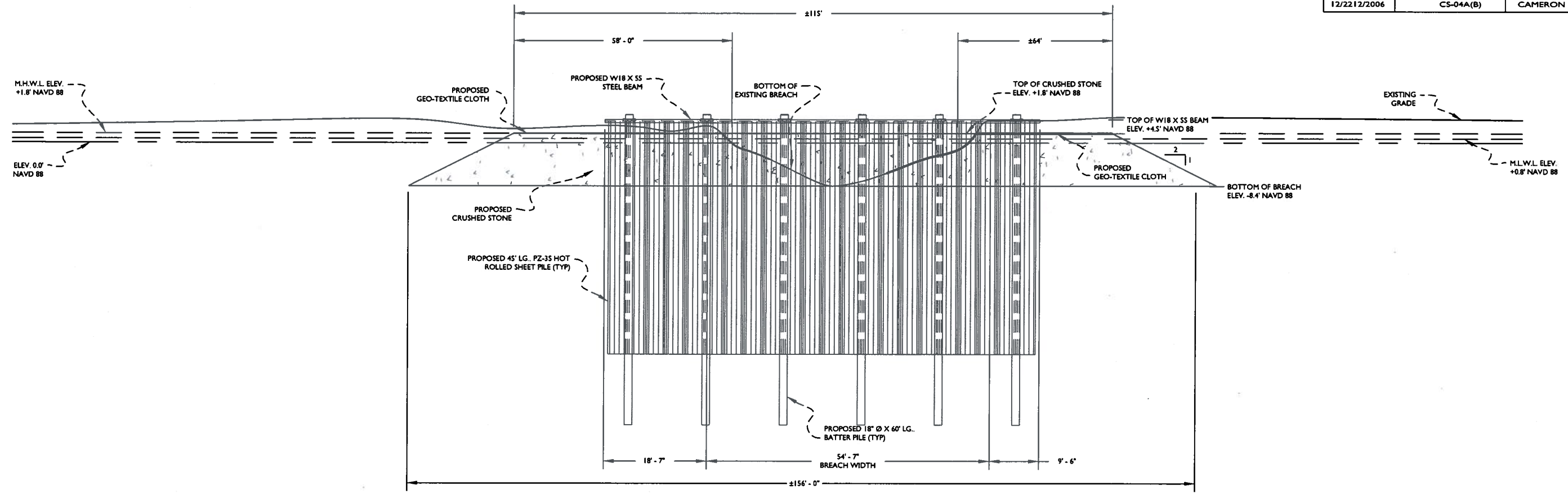
A.P.H.	AS-BUILT DRAWINGS	07/08/08
BY	REVISIONS	DATE

CS-04A
SECTION "B2-1 - B2-1" & DETAIL "B2-3"
BREACH ADJACENT TO GRAND BAYOU STRUCTURE

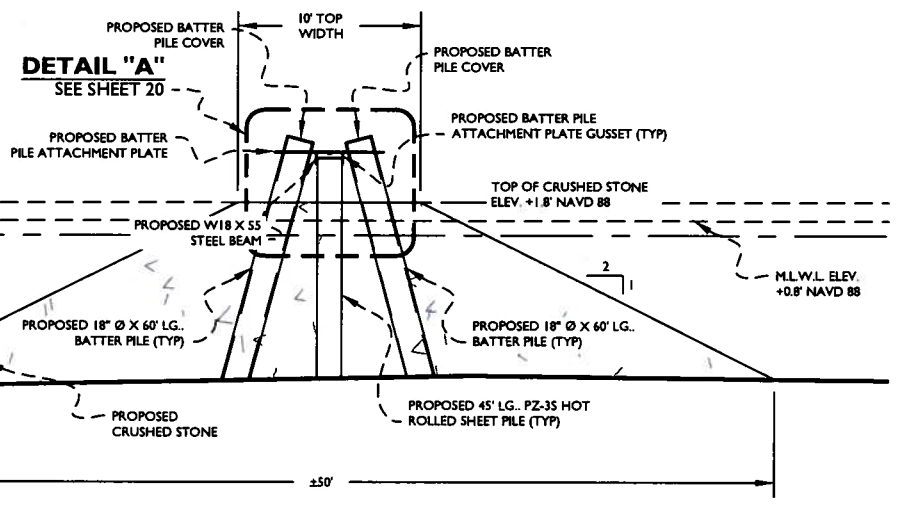
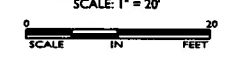
CS-04A REPAIR OF BREACHES

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

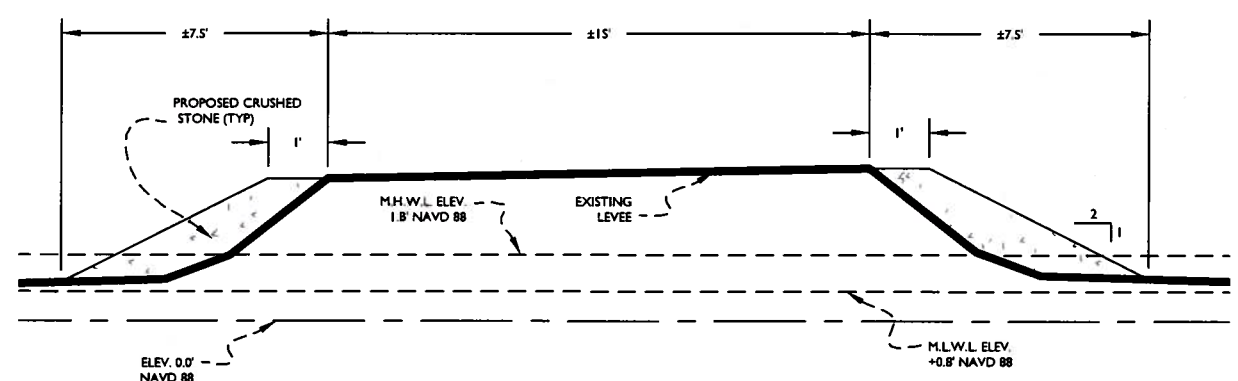
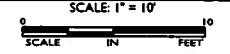
FILE NO.	STATE PROJECT NO.	PARISH	SHEET NO.
12/2212/2006	CS-04A(B)	CAMERON	11



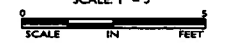
SECTION "B2-2 - B2-2"
SCALE: 1" = 20'



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



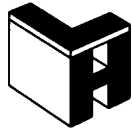
SECTION "B2-4 - B2-4"
SCALE: 1" = 5'



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

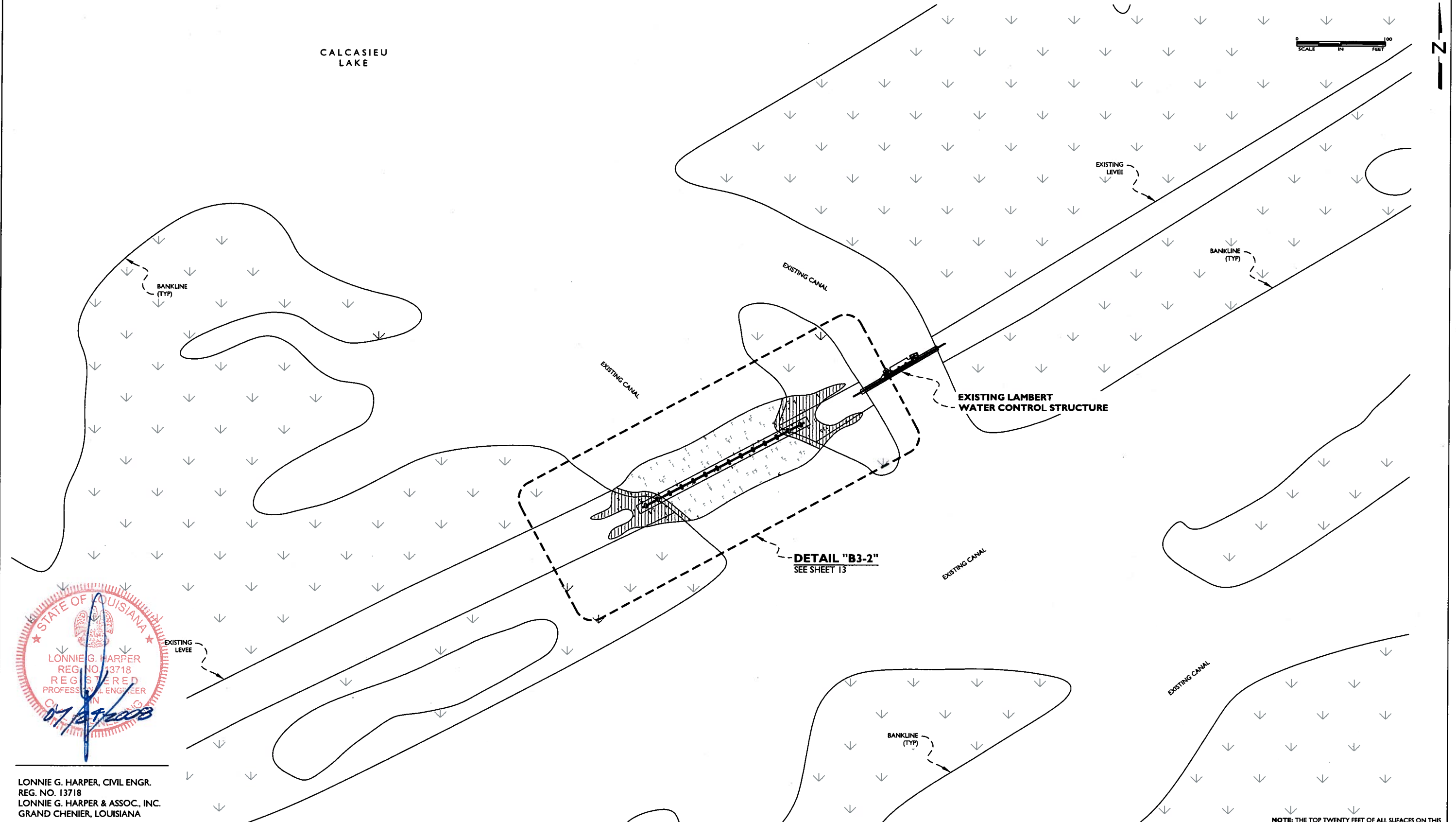
A.P.H.	AS-BUILT DRAWINGS	07/09/08
BY	REVISIONS	DATE

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

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

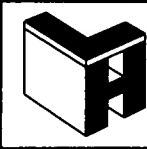
CALCASIEU LAKE



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 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

