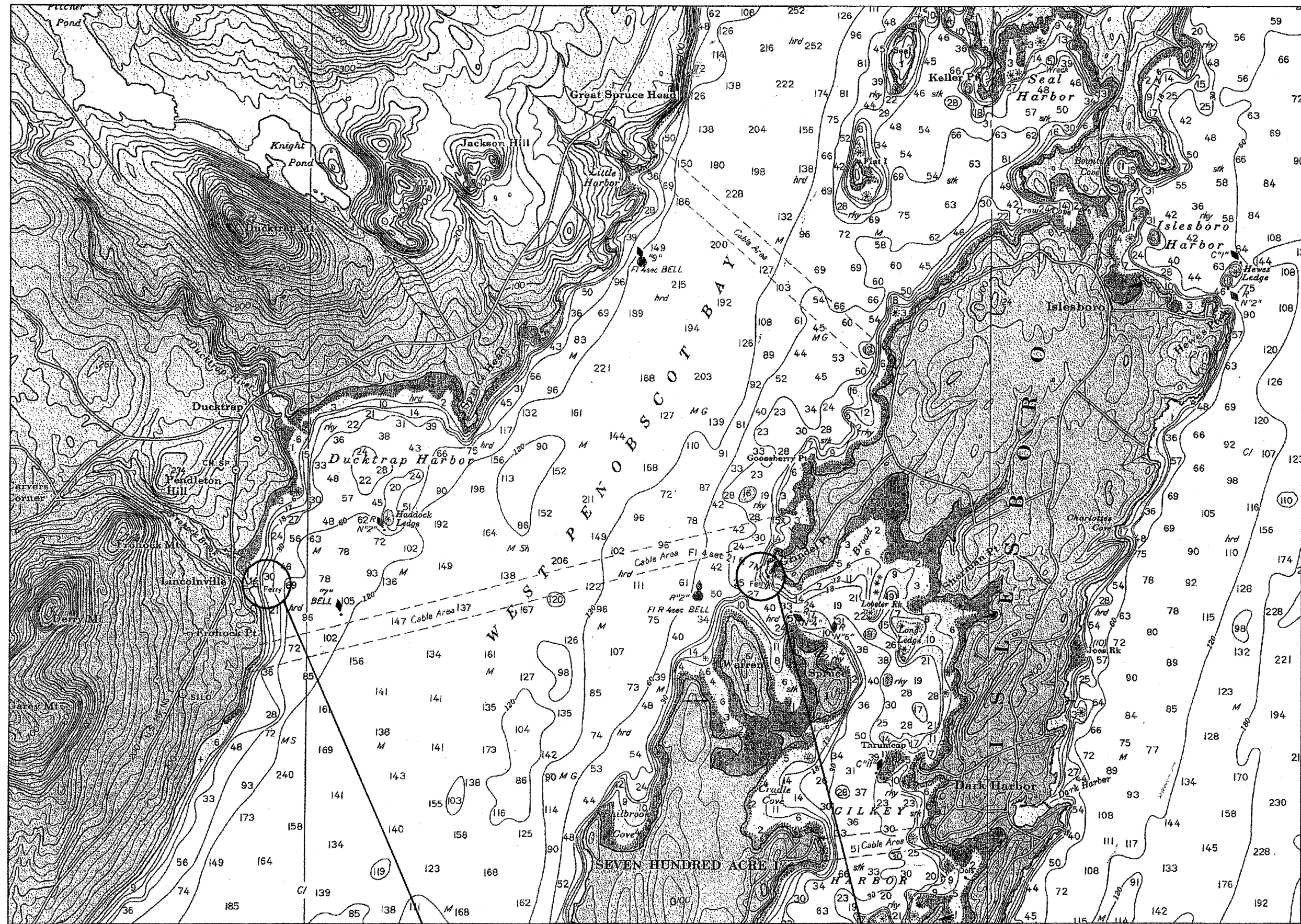


STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE
**LINCOLNVILLE/ISLESBORO
FERRY TERMINALS
FENDER REPLACEMENT
PIN NO. 17634.00**



LINCOLNVILLE

ISLESBORO

LOCATION MAP

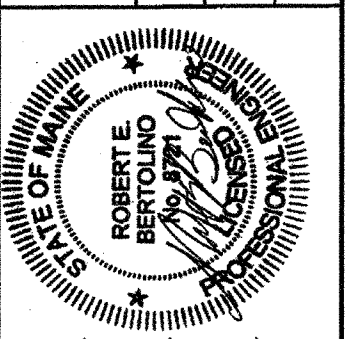
FROM NOAA CHART
(NOT TO BE USED FOR
NAVIGATION, NOT TO SCALE)

DISCIPLINE NO.	SHEET NO.
G1	1
D1	2
D2	3
S1	4
S2	5
S3	6
S4	7
S5	8
RD1	9
RD2	10
RD3	11
RD4	12

LIST OF DRAWINGS

DRAWING TITLE
TITLE SHEET - LOCATION MAP AND INDEX
LINCOLNVILLE - DEMOLITION PLAN
ISLESBORO - DEMOLITION PLAN
PLAN - LINCOLNVILLE TERMINAL AND FENDER PANEL DETAILS
PLAN - ISLESBORO TERMINAL AND FENDER PANEL DETAILS
FENDER DETAILS
LINCOLNVILLE - CONCRETE REPAIR DETAILS
ISLESBORO - CONCRETE REPAIR DETAILS
REFERENCE DRAWING 1
REFERENCE DRAWING 2
REFERENCE DRAWING 3
REFERENCE DRAWING 4

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED COMMISSIONER: <i>[Signature]</i>	DATE 6/2/2010
CHIEF ENGINEER: <i>[Signature]</i>		6/2/2010



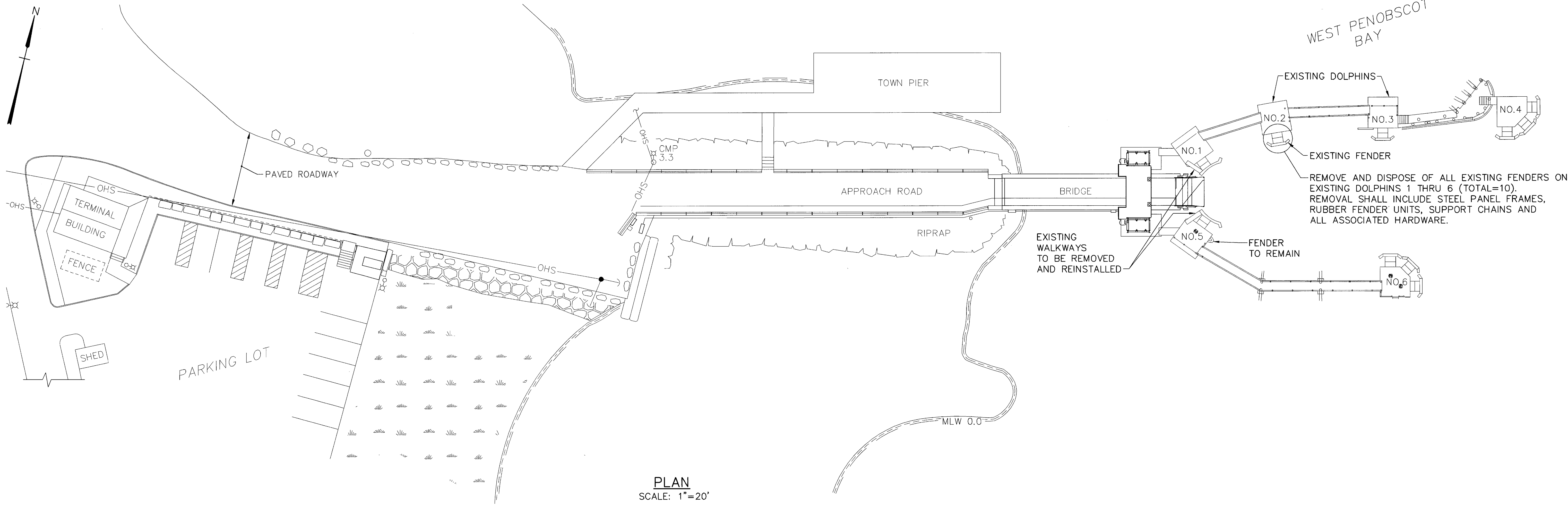
<i>[Signature]</i>	SIGNATURE
8721	P.E. NUMBER
5/25/10	DATE

PROJECT INFORMATION
PROGRAM MULTIMODAL
PROJECT MANAGER PAUL POTTLE
DESIGNER DWH
CONSULTANT FAY, SPOFFORD & THORNDIKE
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE

FERRY TERMINALS LINCOLNVILLE/ISLESBORO, MAINE FENDER REPLACEMENT TITLE SHEET LOCATION MAP AND INDEX

SHEET NUMBER G1 1 OF 12

R:\TM-088 L-1 Fender Repair\05-CADD\NEW FORMAT\DEMO-LINCOLNVILLE.dwg 05/25/10 13:01 [8.00] By tripp_r



PLAN
SCALE: 1"=20'

NOTE:

1. SEE REFERENCE DRAWINGS FOR EXISTING FENDER DETAILS.
2. SEE SHEET D2 FOR EXISTING FENDER HARDWARE DETAILS.

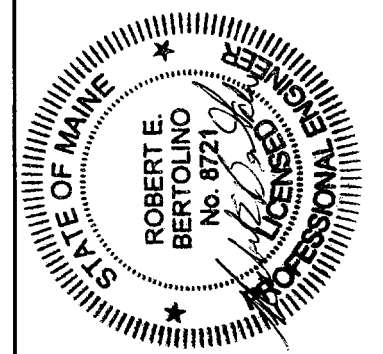
1" = 20' 0 10' 20' 40'

FERRY TERMINALS
LINCOLNVILLE/SLESBORO, MAINE
FENDER REPLACEMENT
LINCOLNVILLE
DEMOLITION PLAN

SHEET NUMBER

D1

2 OF 12

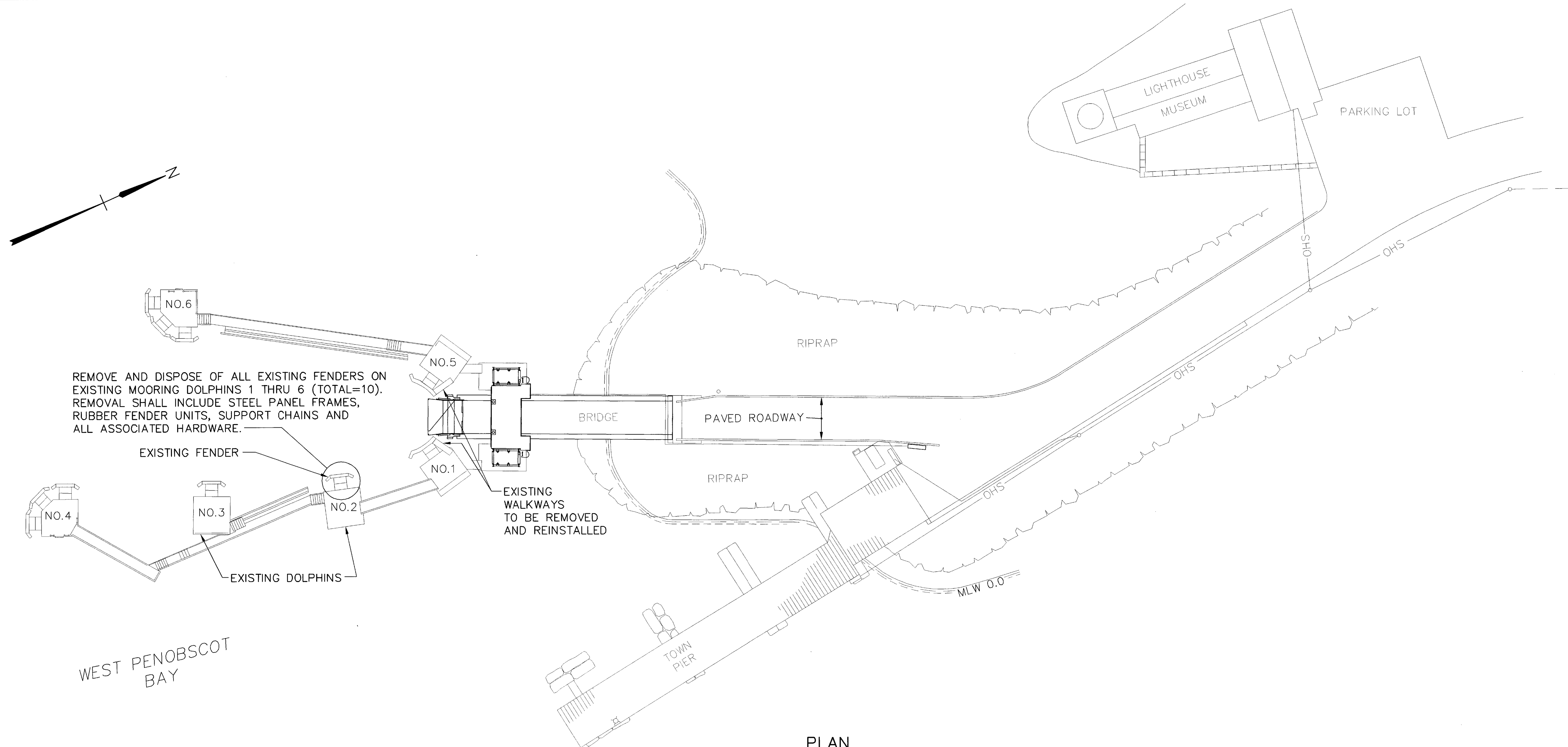


Signature: Robert E. Bertolino
SIGNATURE
8721
P.E. NUMBER
DATE
5/25/10

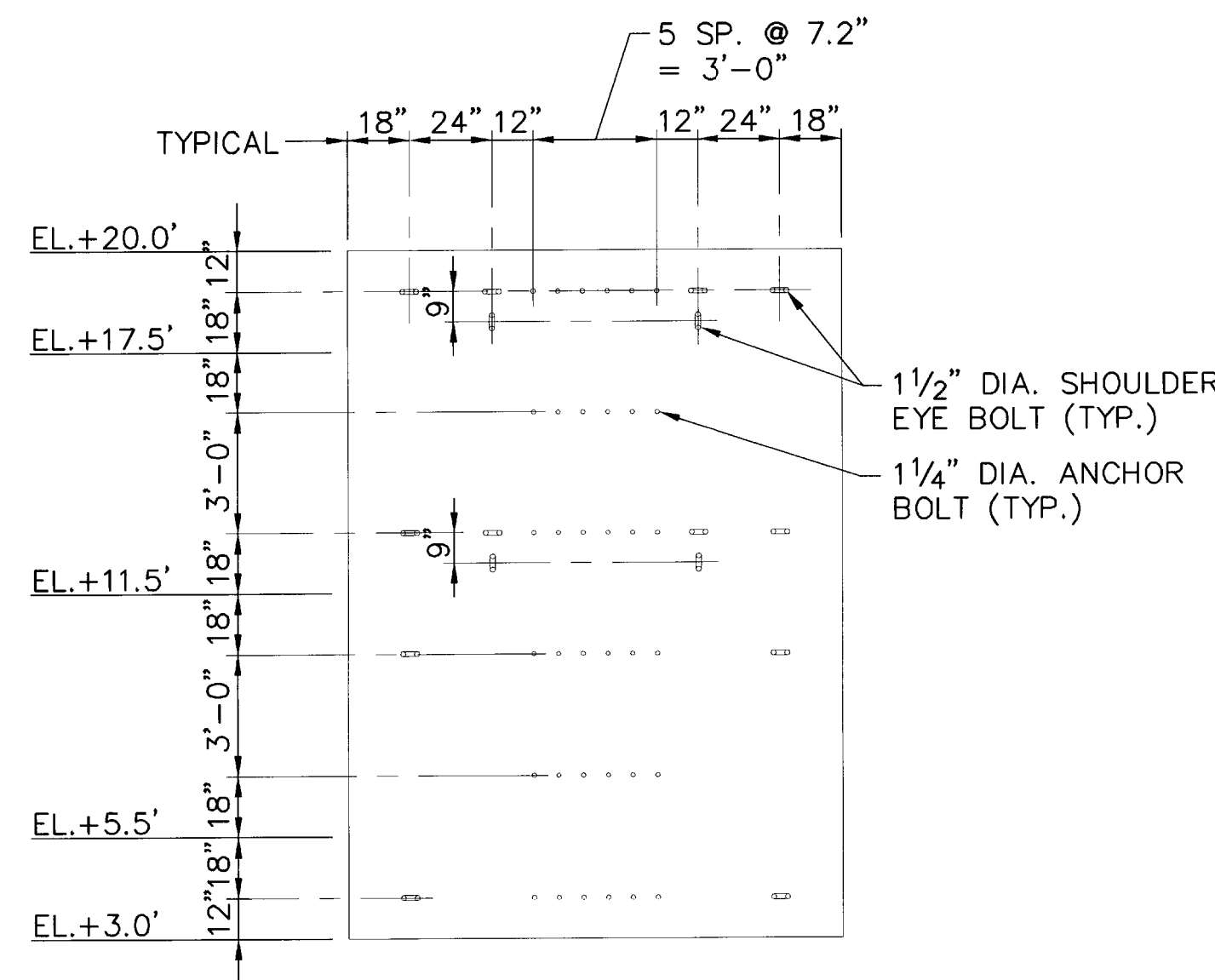
PROJECT INFORMATION					
PROGRAM					
PROJECT MANAGER					
DESIGNER					
CONSULTANT					
PROJECT RESIDENT					
CONTRACTOR					
PROJECT COMPLETION DATE					

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		APPROVED	DATE
		COMMISSIONER:	CHIEF ENGINEER:

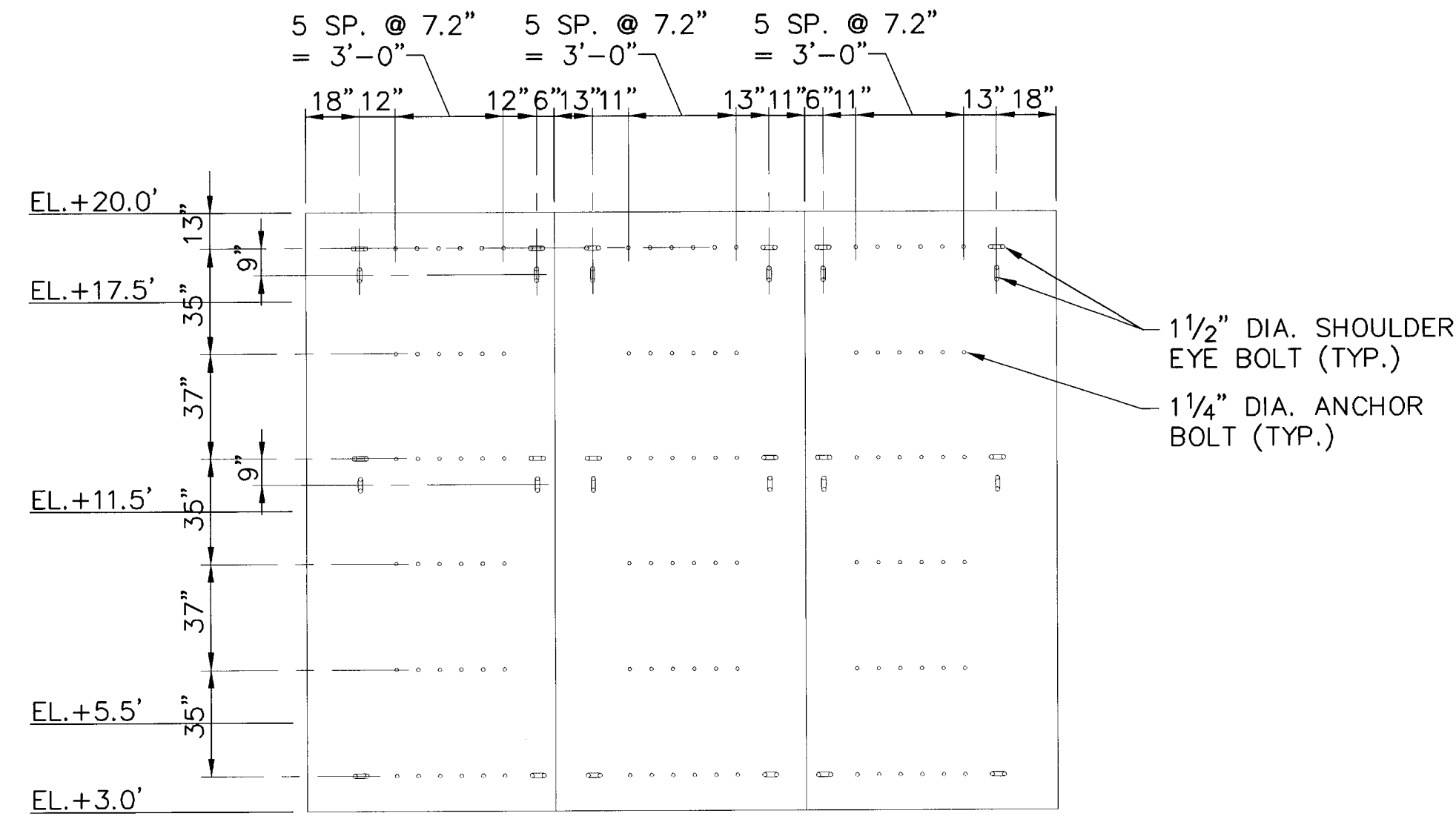
R:\TM-088 L-1 Fender Repair\05-CADD\NEW FORMAT\DEMOL-ILESBORO.dwg 05/25/10 13:06 [9.87] By tripp_r



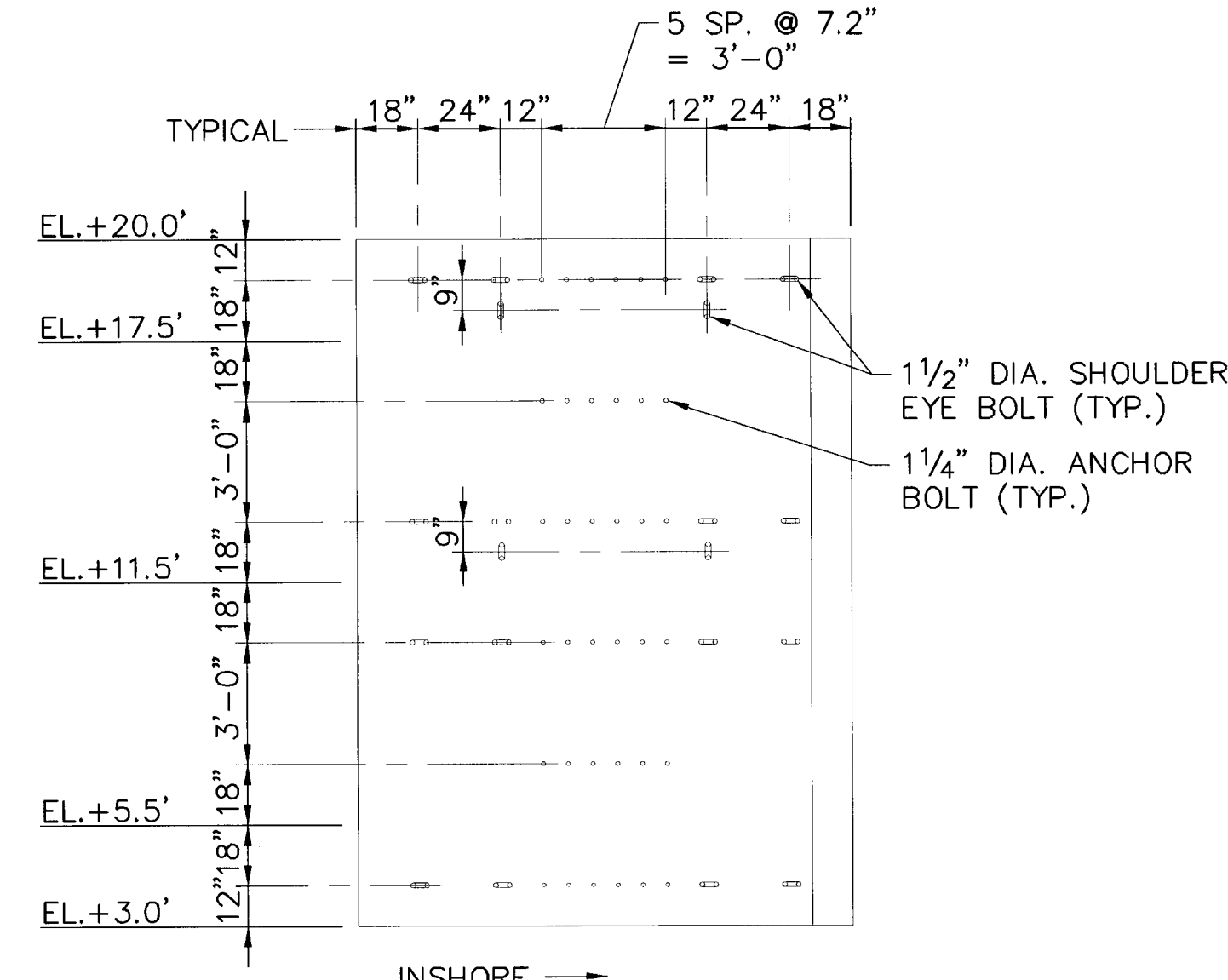
PLAN
SCALE: 1"=20'



FRONT ELEVATION - SIDE DOLPHIN
SCALE: 1/4"=1'-0"



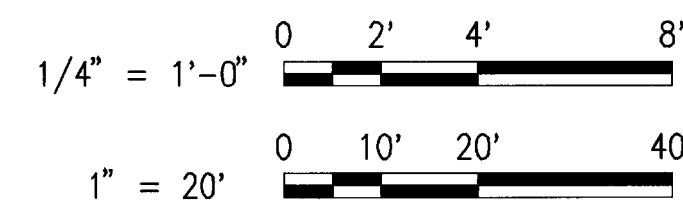
DEVELOPED ELEVATION - TURNING DOLPHIN
SCALE: 1/4"=1'-0"



FRONT ELEVATION - BERTHING DOLPHIN
SCALE: 1/4"=1'-0"

NOTES:

- SEE REFERENCE DRAWINGS FOR EXISTING FENDER DETAILS.
- EXISTING FENDER HARDWARE SHALL BE CUT FLUSH WITH FACE OF CONCRETE DOLPHIN.