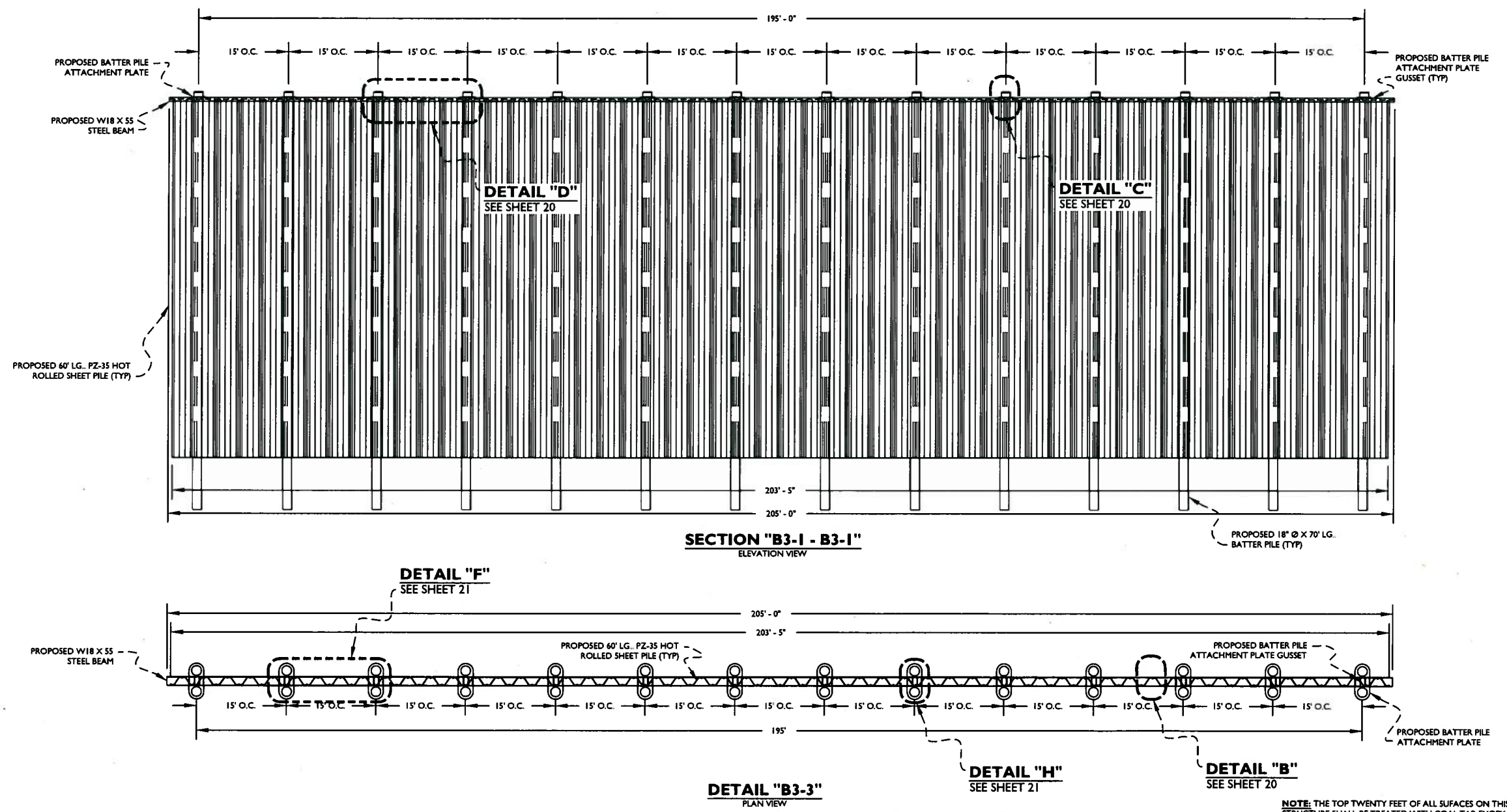
CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

BY	AS-BUILT DRAWINGS	DATE
		07/28/08
	REVISIONS	

CS-04A
 DETAIL "B3-1"
 BREACH ADJACENT TO LAMBERT STRUCTURE
 CS-04A REPAIR OF BREACHES

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

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

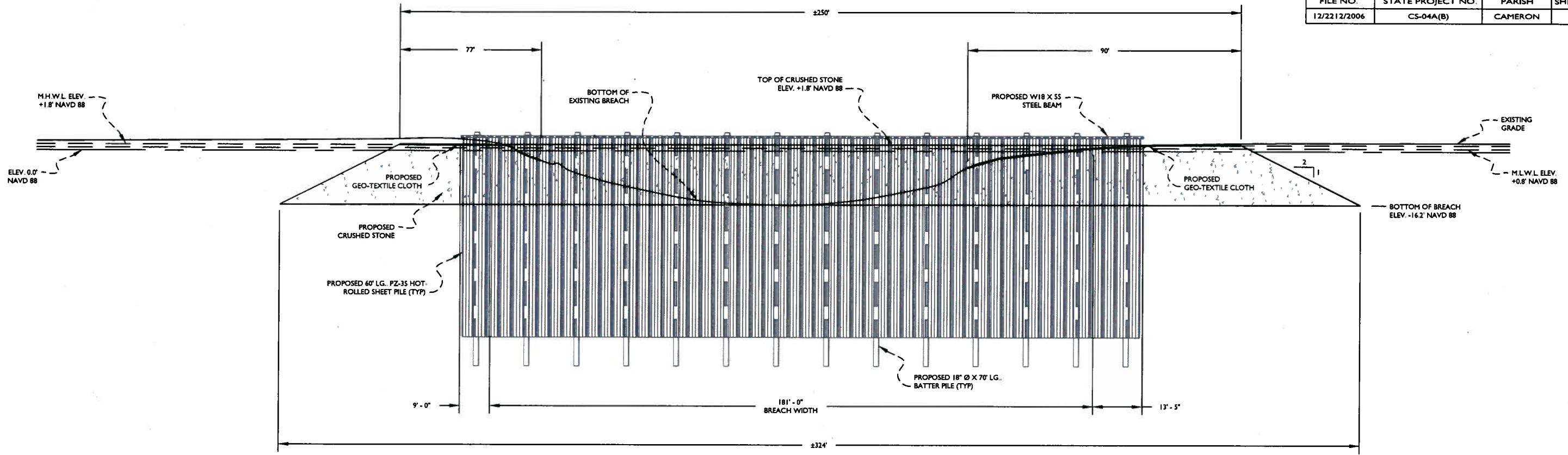


LONNIE G. HARPER, CIVIL ENGR.
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 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

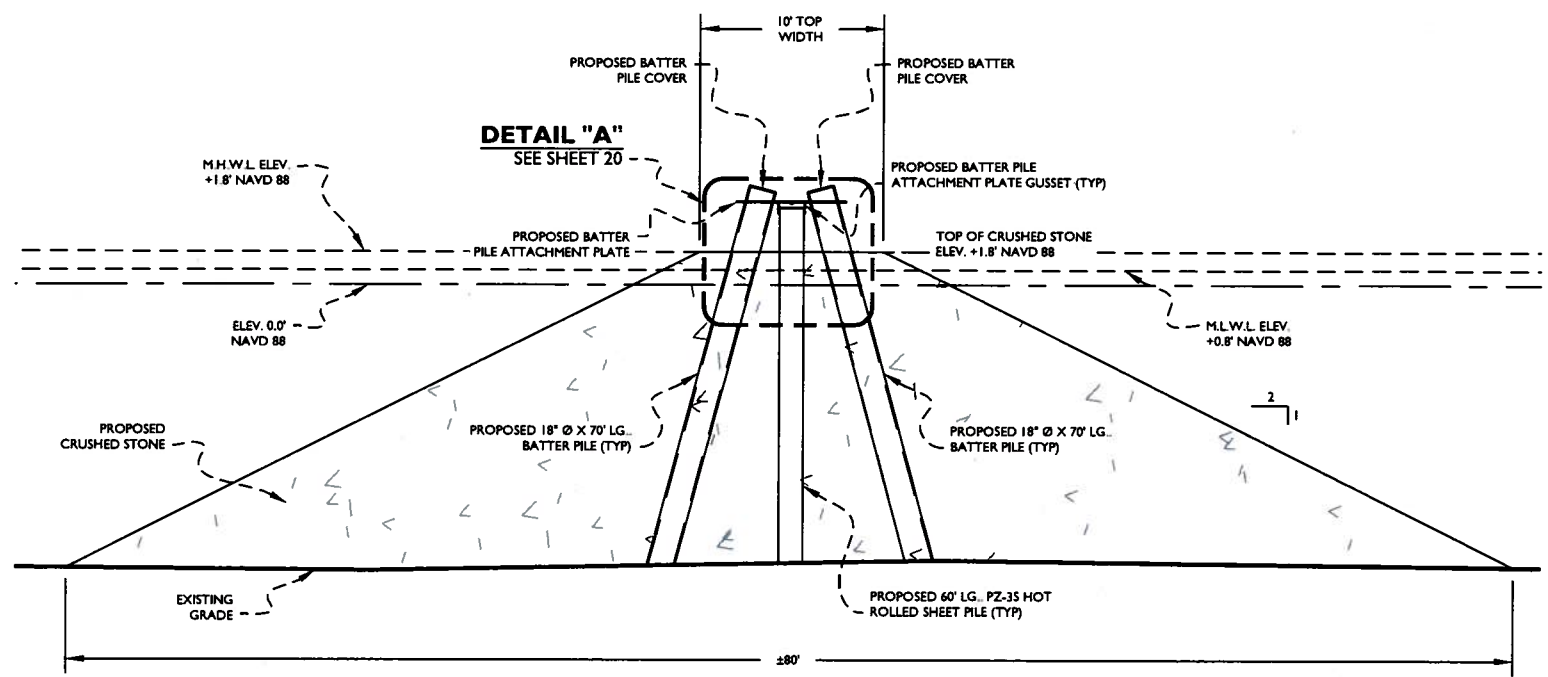
NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EPOXY.

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 1" = 10'</p> <p>12-08-2006 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

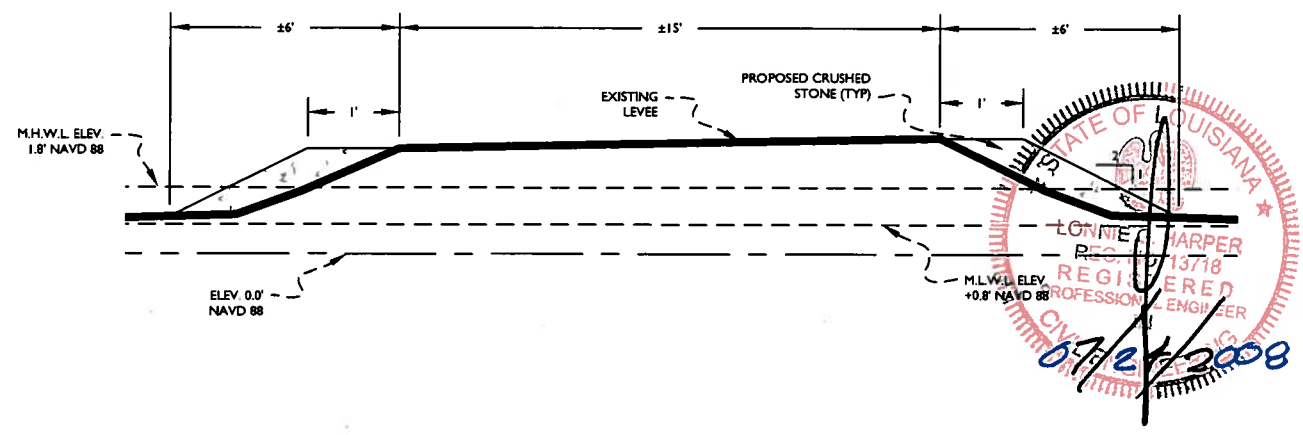


SECTION "B3-2 - B3-2"
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SCALE IN FEET

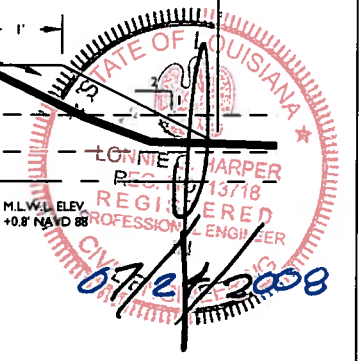


DETAIL "A"
SEE SHEET 20

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



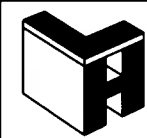
SECTION "B3-4 - B3-4"
SCALE: 1" = 5'
0 5
SCALE IN FEET



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.



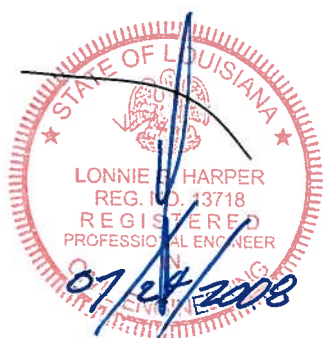
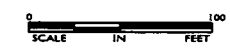
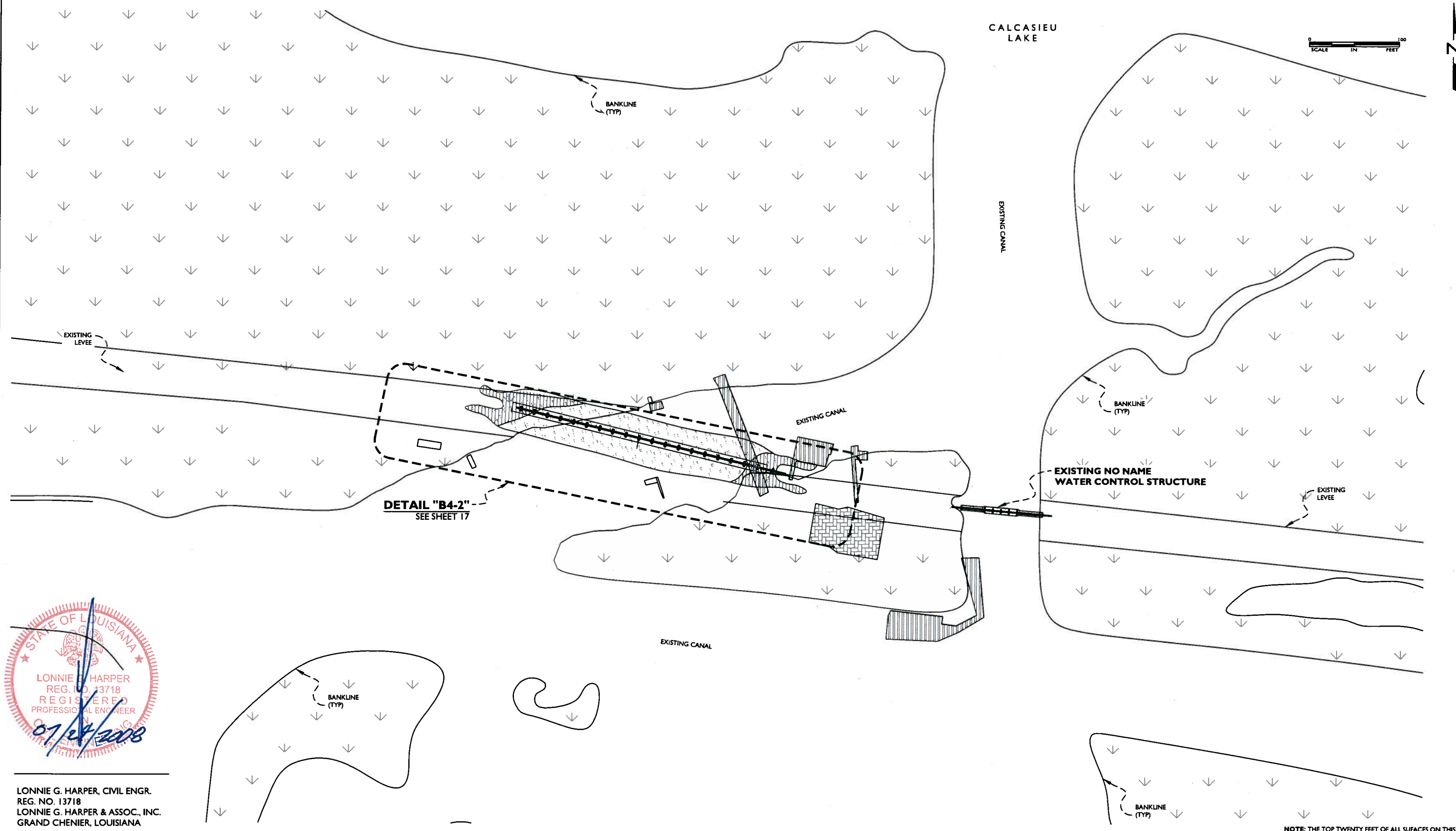
LONNIE G. HARPER and Associates, Inc.
P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574

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

BY	A.P.H.	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

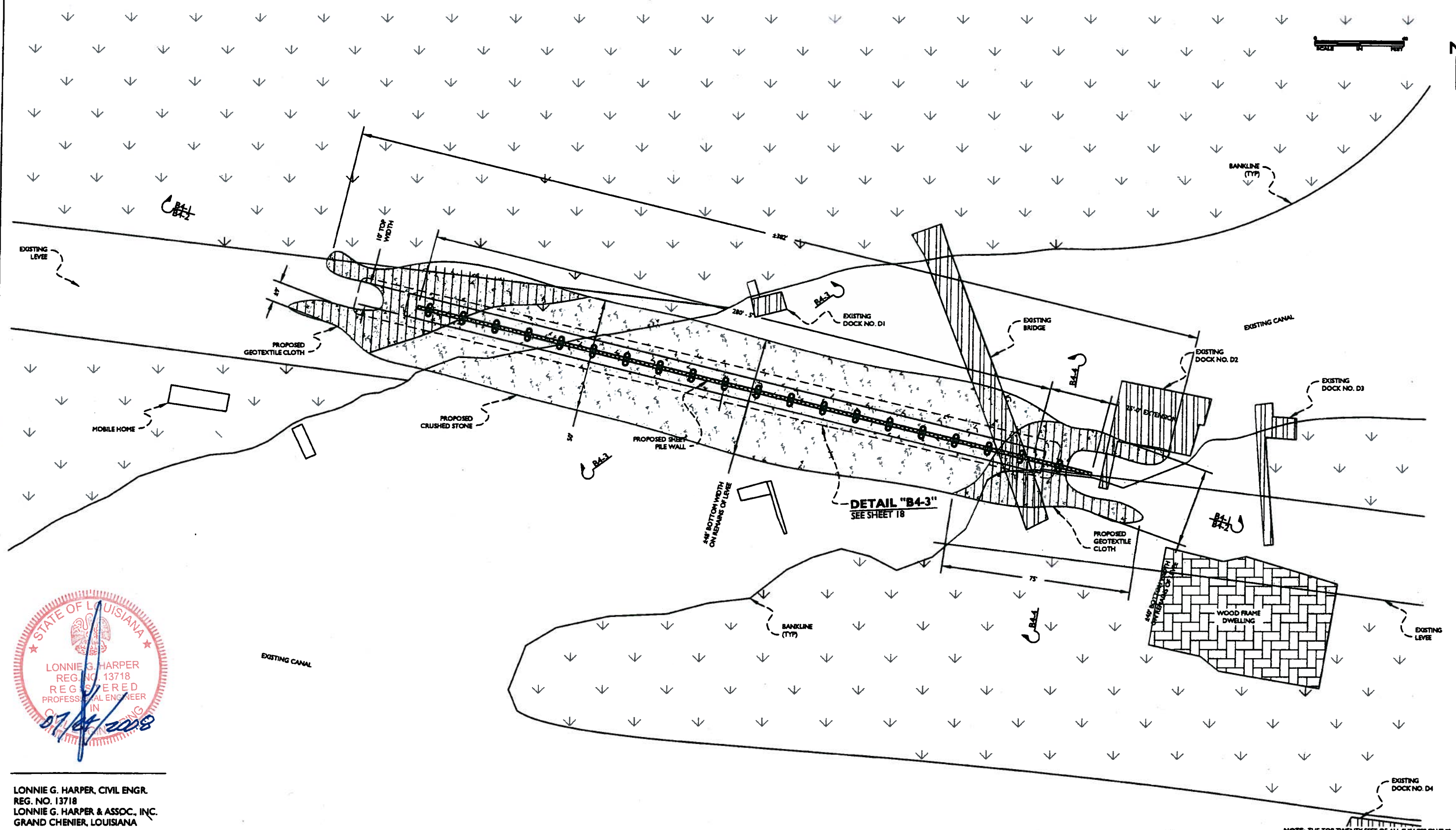
SCALE	1" = 30'
DATE	12-08-2006



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

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

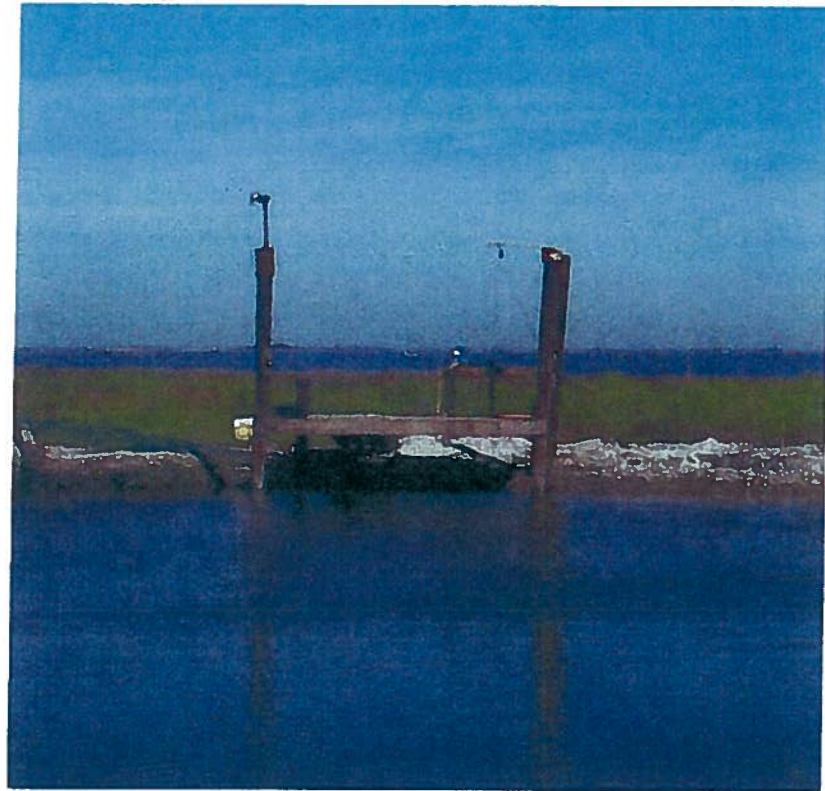
DESIGNED:	LONNIE G. HARPER and Associates, Inc. <small>P. O. Box 229, Grand Chenier, Louisiana 70643 (337) 538-2574</small>	CAMERON-CREOLE WATERSHED PROJECT U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT	CS-04A DETAIL "B4-1" BREACH ADJACENT TO NO NAME STRUCTURE		SCALE
DRAWN: A.P.H.			CS-04A REPAIR OF BREACHES		1" = 100'
CHECKED: L.G.H.			BY: A.P.H. AS-BUILT DRAWINGS 07/08/08 REVISIONS DATE		12-08-2006
APPROVED: L.G.H.					DATE



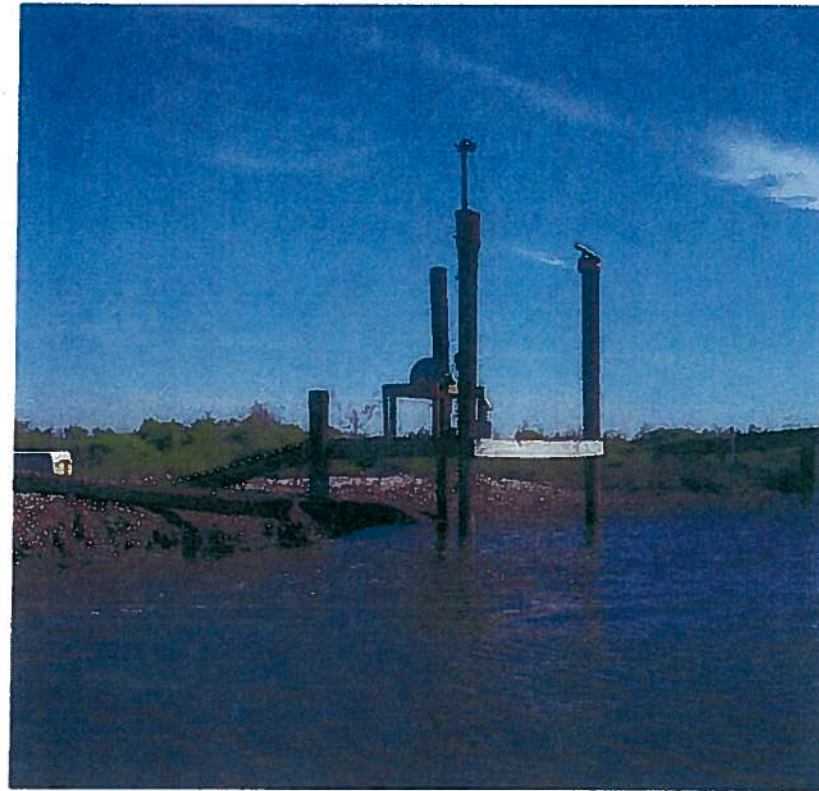
LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA

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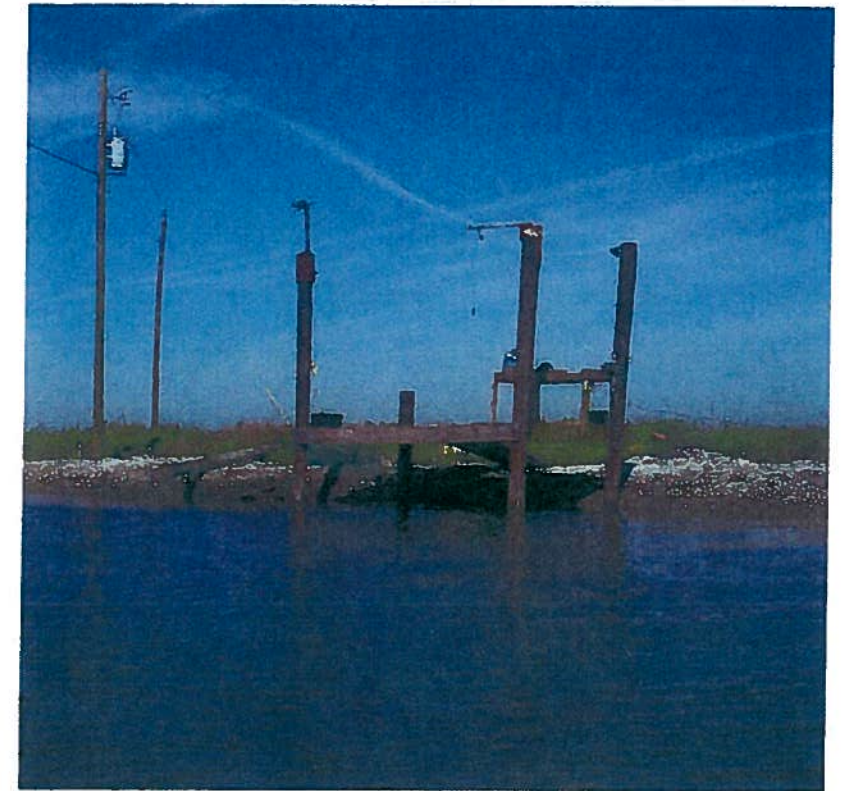
DESIGNED: DRAWN: APH CHECKED: LGH APPROVED: LGH	<p>LONNIE G. HARPER and Associates, Inc.</p> <p>P. O. Box 225, Grand Chenier, Louisiana 70643 (337) 638-2574</p>	<p>CAMERON-CREOLE WATERSHED PROJECT</p> <p>U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT</p>	CS-04A DETAIL "B4-2" BREACH ADJACENT TO NO NAME STRUCTURE	SCALE 1" = 40' 12-08-2006 DATE				
<table border="1"> <tr> <th>BY</th> <th>REVISIONS</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>			BY	REVISIONS	DATE			
BY	REVISIONS	DATE						



DOCK NO. 1



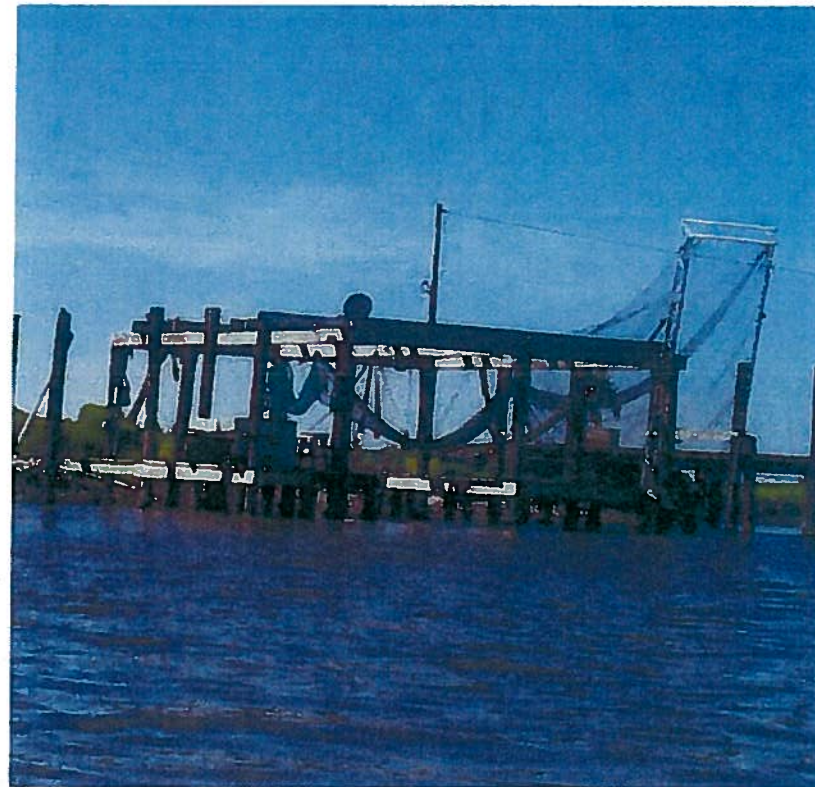
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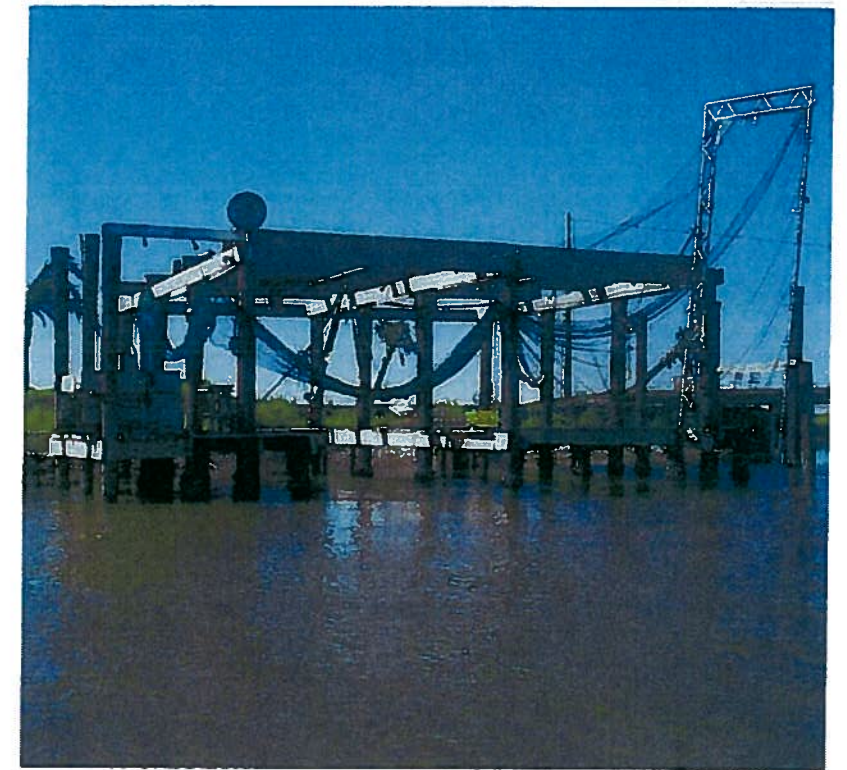
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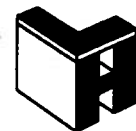


DOCK NO. 2



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



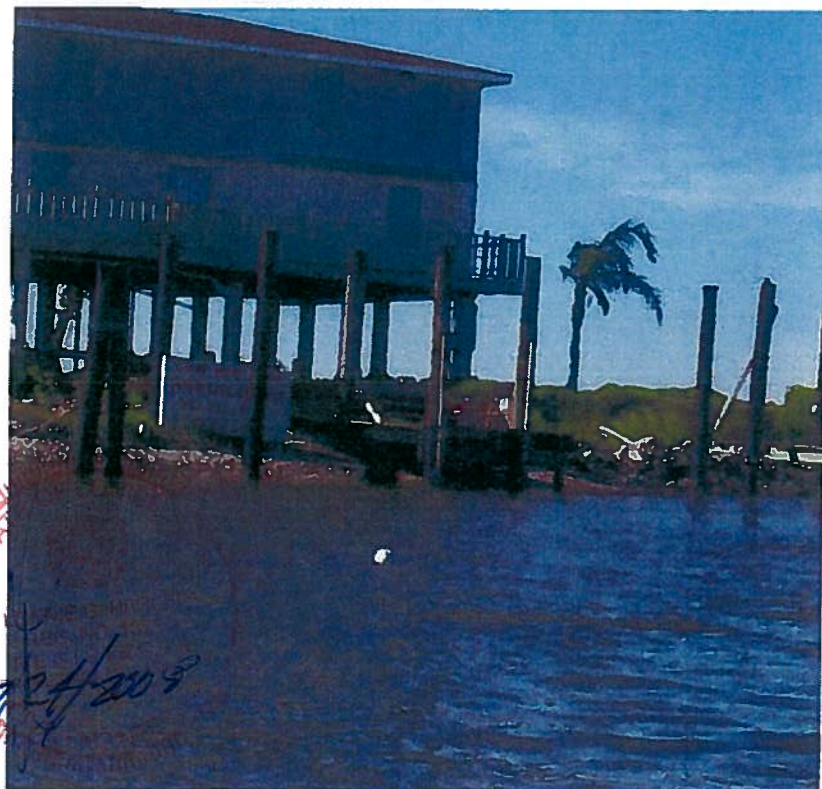
DOCK NO. 2



DOCK NO. 2



DOCK NO. 3



DOCK NO. 3

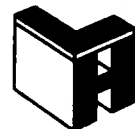


DOCK NO. 3



DOCK NO. 3

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

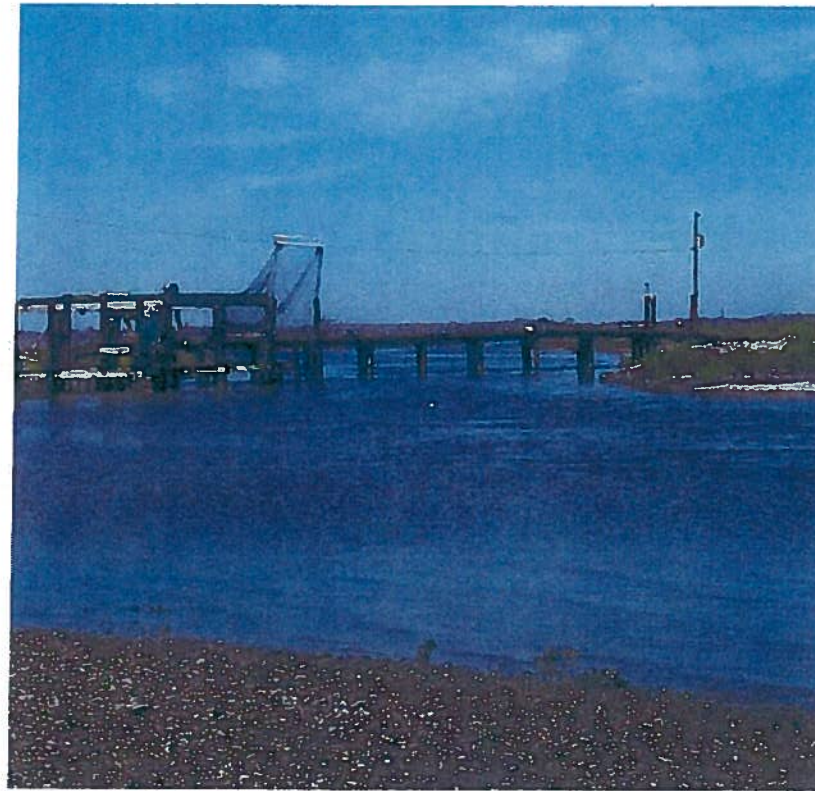
CS-04A
PHOTOS OF POSSIBLE
OBSTRUCTIONS

CS-04A REPAIR OF BREACHES

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



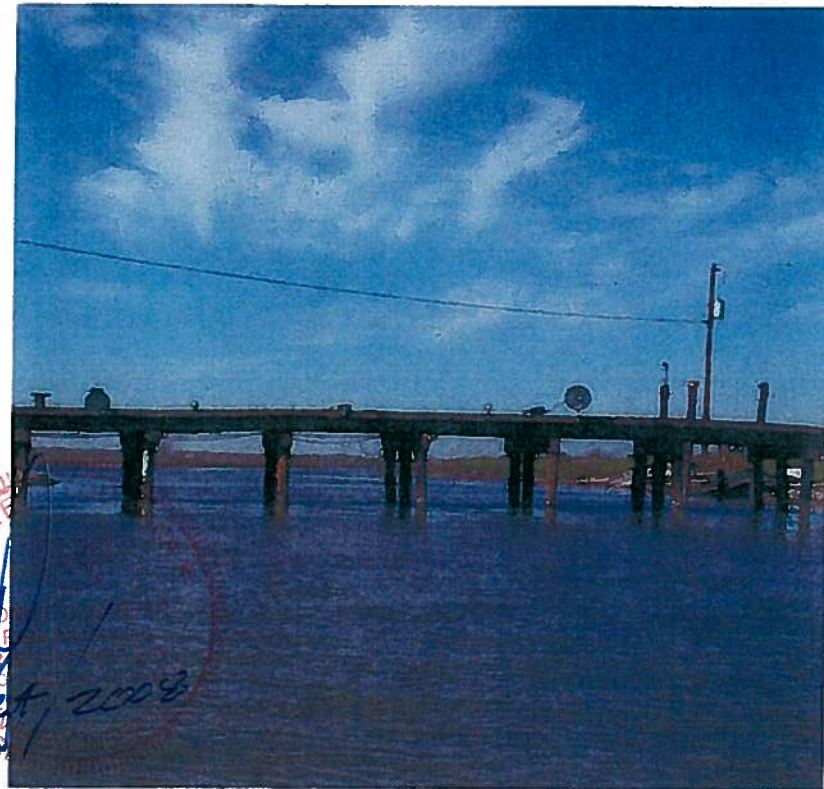
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BRIDGE NO. 1