FERRY TERMINALS
LINCOLNVILLE/ISLESBORO, MAINE
FENDER REPLACEMENT
ISLESBORO
DEMOLITION PLAN

SHEET NUMBER

D2

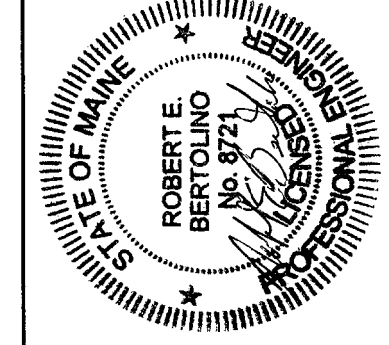
3 OF 12

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SIGNATURE
8/21

P.E. NUMBER
8721

DATE
5/25/10



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

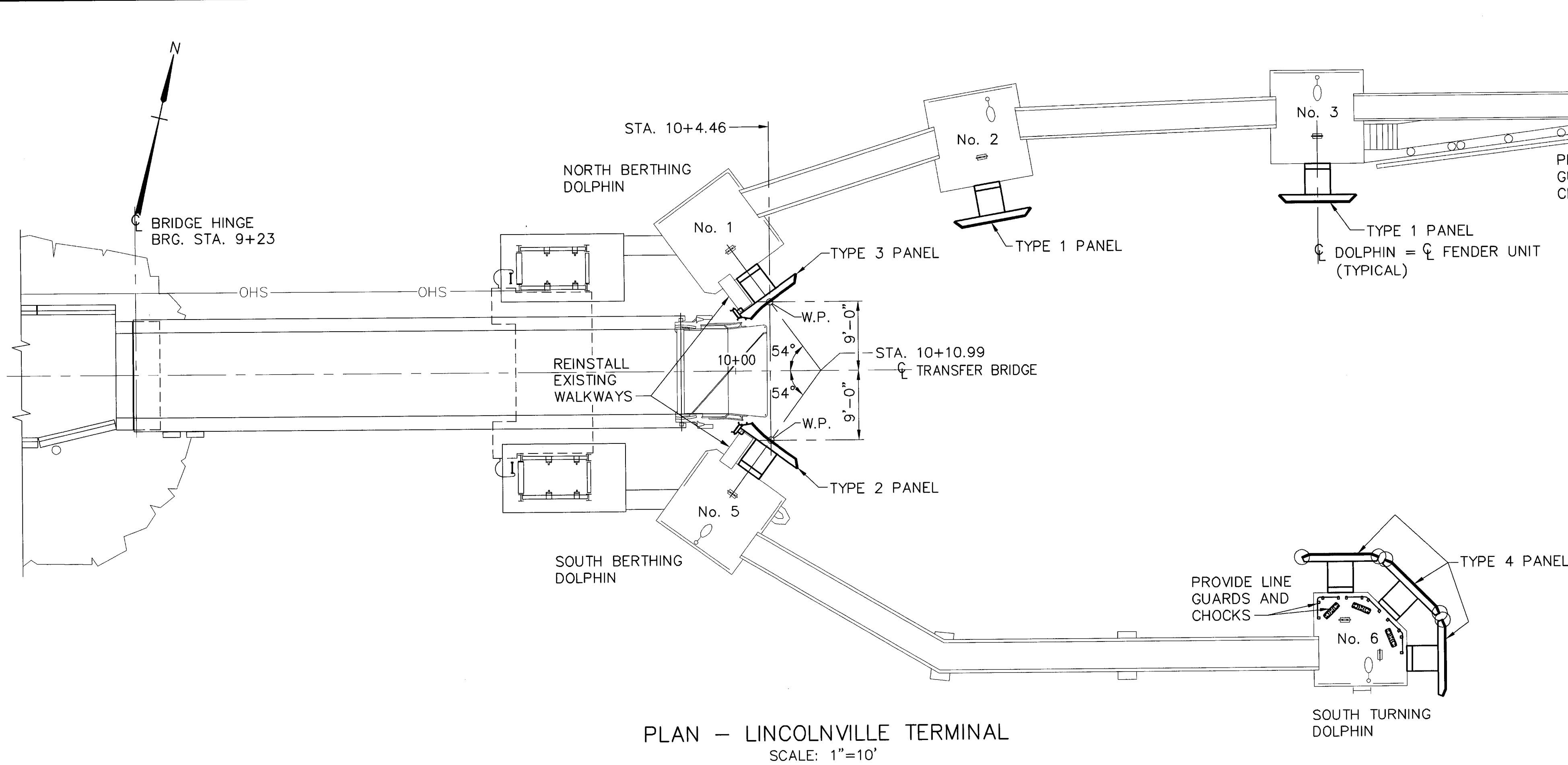
APPROVED

DATE

COMMISSIONER:

CHIEF ENGINEER:

R:\TM-088 L-1 Fender Repair\05-CADD\NEW FORMAT\LINCOLNVILLE BERTH PLAN.dwg 05/25/10 13:10 [111.28] By tripp_jr



BERTHING LOADS:

DOLPHIN	BERTHING VELOCITY		ENERGY TO FENDER	MINIMUM FENDER DESIGN ENERGY	MAX. REACTION ON DOLPHIN
	SHIP VELOCITY (Vs)	TO FENDER			
HEAD DOLPHINS	--	1.18 KNOTS	90,000 FT. LBS.	180,000 FT. LBS.	260,000 LB.
SIDE DOLPHINS	2.0 KNOTS	1.18 KNOTS	90,000 FT. LBS.	180,000 FT. LBS.	260,000 LB.
TURNING DOLPHINS	--	1.18 KNOTS	90,000 FT. LBS.	180,000 FT. LBS.	260,000 LB.

GENERAL

1. ALL DIMENSIONS, DETAILS AND EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL DESIGN FENDER PANELS, SUPPORT CHAINS AND ANCHORS FOR THE INDICATED LOADS.
3. SUPPORT CHAIN ANCHORS SHALL BE CHEMICAL OR ADHESIVE ANCHORS WITH 9 INCH MINIMUM EDGE DISTANCE AND A MINIMUM EMBEDMENT OF 12 TIMES THE DIAMETER OF THE ANCHOR.
4. THE ANCHOR DESIGN SHALL BE BASED ON AN EXISTING CONCRETE STRENGTH OF 3,000 PSI.
5. ANCHORS SHALL BE SET BY TEMPLATE.

STEEL FABRICATIONS

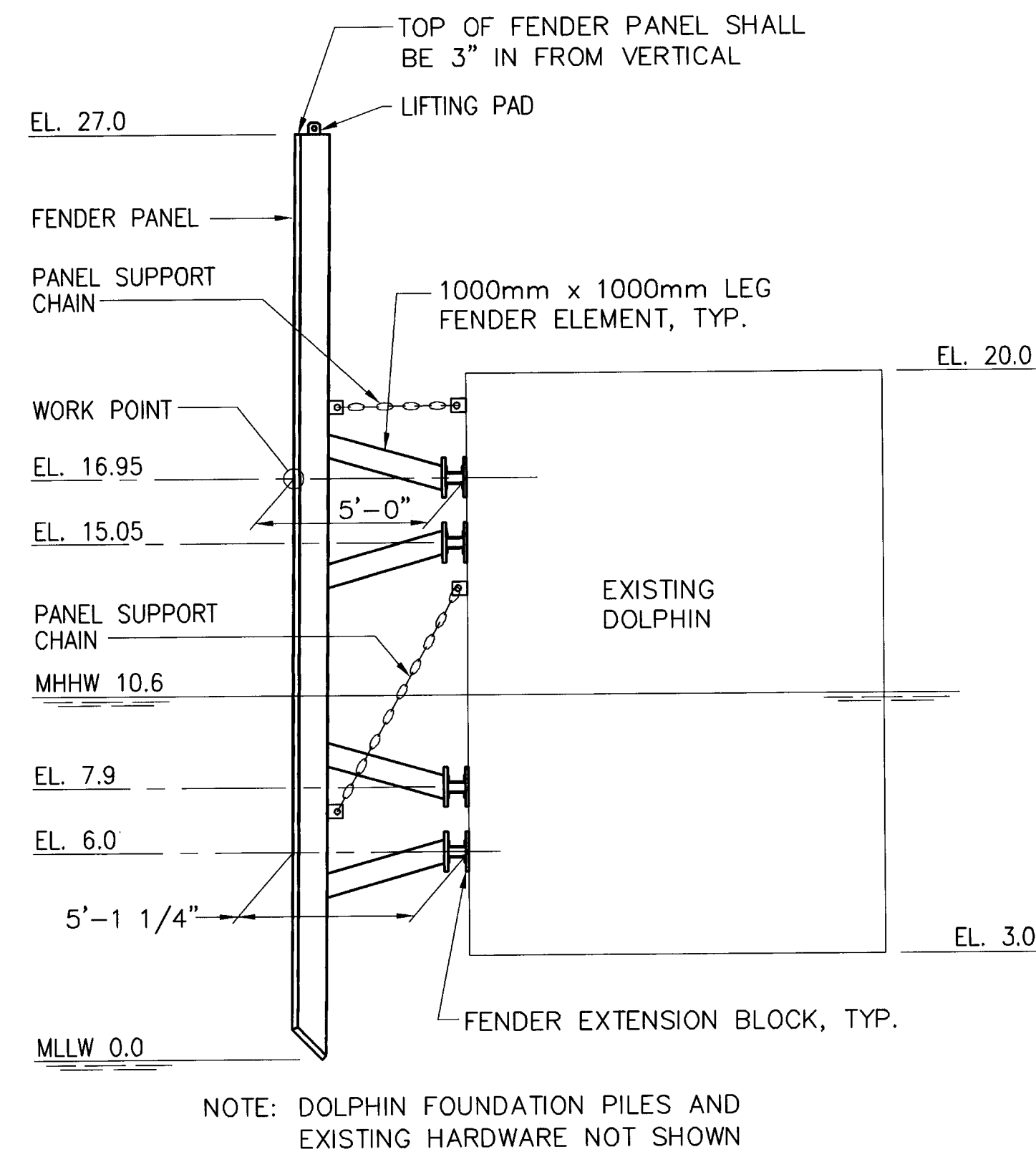
1. STEEL SHAPES AND PLATES SHALL BE ASTM A36, GRADE 36.
2. ALL BOLTS AND NUTS SHALL CONFORM TO ASTM A307 AND BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A153. SET ANCHOR BOLTS BY TEMPLATE ONLY.
3. ALL MISCELLANEOUS STEEL, INCLUDING ALL FASTENERS, UNLESS NOTED OTHERWISE, SHALL BE HOT-DIP GALVANIZED. GALVANIZE ITEMS AFTER FABRICATION. STRESS RELIEVE BENDS BEFORE GALVANIZING. GALVANIZING DAMAGED ACCIDENTALLY OR DUE TO FIELD WELDING SHALL BE RESTORED WITH A FIELD APPLIED GALVANIZING COMPOUND
4. WELDING ELECTRODES: E70XX, LOW HYDROGEN
5. NEOPRENE: 60 DUROMETER HARDNESS

DOLPHIN/FENDER DESIGN LOADS

VESSELS:

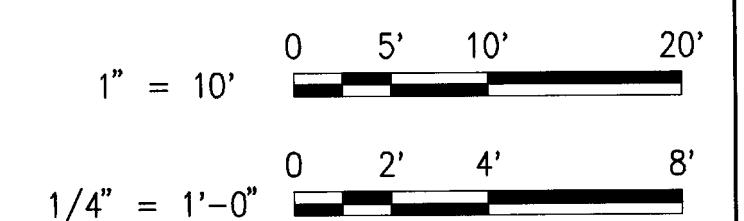
DESIGN VESSEL:

'MV MARGARET CHASE SMITH'
LENGTH = 166 FT.
BEAM = 40 FT.
MAX. DISPLACEMENT = 633 LONG TONS



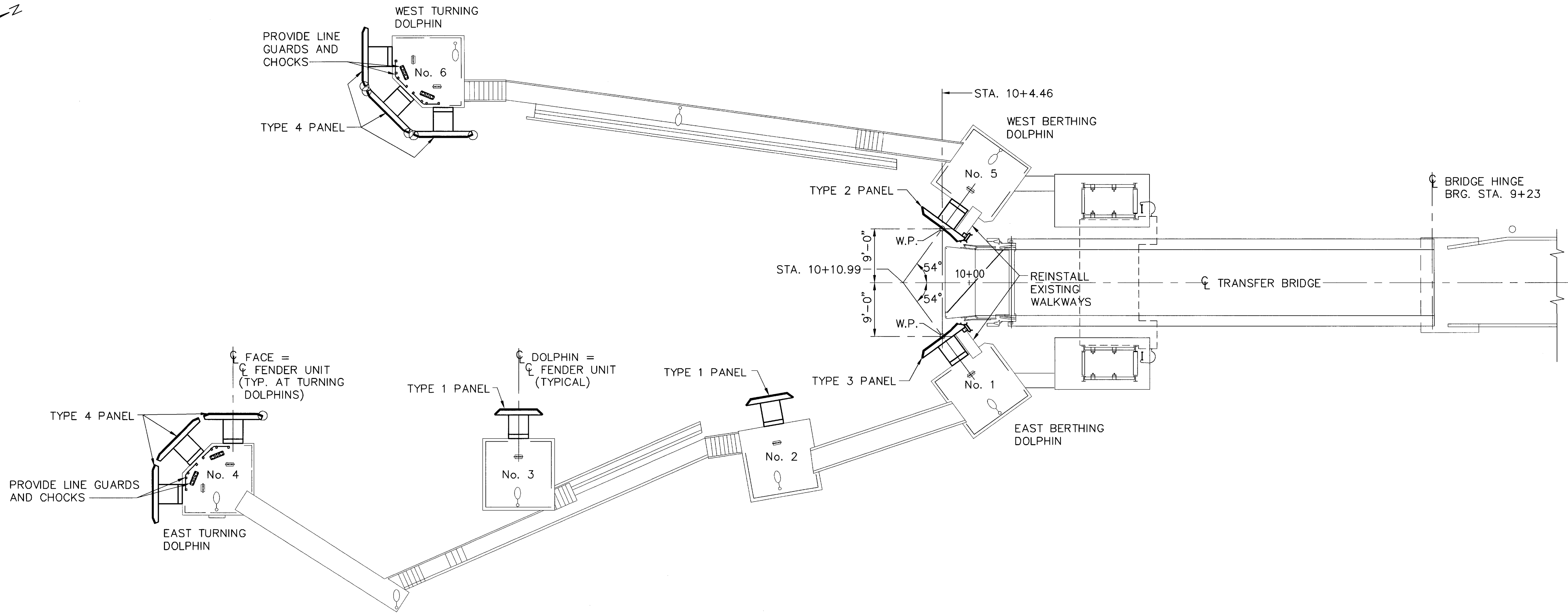
LEGEND:

○ = ROUNDED CORNER, SEE SHEET S3

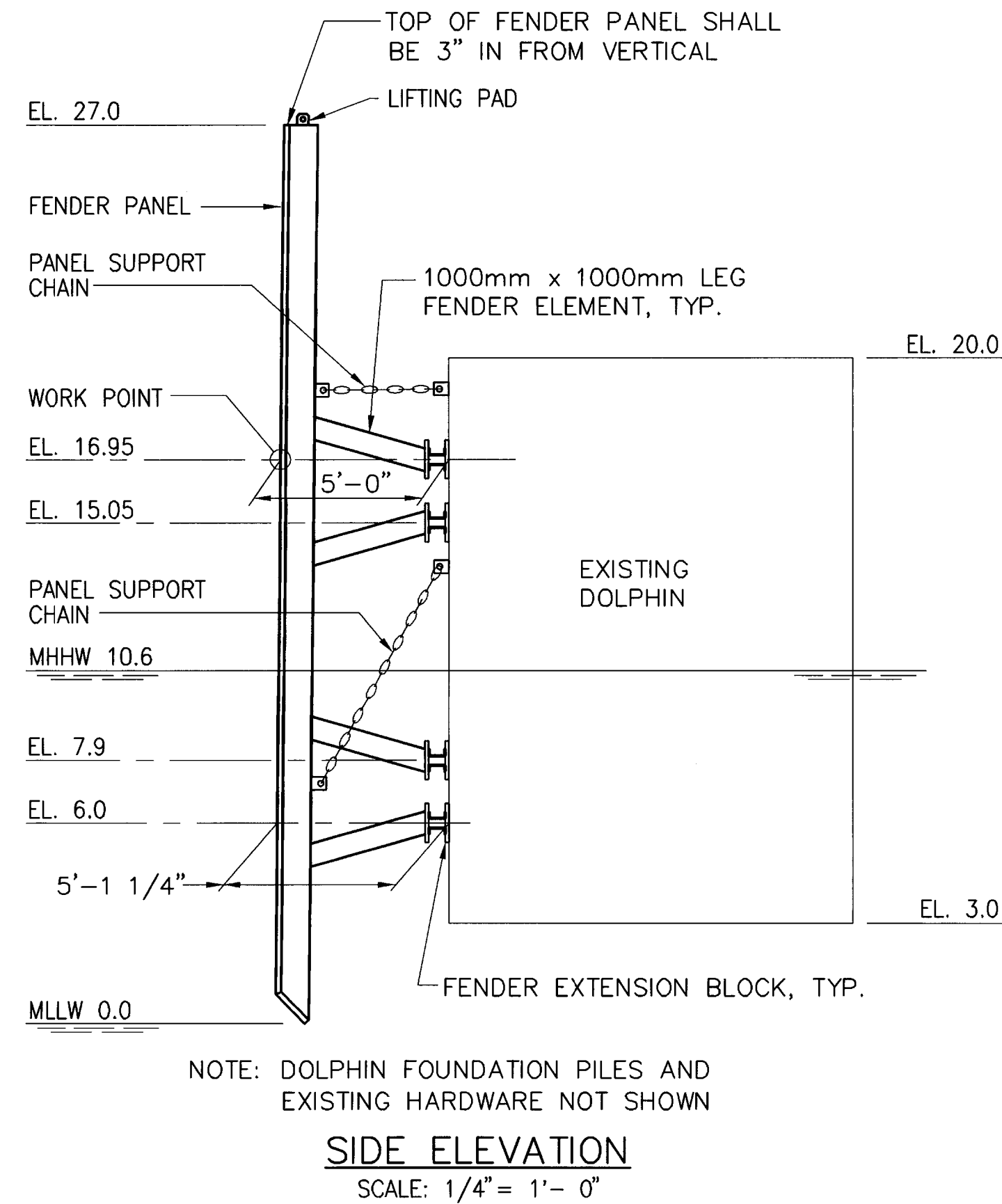
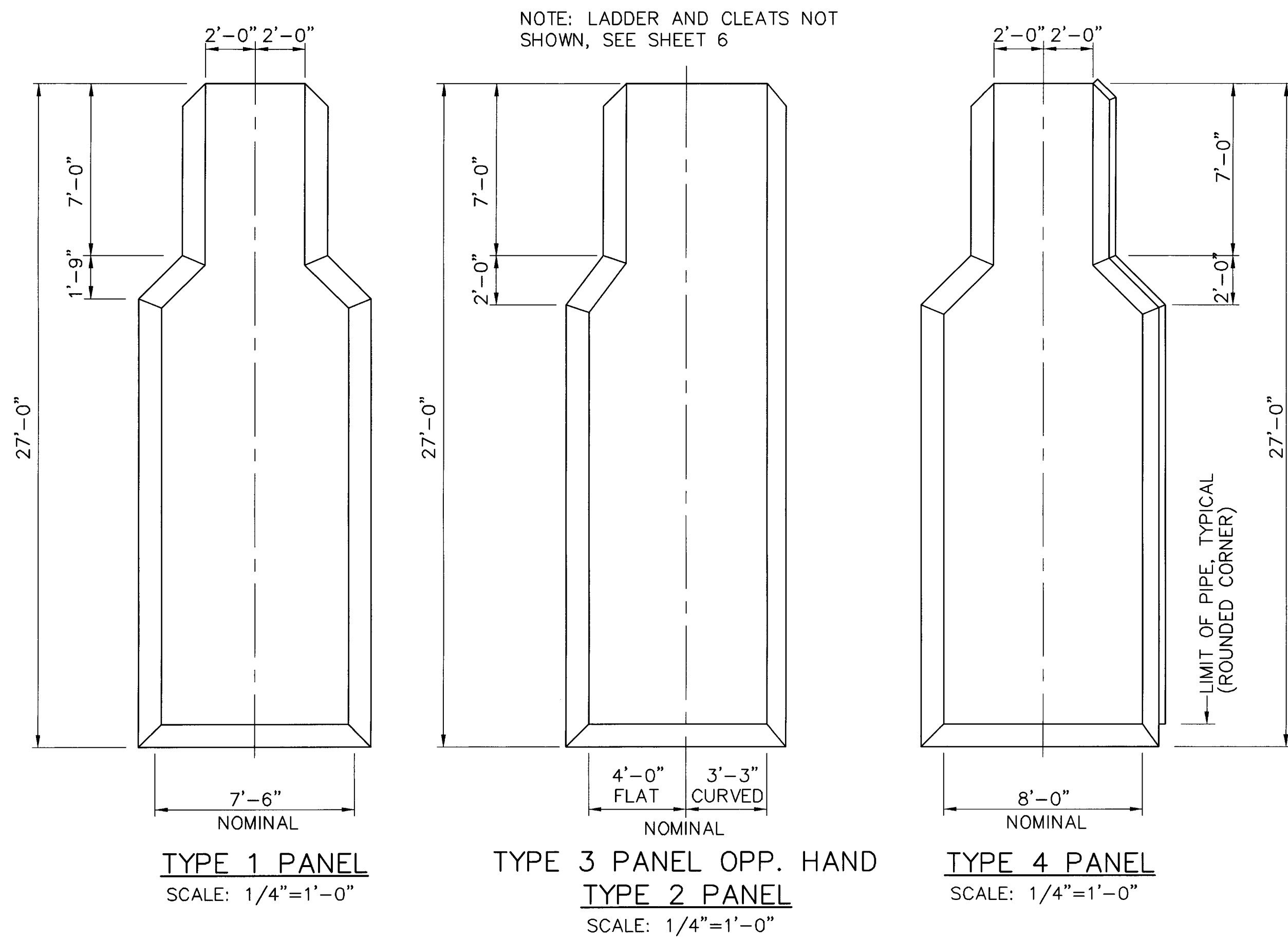


STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		APPROVED		DATE			
COMMISSIONER:		CHIEF ENGINEER:							
PROJECT INFORMATION		PROJECT INFORMATION							
PROGRAM	PROJECT MANAGER	DESIGNER	CONSULTANT	PROJECT RESIDENT	CONTRACTOR	PROJECT COMPLETION DATE			
			FAY, SPOFFORD & THORNDIKE			5/25/10			
FERRY TERMINALS		LINCOLNVILLE/ISLESBORO, MAINE		FENDER REPLACEMENT					
PLAN - LINCOLNVILLE TERMINAL		AND FENDER PANEL DETAILS							
SHEET NUMBER		S1		4 OF 12					

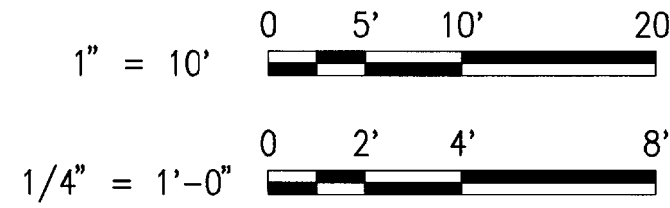
R:\TM-088 L-1 Fender Repair\05-CADD\NEW FORMAT\ISLESBORO BERTH PLAN.dwg 05/25/10 13:15 [114:90] By tripp_r



PLAN — ISLESBORO TERMINAL
SCALE: 1"=10'