BRIDGE NO. 1



BRIDGE NO. 1

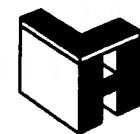


BRIDGE NO. 1



BRIDGE NO. 1

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) 589-5374

CAMERON-CREOLE WATERSHED PROJECT

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

APR	ASBELY DRAVINS	08/08
BY	REVISIONS	DATE

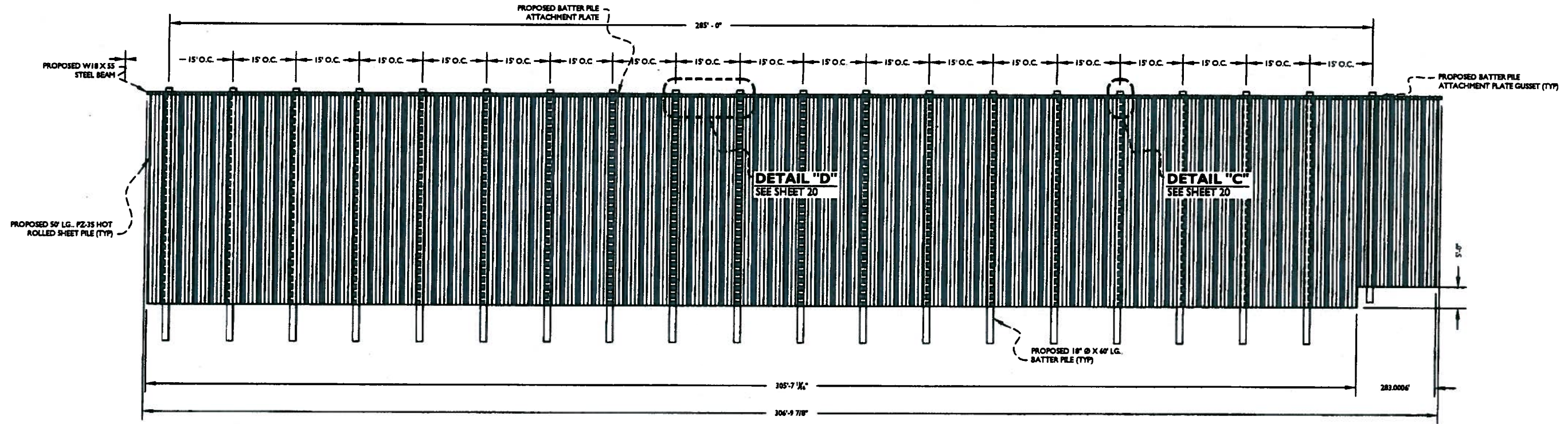
CS-04A
PHOTOS OF POSSIBLE
OBSTRUCTIONS

CS-04A REPAIR OF BREACHES

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

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

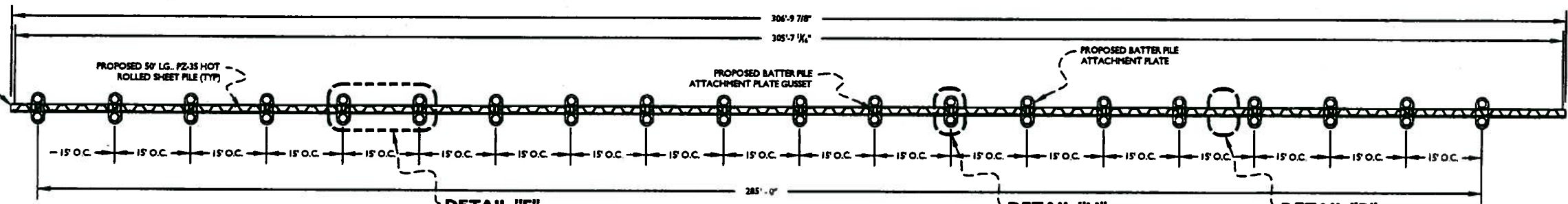
ITEM NO.	DESCRIPTION	QUANTITY			
1	50 FT. LG. PZ 35 HOT ROLLED STEEL SHEET PILES	148 SHEETS	10	GEOTEXTILE CLOTH	210 S.Y.
2	45 FT. LG. PZ 35 HOT ROLLED STEEL SHEET PILES	10 SHEETS	11	CRUSHED STONE	4,022 TONS
3	18 IN. DIA. x 60 FT. LG. BATTER PILES	38 EA.	12	COAL TAR EPOXY OF TOP 20' OF STRUCTURE	LUMP 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



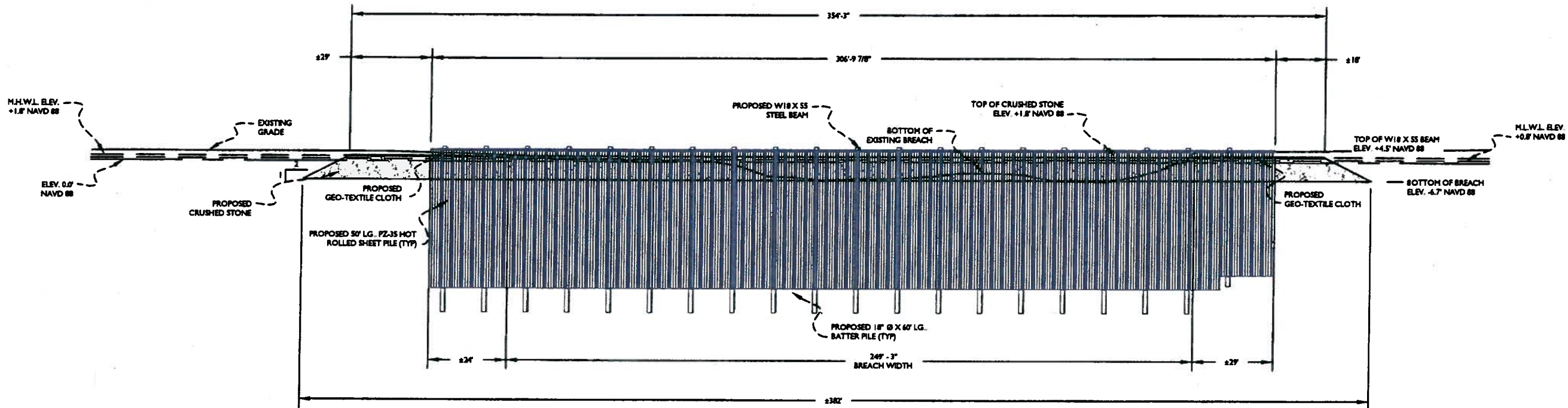
LONNIE G. HARPER, CIVIL ENGR.
 REG. NO. 13718
 LONNIE G. HARPER & ASSOC., INC.
 GRAND CHENIER, LOUISIANA



SECTION "B4-3"
PLAN VIEW

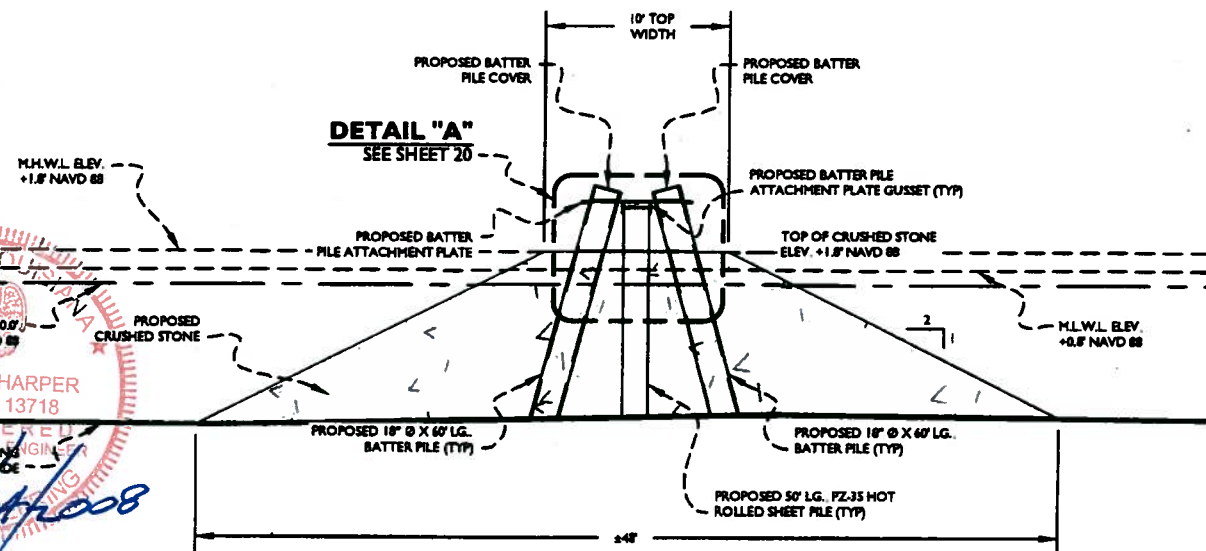
NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EPOXY.