LEGEND:
○ = ROUNDED CORNER, SEE SHEET S3
NOTE:
SEE SHEET S1 FOR DESIGN DATA



FERRY TERMINALS
LINCOLNVILLE/ISLESBORO, MAINE
FENDER REPLACEMENT
PLAN — ISLESBORO TERMINAL
AND FENDER PANEL DETAILS

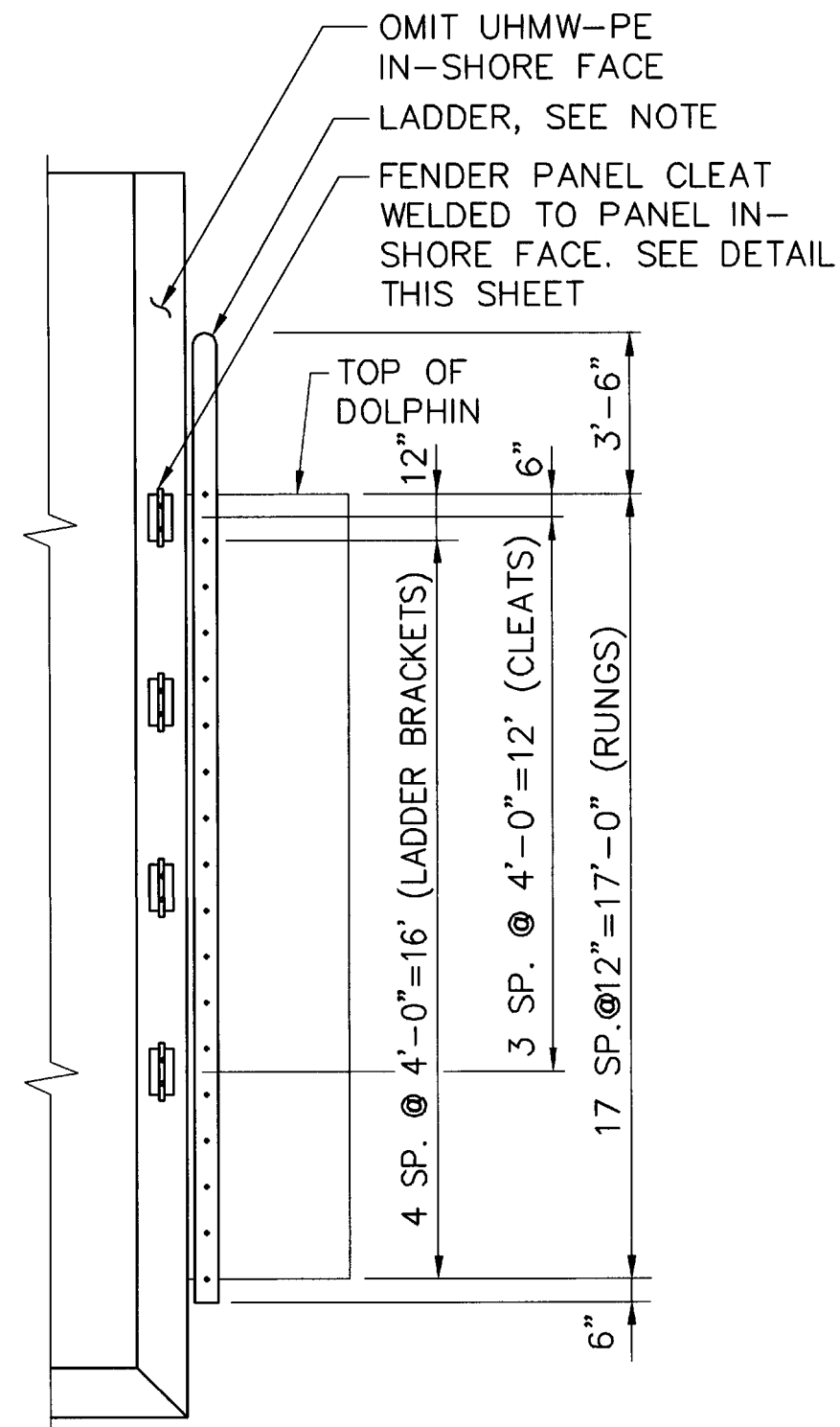
SHEET NUMBER
S2
5 OF 12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER:
CHIEF ENGINEER:

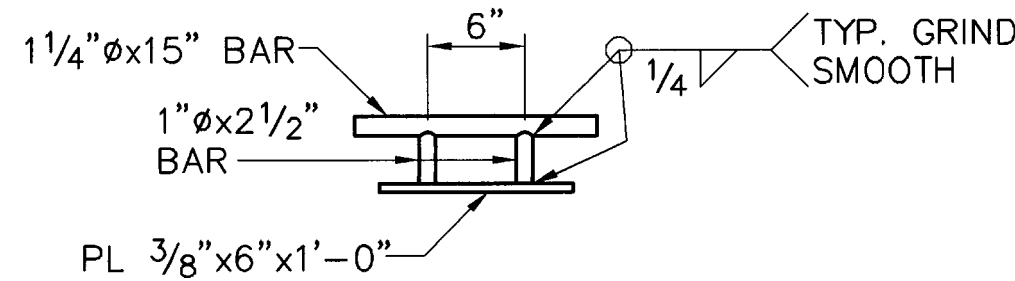
PROJECT INFORMATION
PROGRAM
PROJECT MANAGER
DESIGNER
CONSULTANT
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE
FAY, SPOFFORD & THORNDIKE
DATE
5/25/10

STATE OF MAINE
ROBERT E. BERTOLINO
No. 073
Professional Seal
SIGNATURE
8721
P.E. NUMBER

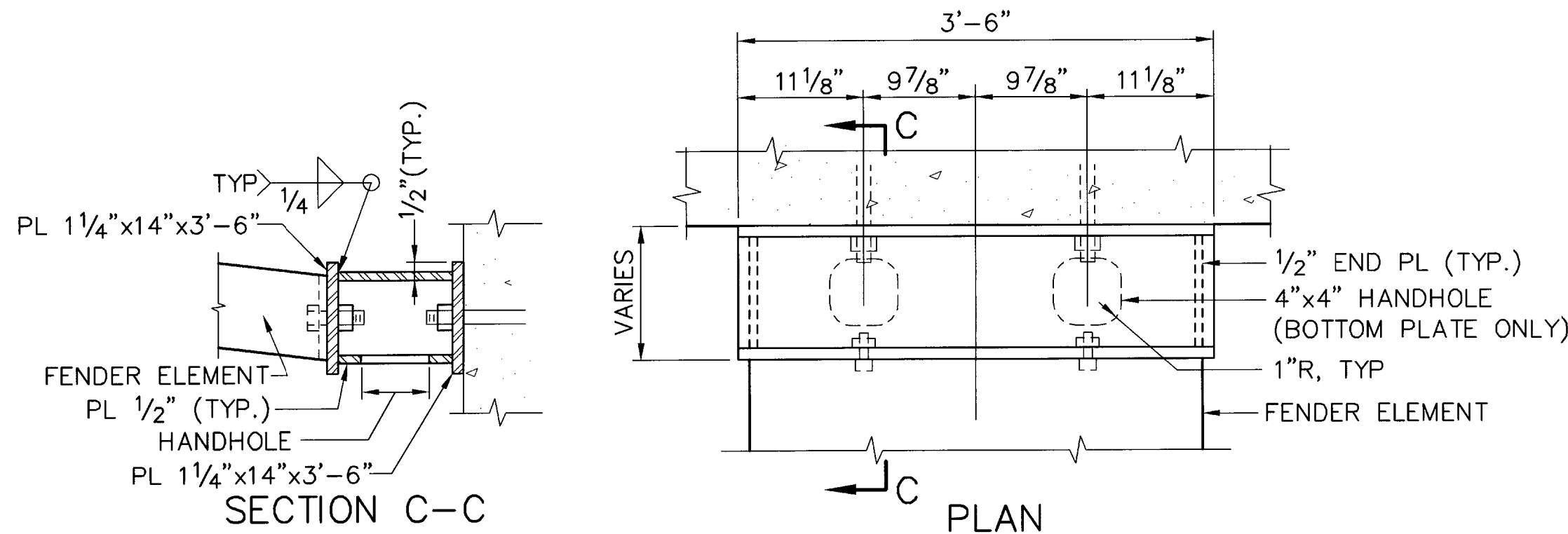
R:\TM-088 L-1 Fender Report\05-CAOD\NEW FORMAT\DOLPH-DETS.dwg 05/25/10 13:20 [14.83] By tripp_r



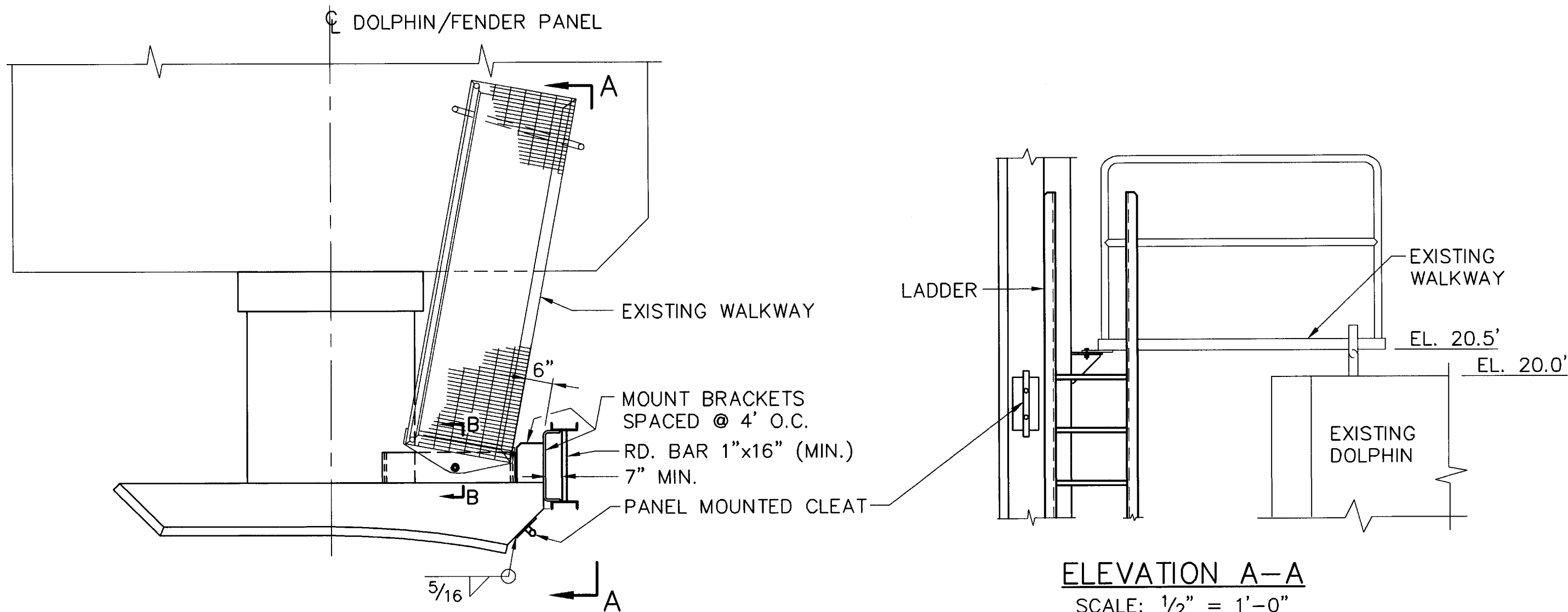
PANEL AT DOLPHIN NO. 5 SHOWN
PANEL AT DOLPHIN NO. 1 OPP. HAND
PANEL MOUNTED ACCESS LADDER
AND PANEL CLEATS
ELEVATION
SCALE: 1/4" = 1'-0"



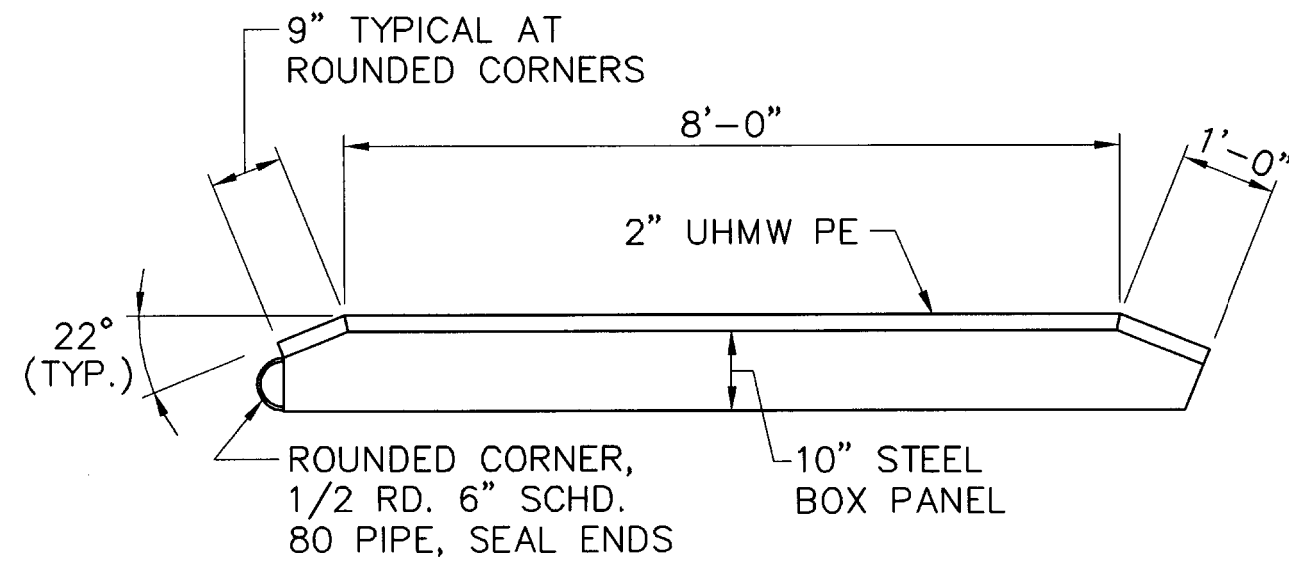
FENDER PANEL CLEAT
SCALE: 1" = 1'-0"



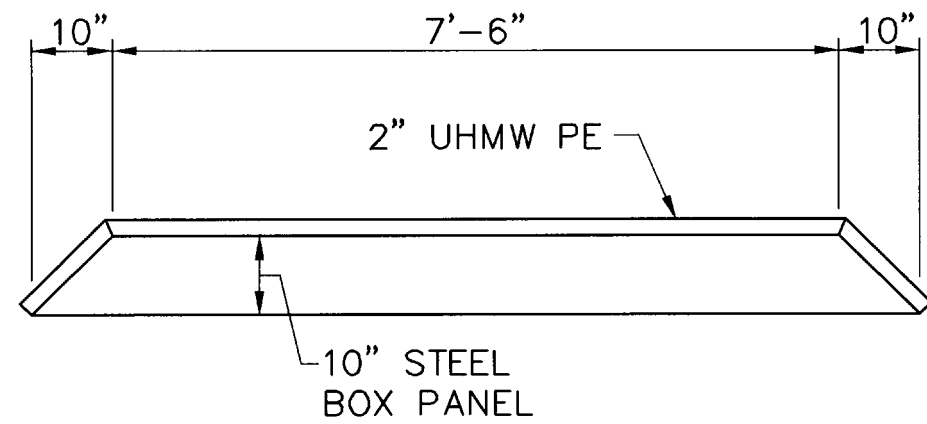
FENDER BLOCK DETAIL
NOT TO SCALE



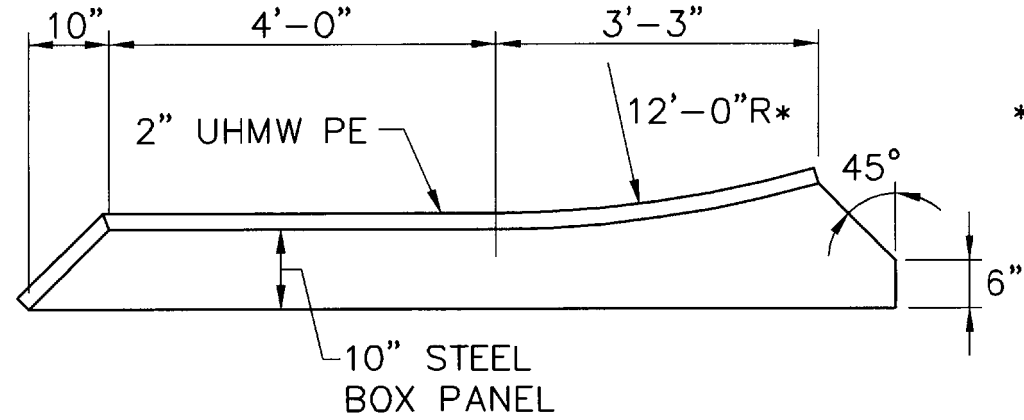
DOLPHIN NO. 1 SHOWN, DOLPHIN NO. 5 OPP. HAND
DETAIL-ACCESS LADDER
SCALE: 1/2" = 1'-0"



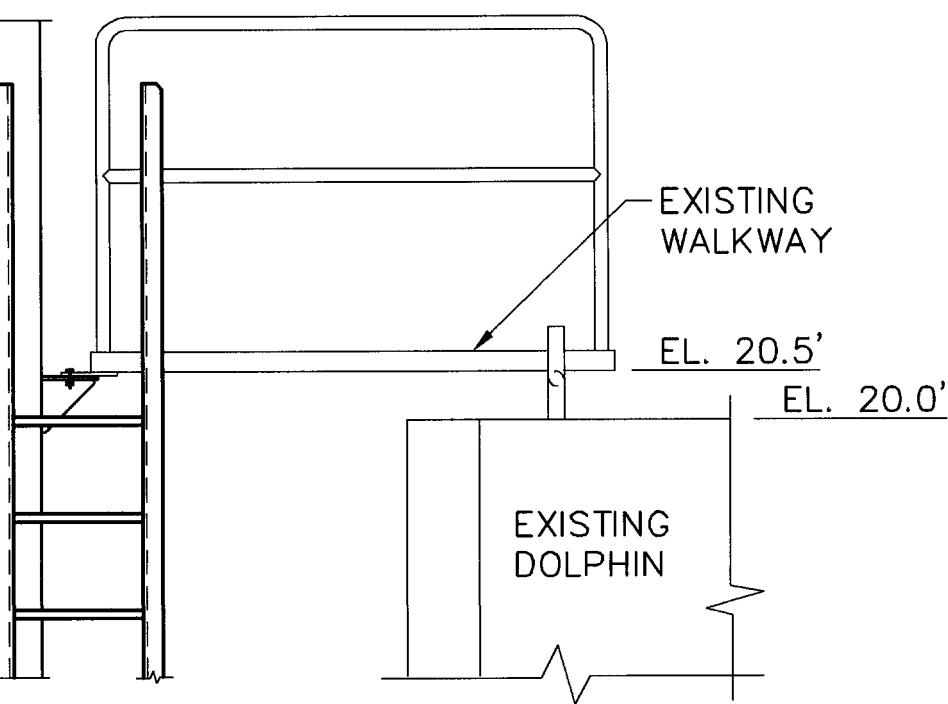
NOTE: SEE SHEETS 4 AND 5 FOR LOCATION OF ROUNDED CORNERS
PLAN - TURNING DOLPHIN FENDER PANEL
SCALE: 1/2" = 1'-0"



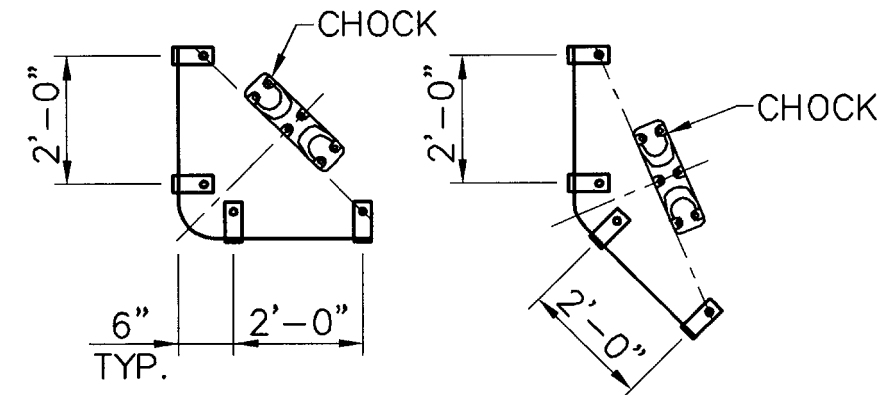
NOTE: SEE SHEETS 4 AND 5 FOR LOCATION OF ROUNDED CORNERS
PLAN - SIDE DOLPHIN FENDER PANEL
SCALE: 1/2" = 1'-0"



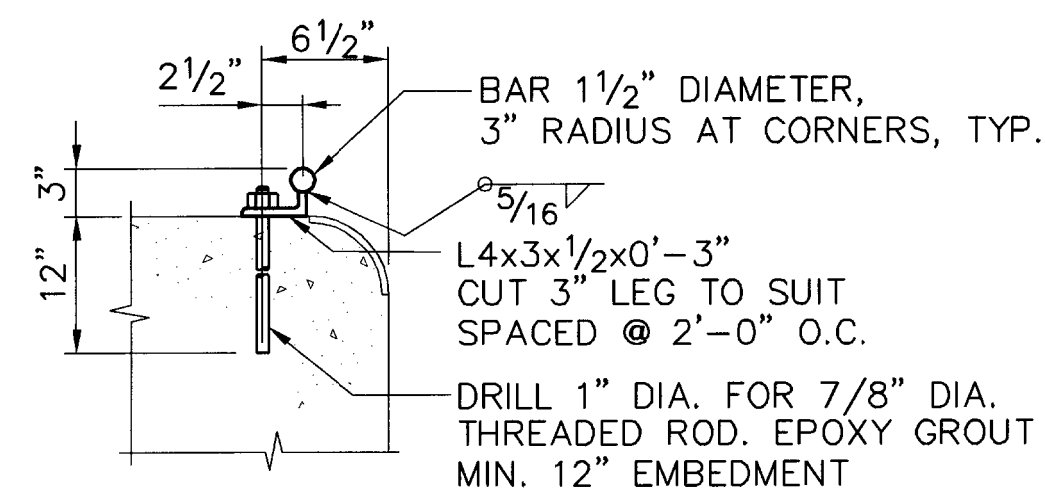
PLAN - BERTHING DOLPHIN FENDER PANEL
SCALE: 1/2" = 1'-0"



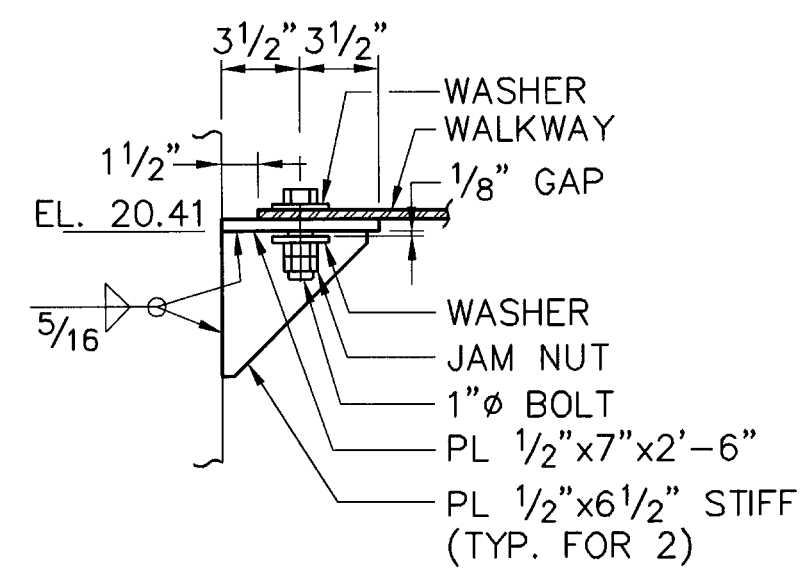
ELEVATION A-A
SCALE: 1/2" = 1'-0"



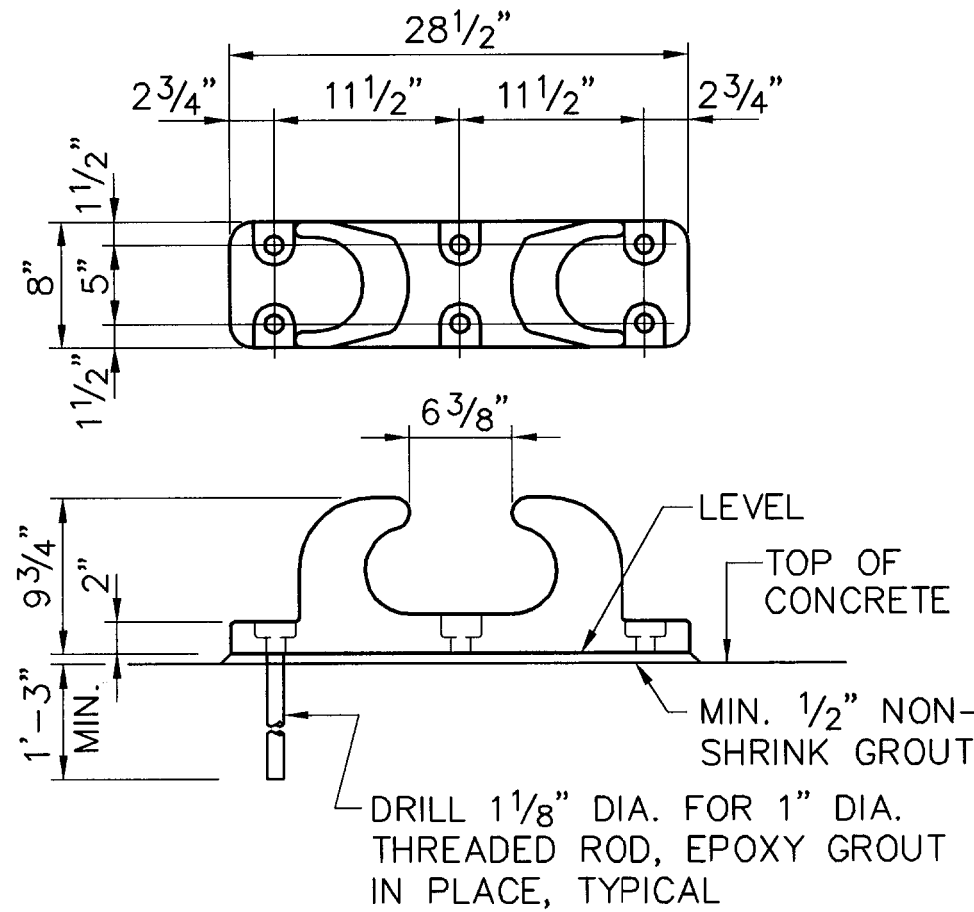
LINE GUARD & CHOCK ARRANGEMENT
NOT TO SCALE