DESIGNED: DRAWN: A.P.H. CHECKED: L.G.H. APPROVED: L.G.H.	<p align="center">LONNIE G. HARPER and Associates, Inc.</p> <p align="center">P. O. Box 225, Grand Chenier, Louisiana 70643 (237) 538-2574</p>	CAMERON-CREOLE WATERSHED PROJECT			CS-04A SECTION "B4-1 - B4-1" & DETAIL "B4-3" BREACH ADJACENT TO NO NAME STRUCTURE CS-04A REPAIR OF BREACHES	SCALE
		U.S. FISH AND WILDLIFE SERVICE LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT				1" = 15'
		DATE	BY	REVISIONS		DATE



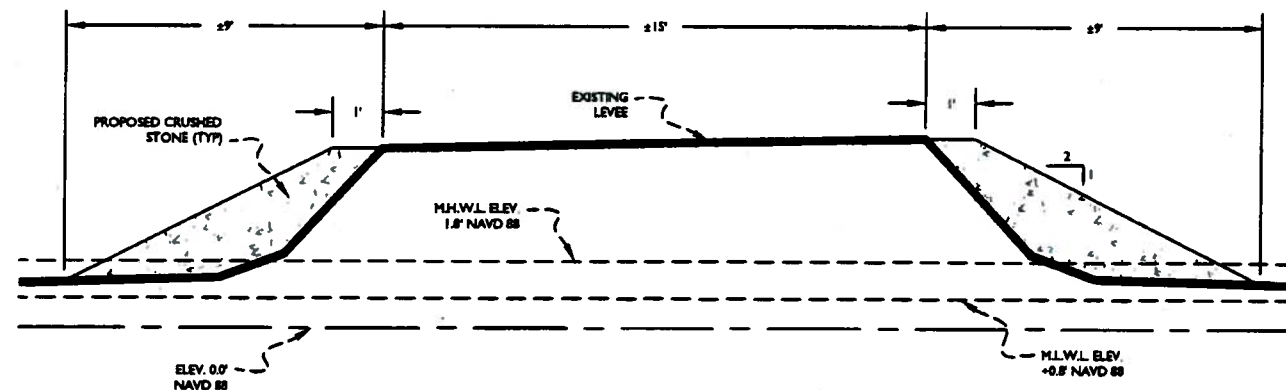
SECTION "B4-2 - B4-2"

SCALE 1" = 40'



SECTION "B4-3 - B4-3"

SCALE 1" = 10'



SECTION "B4-4 - B4-4"

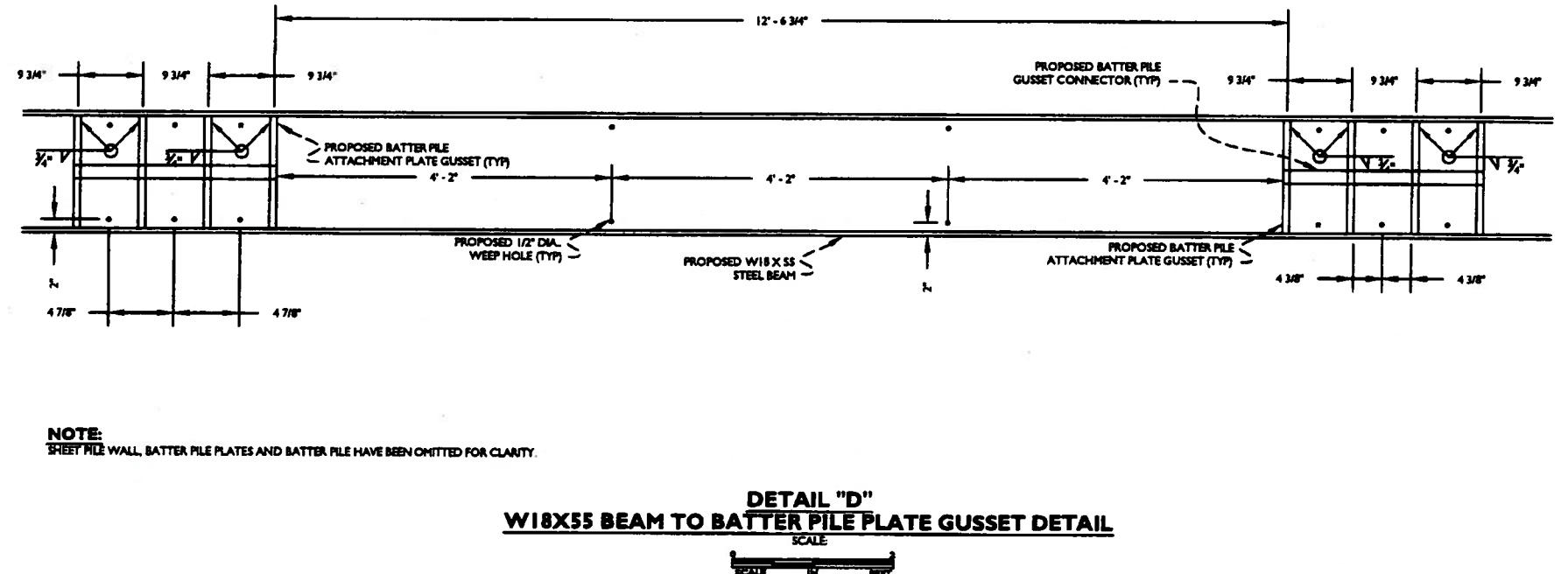
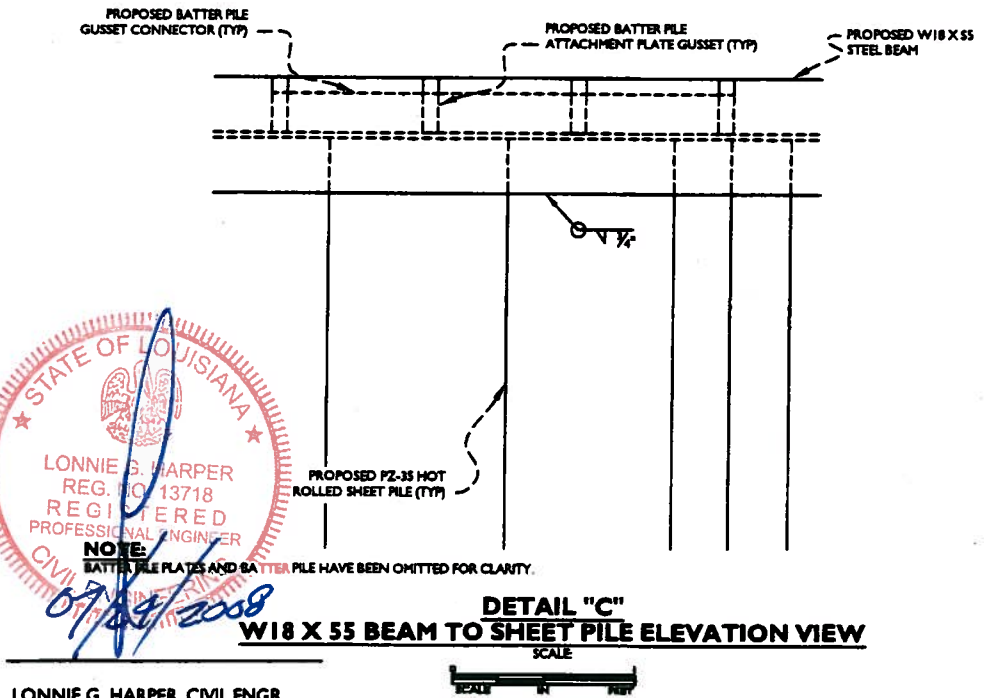
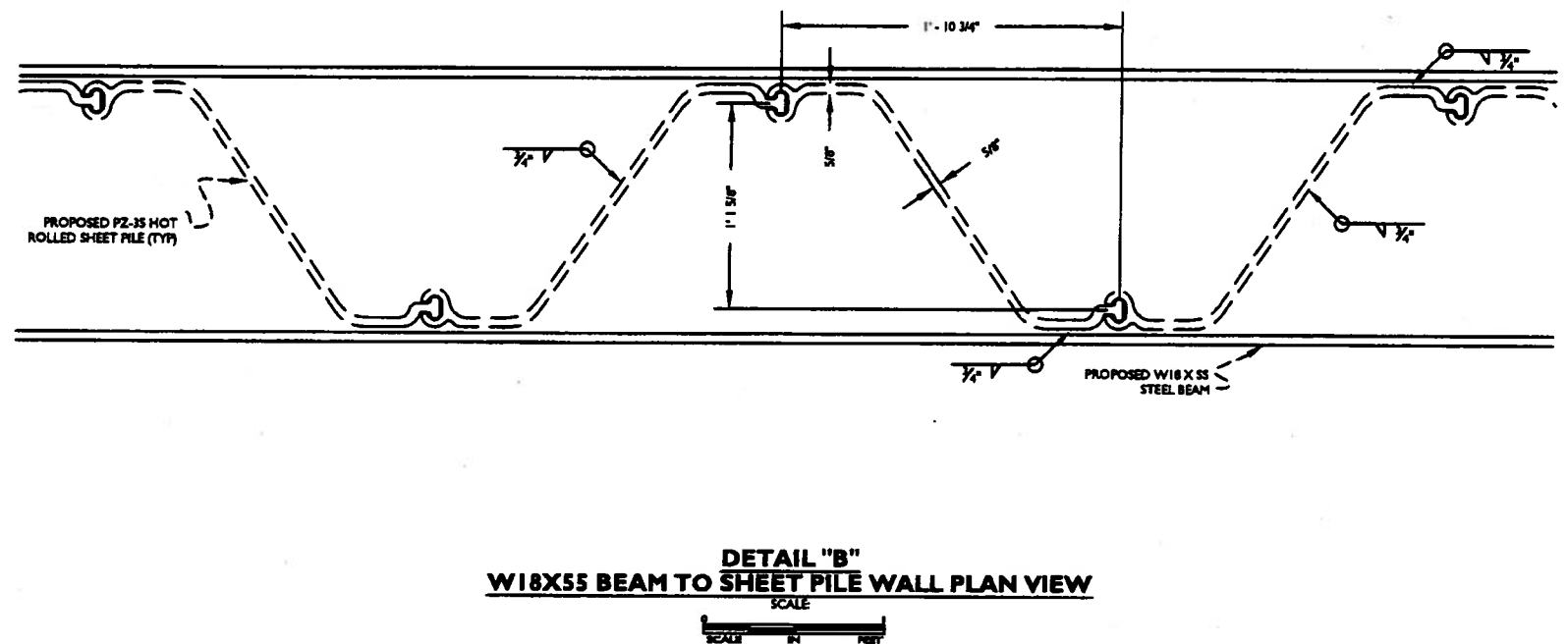
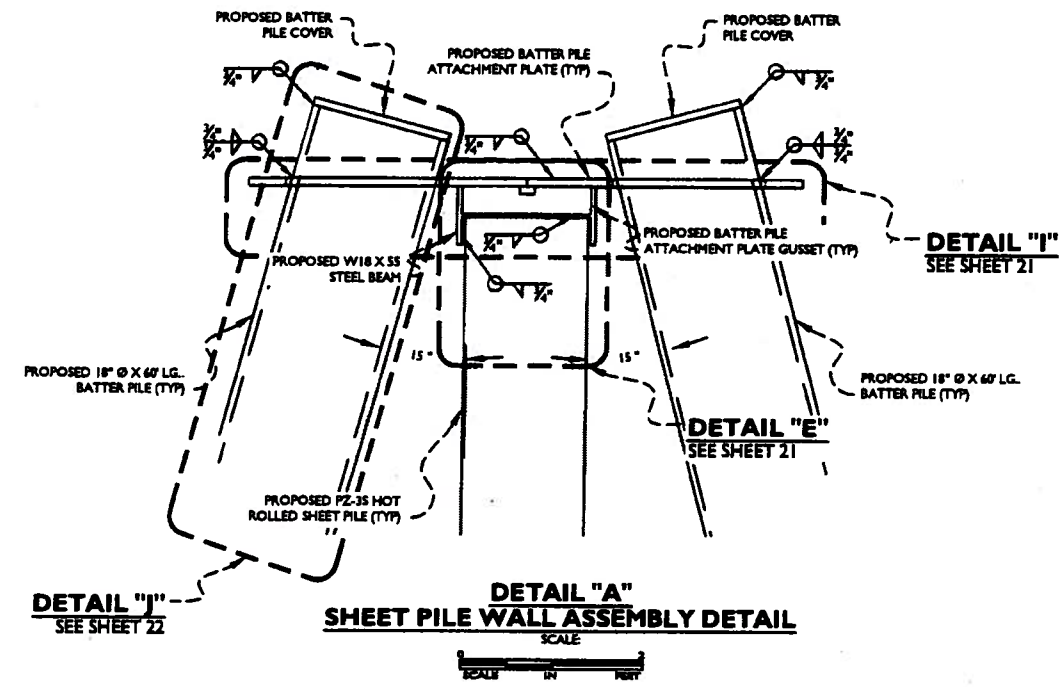
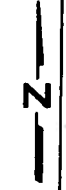
SCALE 1" = 5'

STATE OF LOUISIANA
 CIVIL ENGINEERING
 REG. NO. 13718
 LONNIE G. HARPER
 07/24/2008

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:	APJH		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	CS-04A SECTION "B4-2 - B4-2", "B4-3 - B4-3" & "B4-4 - B4-4" BREACH ADJACENT TO NO NAME STRUCTURE	SCALE 1" = 40' 12-08-2006
DRAWN:	APJH				CS-04A REPAIR OF BREACHES	DATE
CHECKED:	LGH				BY: APJH REVISIONS:	DATE:
APPROVED:	LGH					

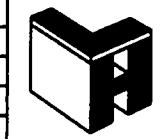


NOTE: SHEET PILE WALL, BATTER PILE PLATES AND BATTER PILE HAVE BEEN OMITTED FOR CLARITY.