NOTE: LINE GUARD SHALL BE
HOT DIP GALVANIZED
AFTER FABRICATION
DETAIL - LINE GUARD
SCALE: 1 1/2" = 1'-0"



SECTION B-B
SCALE: 1 1/2" = 1'-0"



NOTE: CAST STEEL 8" PLAIN OPEN CHOCK
MODEL 4757BD-A BY SCHOELLHORN-ALBRECHT
OR APPROVED EQUAL
MOORING CHOCK DETAIL
SCALE: 1" = 1'-0"

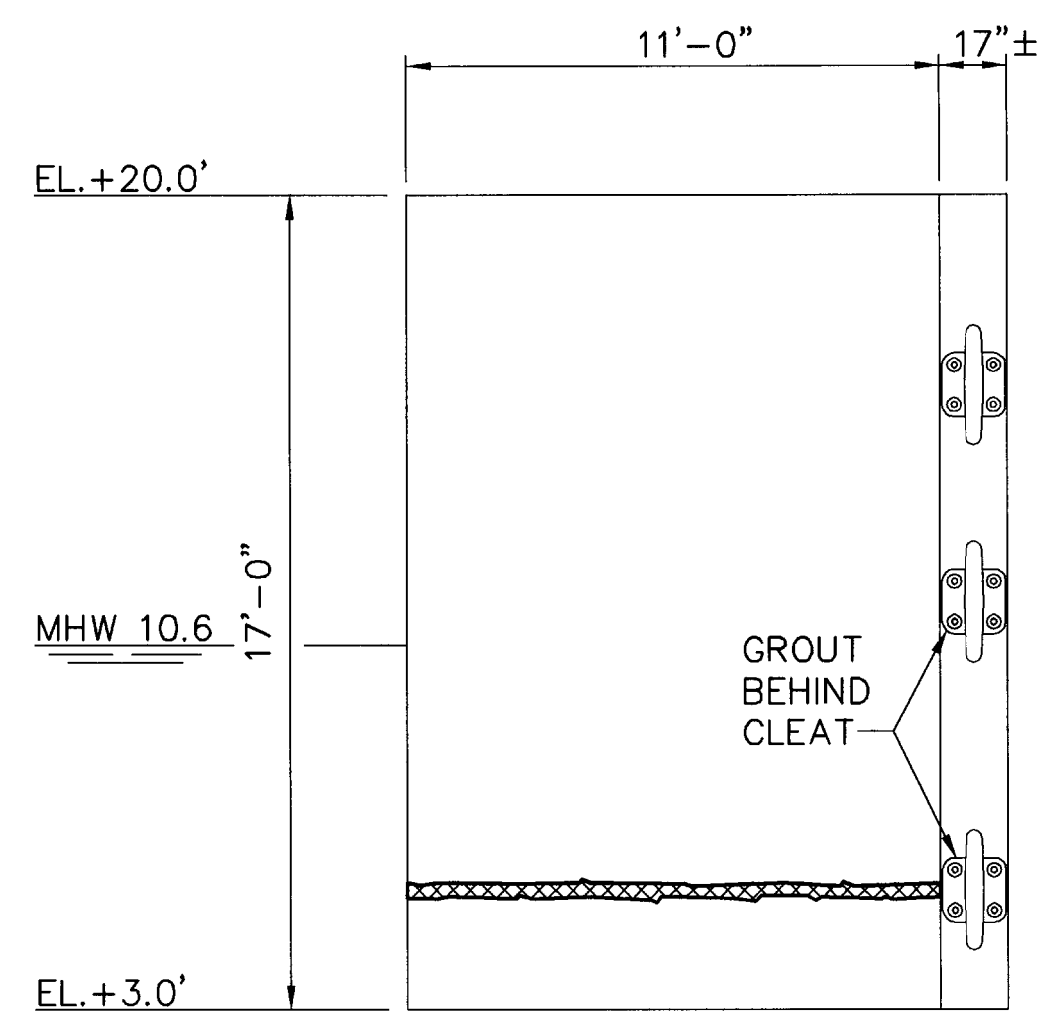
NOTE:

THE PANEL MOUNTED ACCESS LADDER SHALL BE DESIGNED BY THE CONTRACTOR FOR A 350 LB. CONCENTRATED VERTICAL LOAD ACTING AT ANY POINT ON THE LADDER. THE LADDER SHALL CONFORM WITH ALL APPLICABLE PROVISIONS OF OSHA REGULATIONS FOR LADDERS AND WITH DIMENSIONS SHOWN ON THE DRAWINGS. THE LADDER ASSEMBLY SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

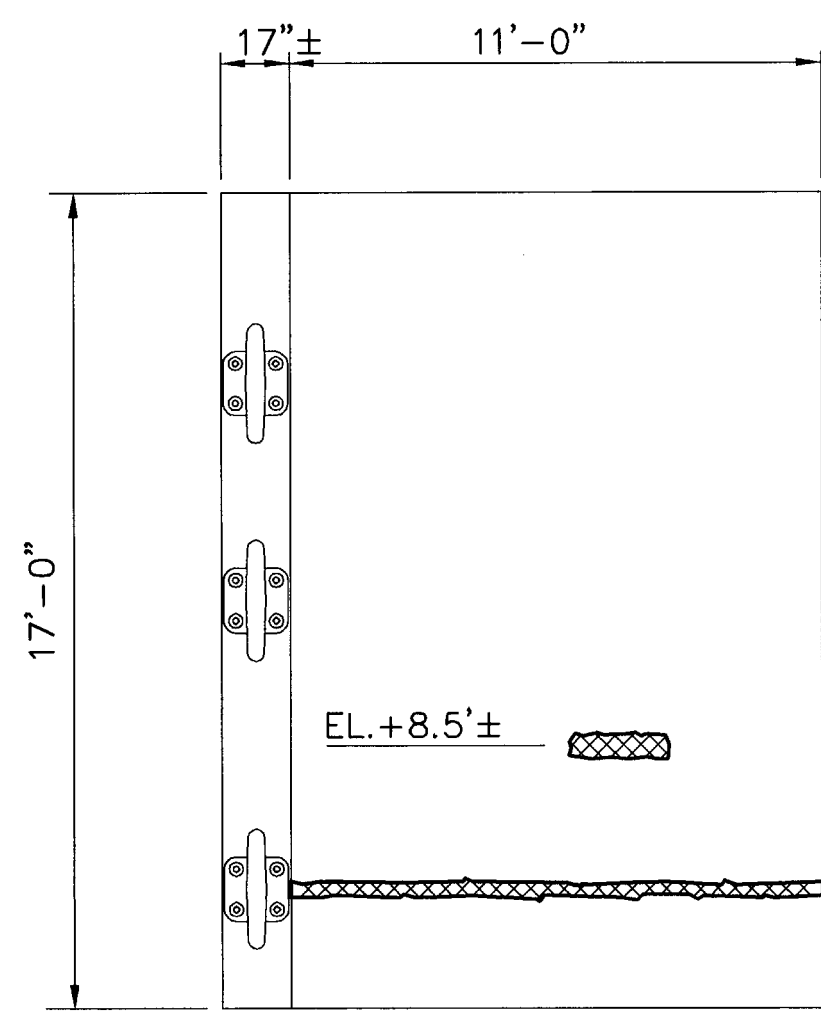
1/4" = 1'-0" 0 2' 4' 8'
1/2" = 1'-0" 0 1' 2' 4'

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		APPROVED		DATE	
FERRY TERMINALS		LINCOLNVILLE/SLESBORO, MAINE		FENDER REPLACEMENT		FENDER DETAILS	
SHEET NUMBER		S3		6		OF 12	

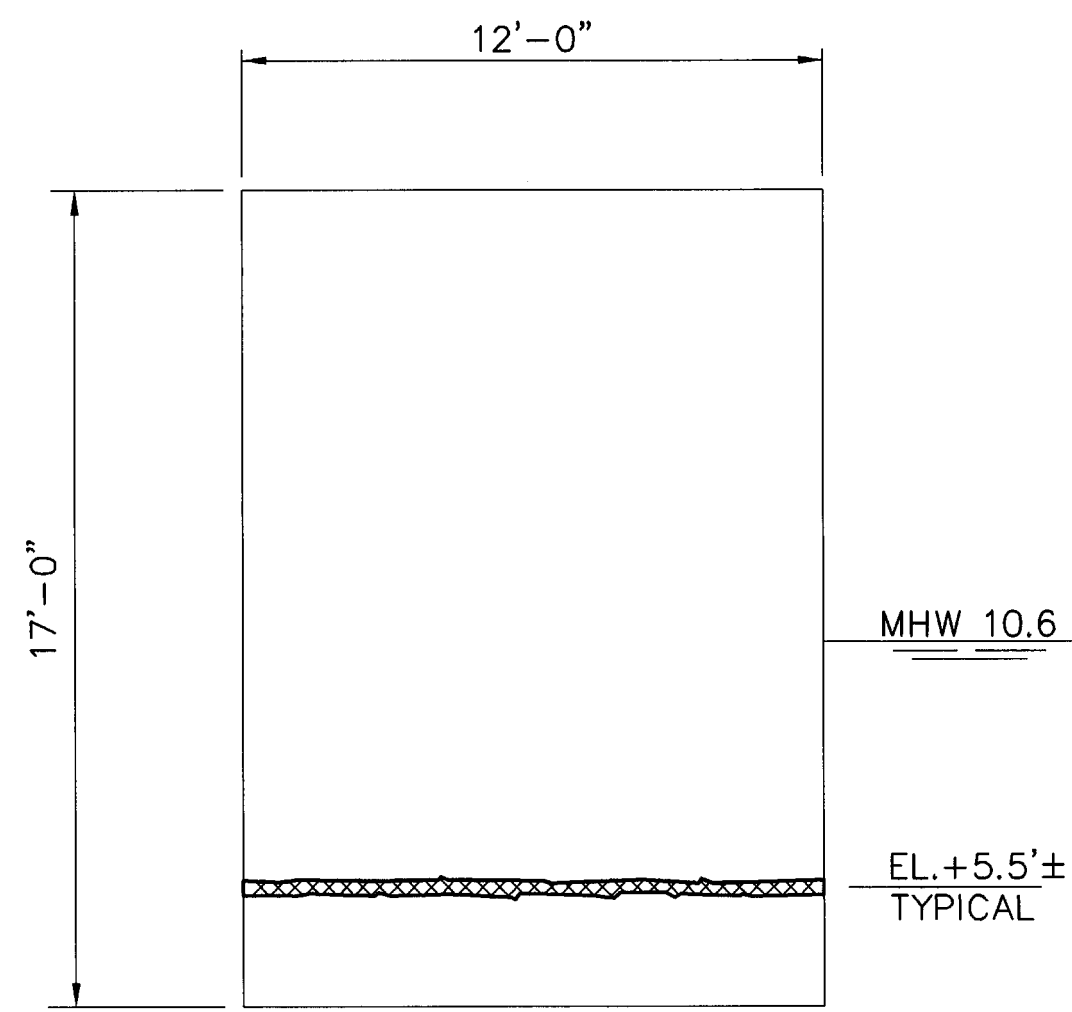
R:\TM-088 L-1 Fender Repair\05-CADD\NEW FORMAT\LINC-DOLPH-REPAIR.dwg 05/25/10 13:24 [10.00] By tripp_r