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

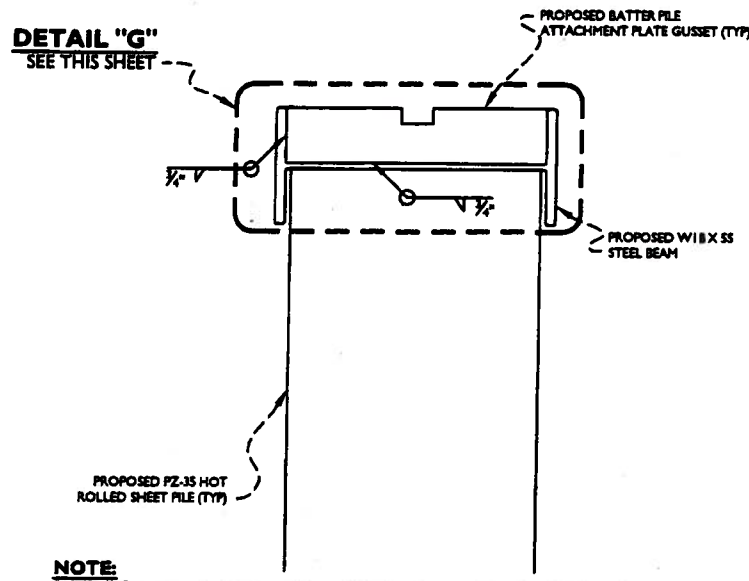


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CAMERON-CREOLE WATERSHED PROJECT
 U.S. FISH AND WILDLIFE SERVICE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

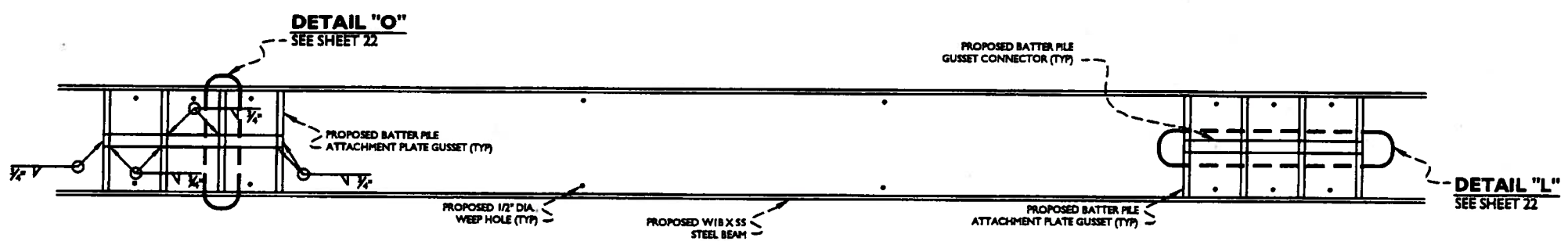
DESIGNED:			
DRAWN:	A.P.H.		
CHECKED:	L.G.H.		
APPROVED:	L.G.H.		
DATE:			
BY:	REVISIONS	DATE	

CS-04A DETAILS "A" THRU "D" TYPICAL DETAILS	SCALE AS NOTED
CS-04A REPAIR OF BREACHES	DATE 12-08-2006



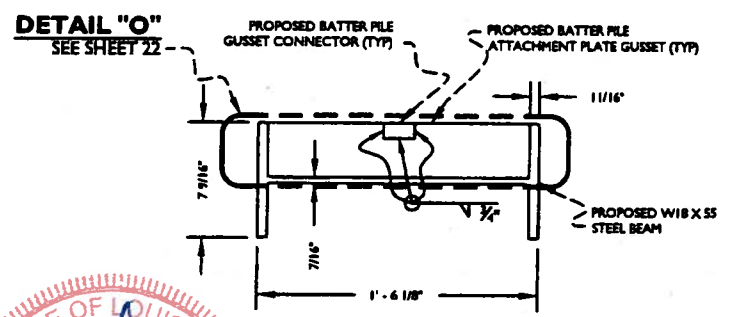
NOTE:
BATTER PILE GUSSET CONNECTOR, AND BATTER PILE PLATES HAVE BEEN OMITTED FOR CLARITY.

DETAIL "E"
W18 X 55 BEAM TO GUSSETS
SCALE



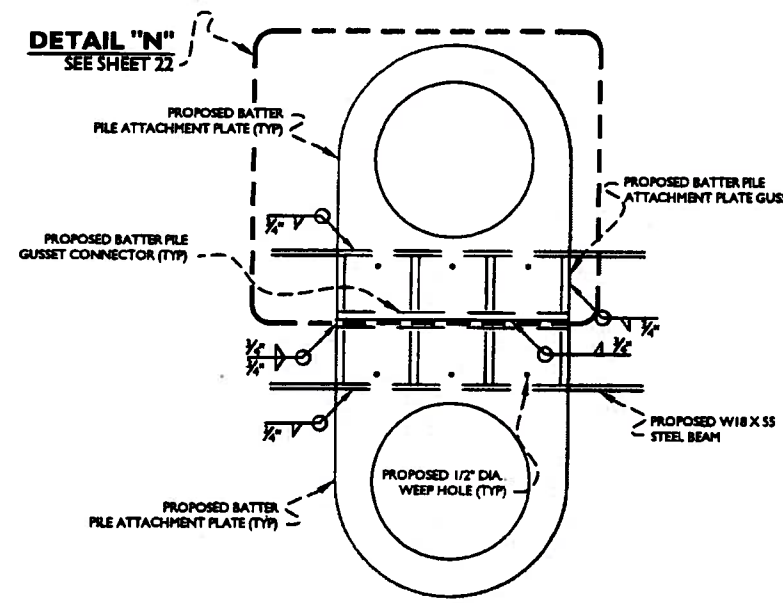
NOTE:
SHEET PILE WALL, BATTER PILE PLATES AND BATTER PILES HAVE BEEN OMITTED FOR CLARITY.

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

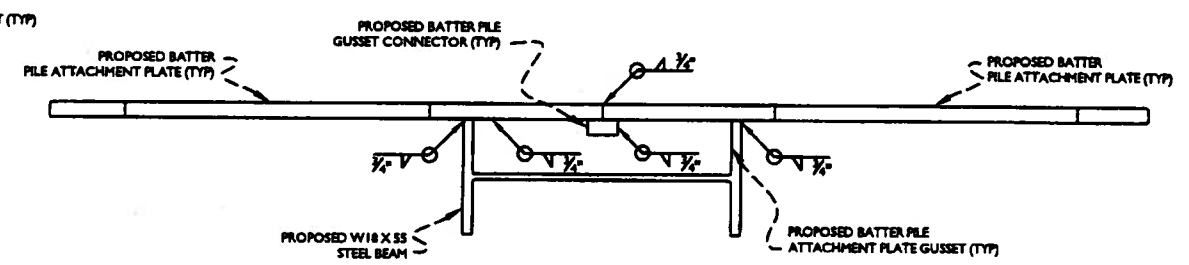


NOTE:
SHEET PILE WALL, BATTER PILES, AND BATTER PILE PLATES HAVE BEEN OMITTED FOR CLARITY.

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



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

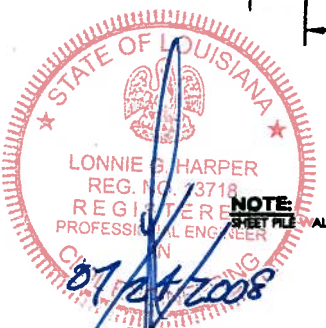


NOTE:
SHEET PILE WALL AND BATTER PILES HAVE BEEN OMITTED FOR CLARITY.

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

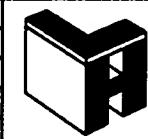


NOTE: THE TOP TWENTY FEET OF ALL SURFACES ON THIS STRUCTURE SHALL BE TREATED WITH COAL TAR EXCOPY.



LONNIE G. HARPER, CIVIL ENGR.
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GRAND CHENIER, LOUISIANA

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



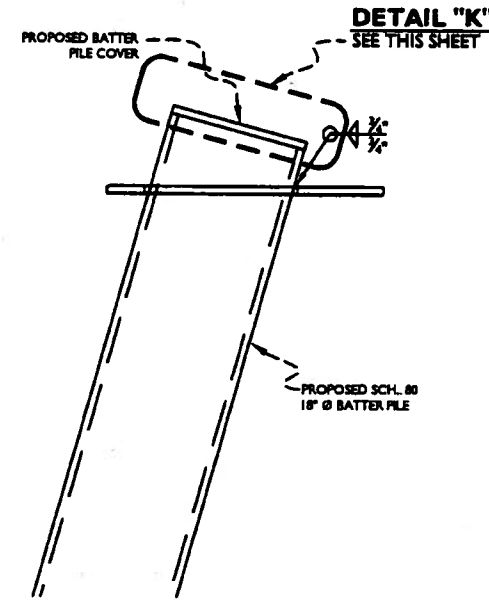
LONNIE G. HARPER
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CAMERON-CREOLE WATERSHED PROJECT
U.S. FISH AND WILDLIFE SERVICE
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COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT

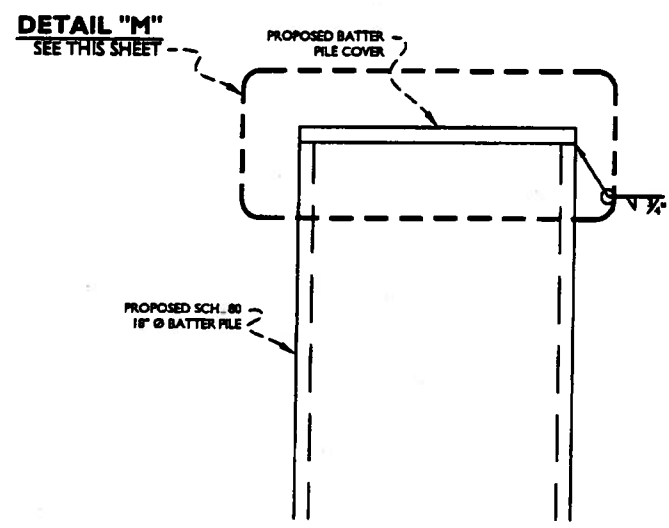
APL	ASBURY DRAWING	08/08/06
BY	REVISIONS	DATE

CS-04A
DETAILS "E" THRU "I"
TYPICAL DETAILS
CS-04A REPAIR OF BREACHES

SCALE	AS NOTED
DATE	12-08-2006

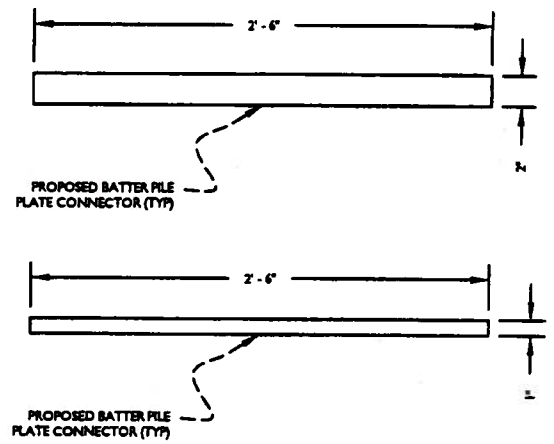


NOTE:
SHEET PILE WALL, W18 X35 BEAM, AND BATTER PILE PLATE GUSSETS HAVE BEEN OMITTED FOR CLARITY.



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

SCALE
IN FEET



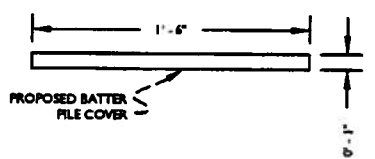
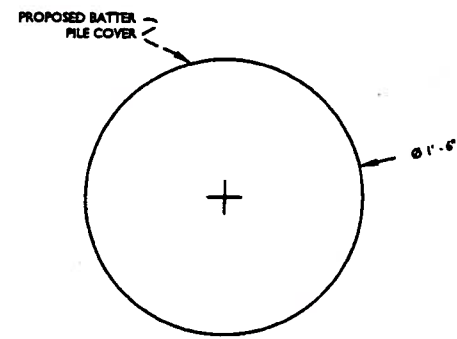
**DETAIL "L"
BATTER PILE GUSSET
CONNECTOR DETAIL**

SCALE
IN FEET

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**

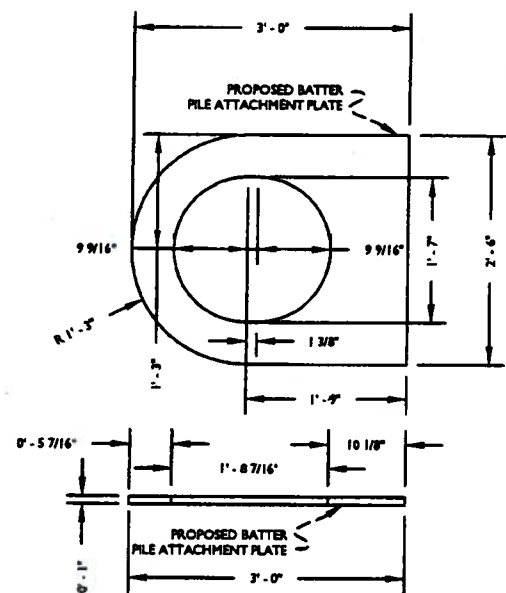
SCALE
IN FEET



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**

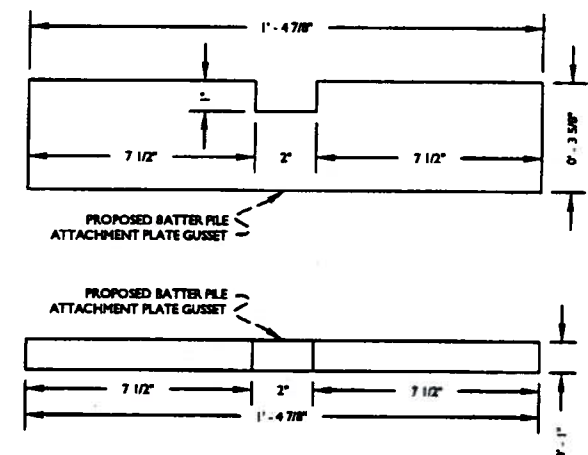
SCALE
IN FEET



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

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

SCALE
IN FEET



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

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

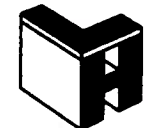
SCALE
IN FEET

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



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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) 538-2874

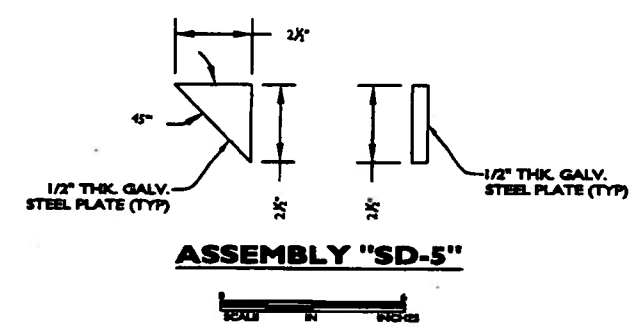
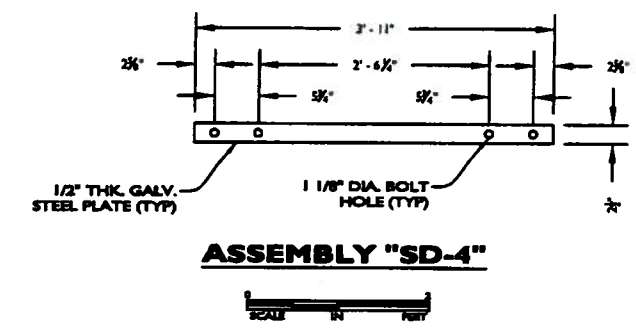
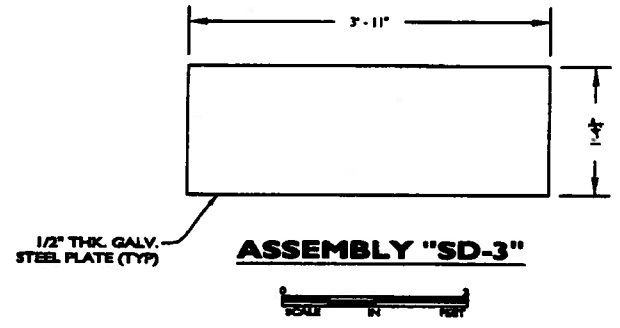
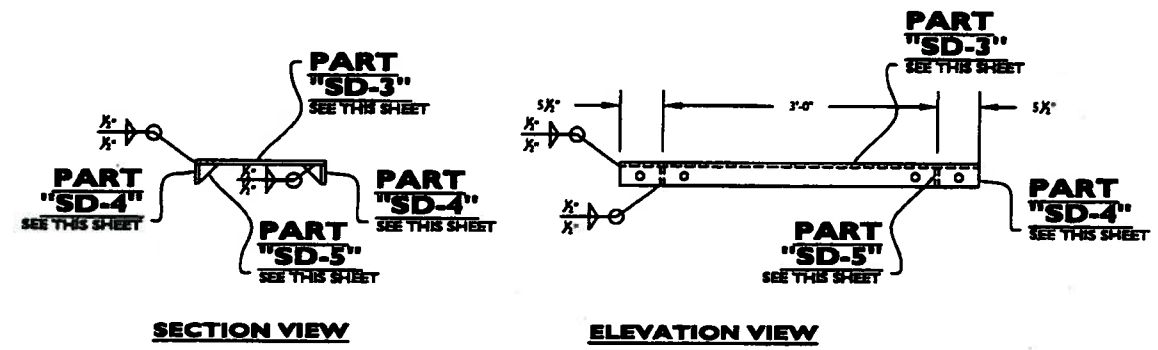
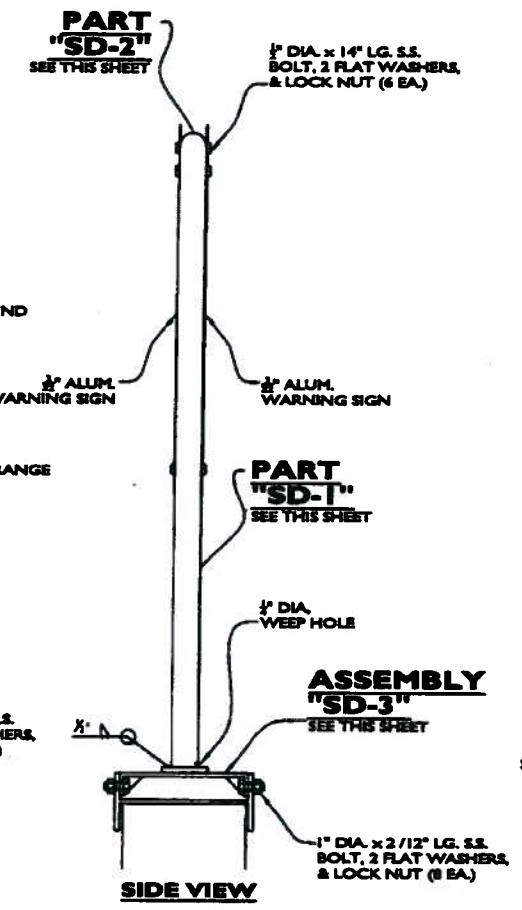
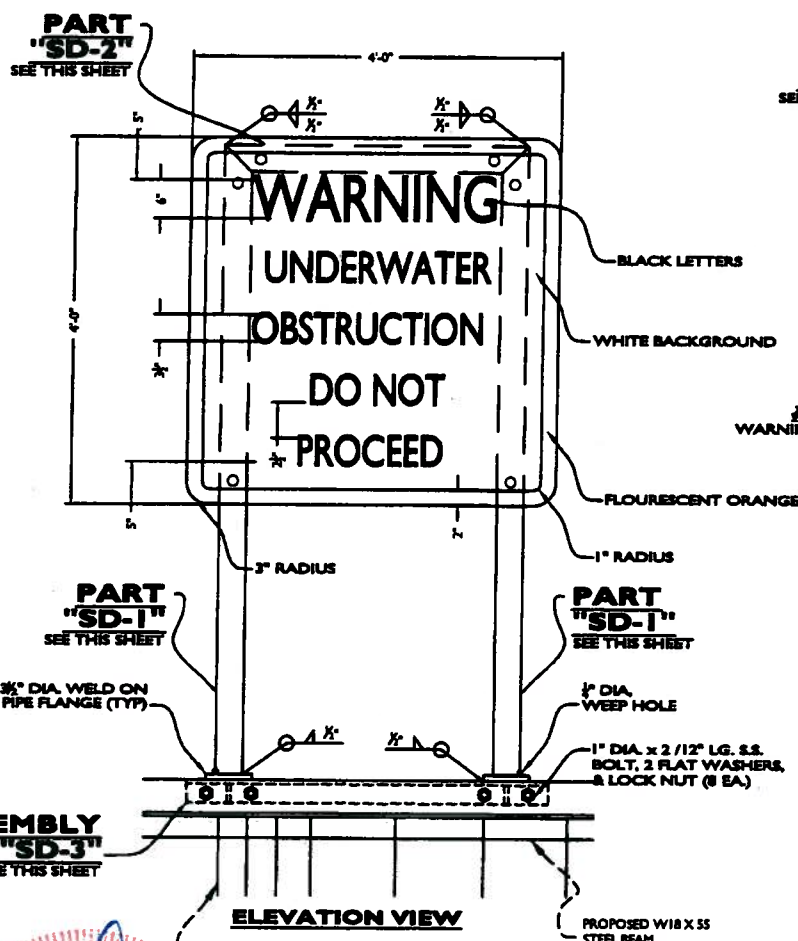
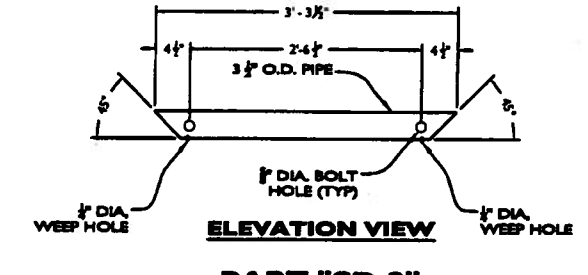
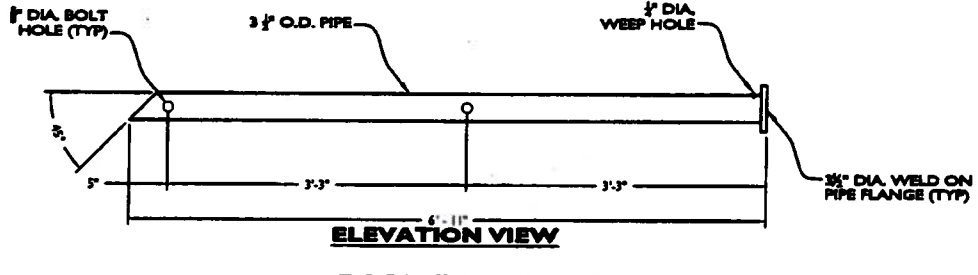
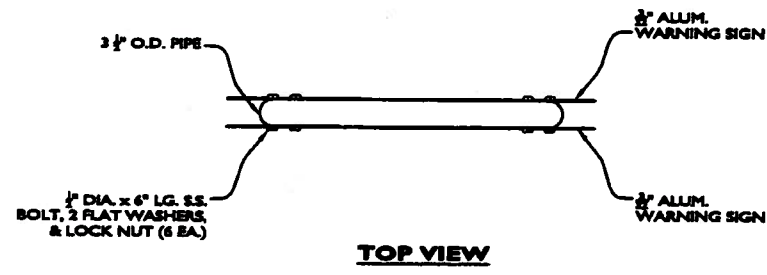
CAMERON-CREOLE WATERSHED PROJECT

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

DATE	DESCRIPTION	BY

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



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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