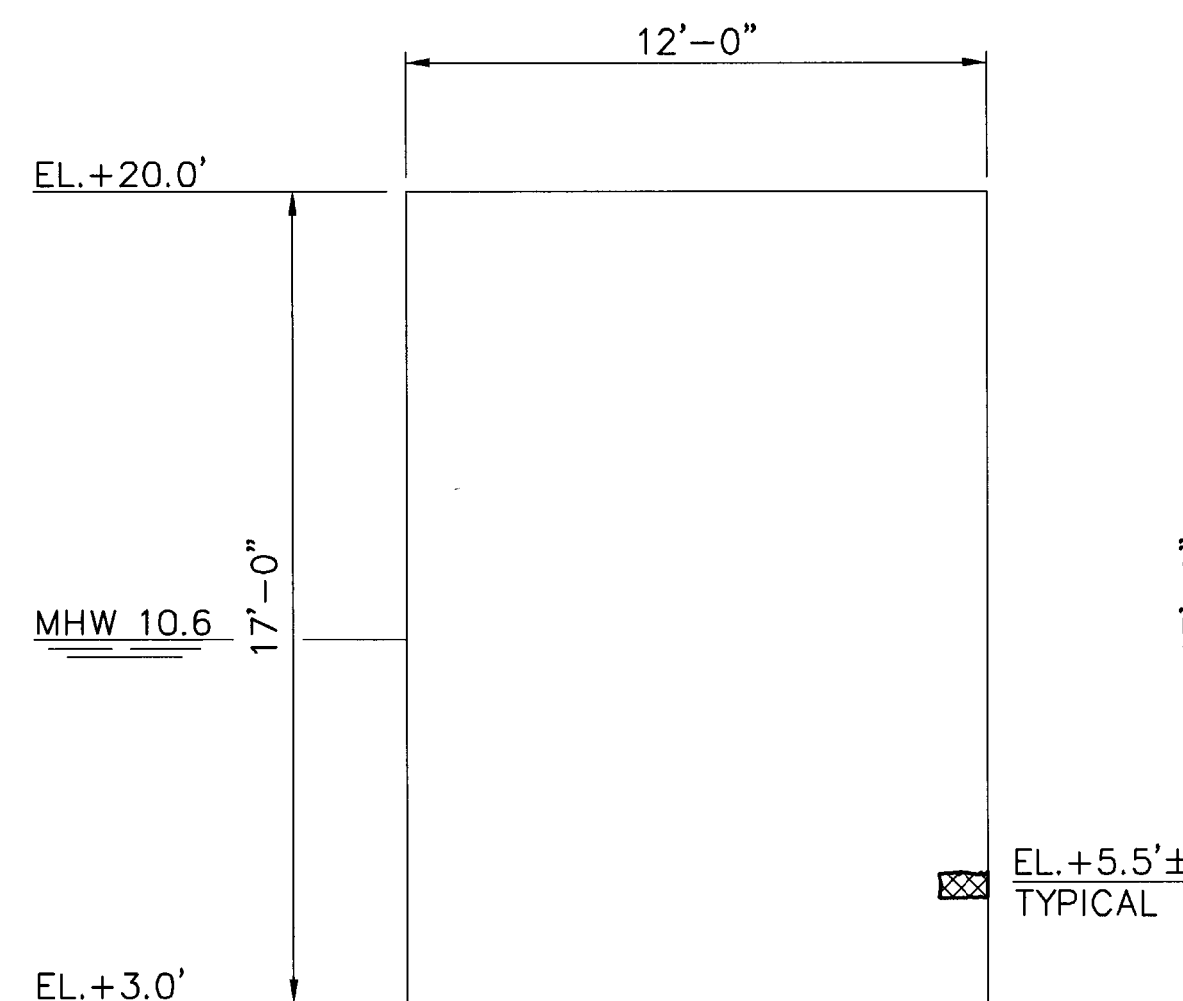
WEST ELEVATION
BERTHING DOLPHIN No. 1
SCALE: 1/4"=1'-0"



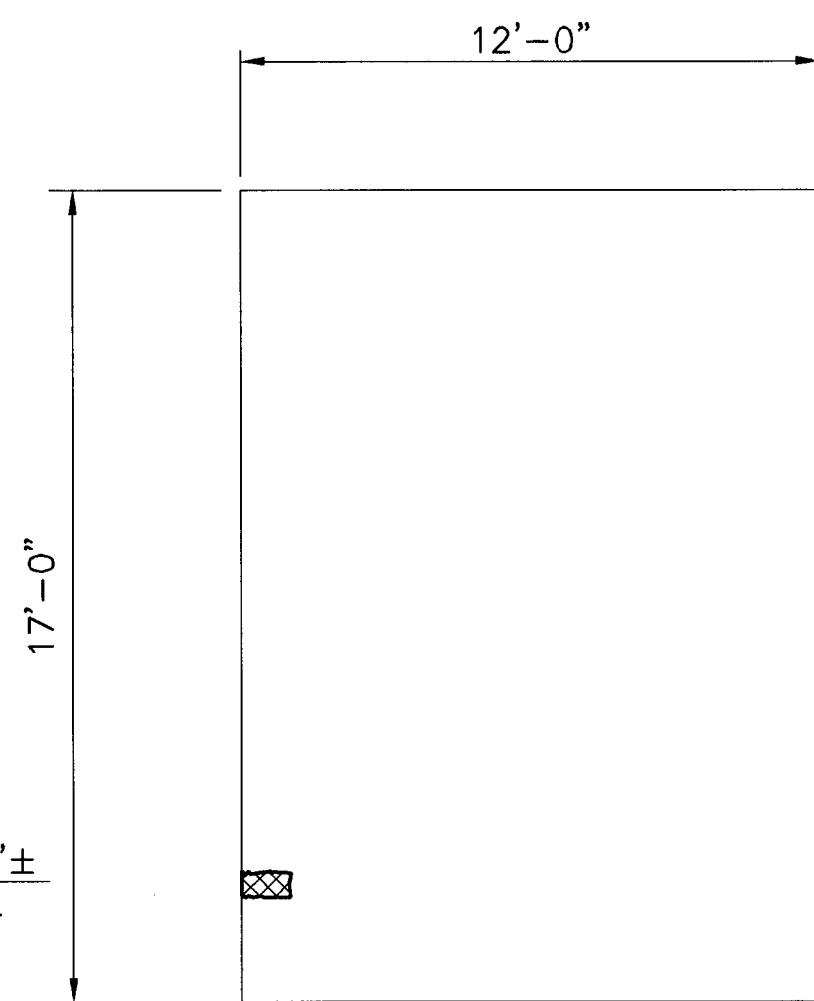
SOUTH ELEVATION
BERTHING DOLPHIN No. 1
SCALE: 1/4"=1'-0"



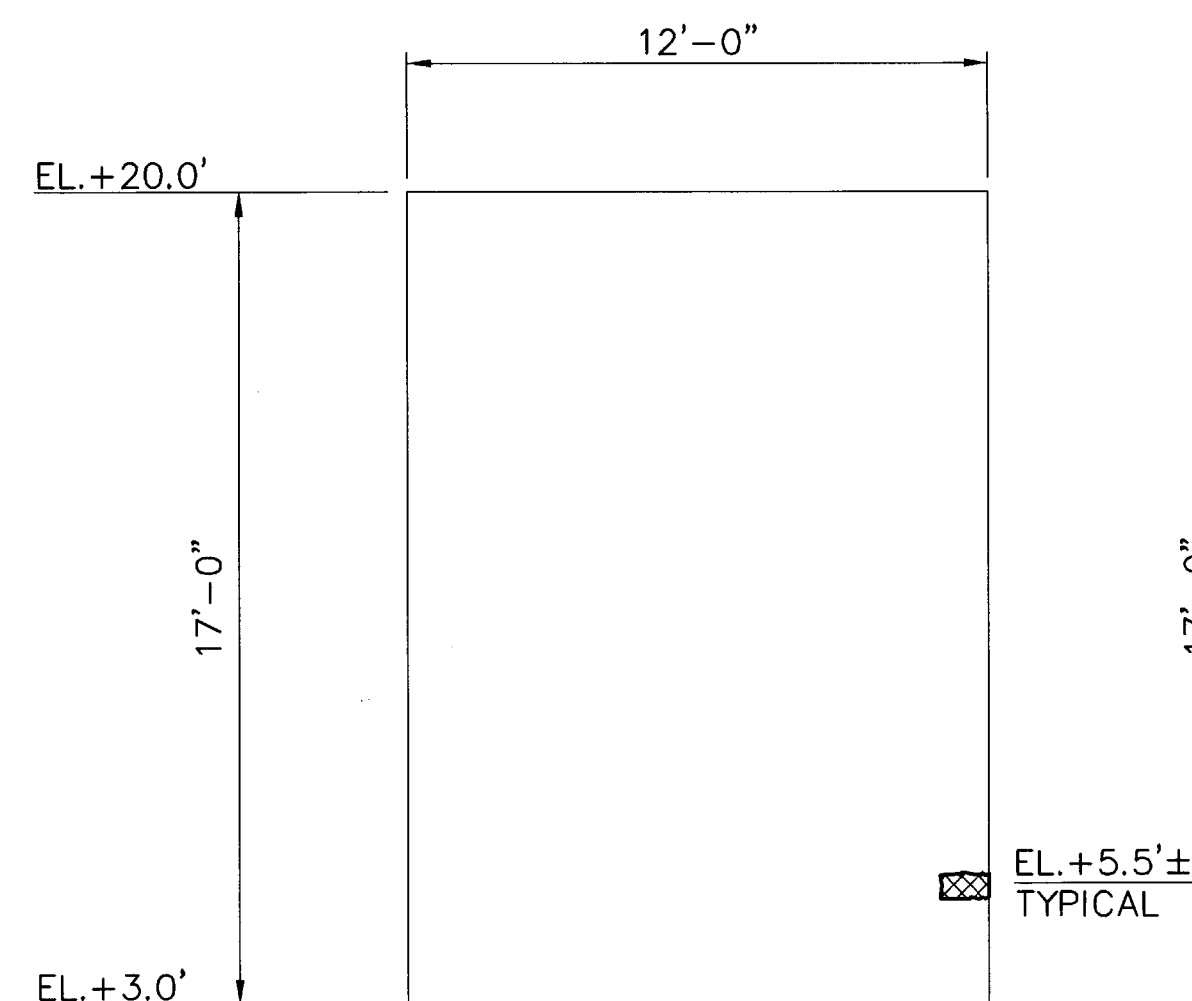
EAST ELEVATION
BERTHING DOLPHIN No. 1
SCALE: 1/4"=1'-0"



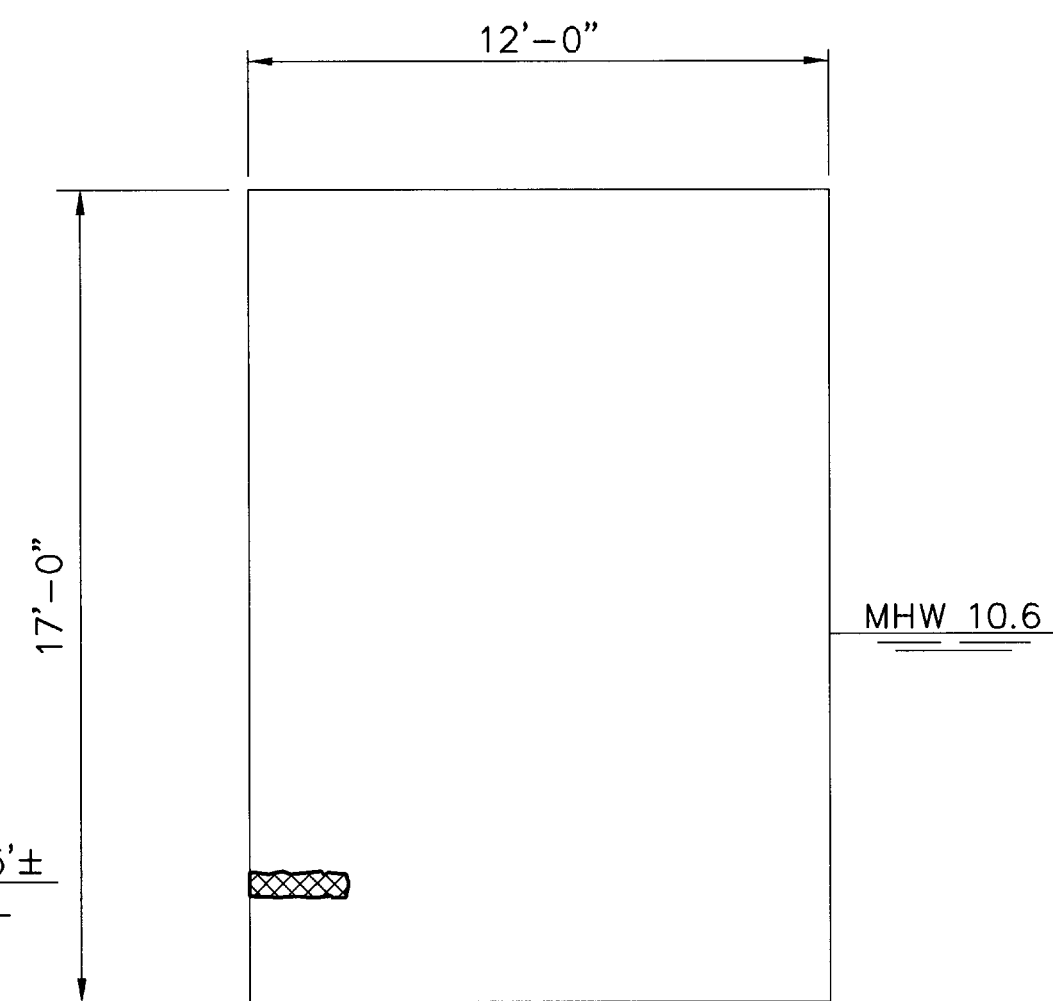
NORTH ELEVATION
SIDE DOLPHIN No. 2
SCALE: 1/4"=1'-0"



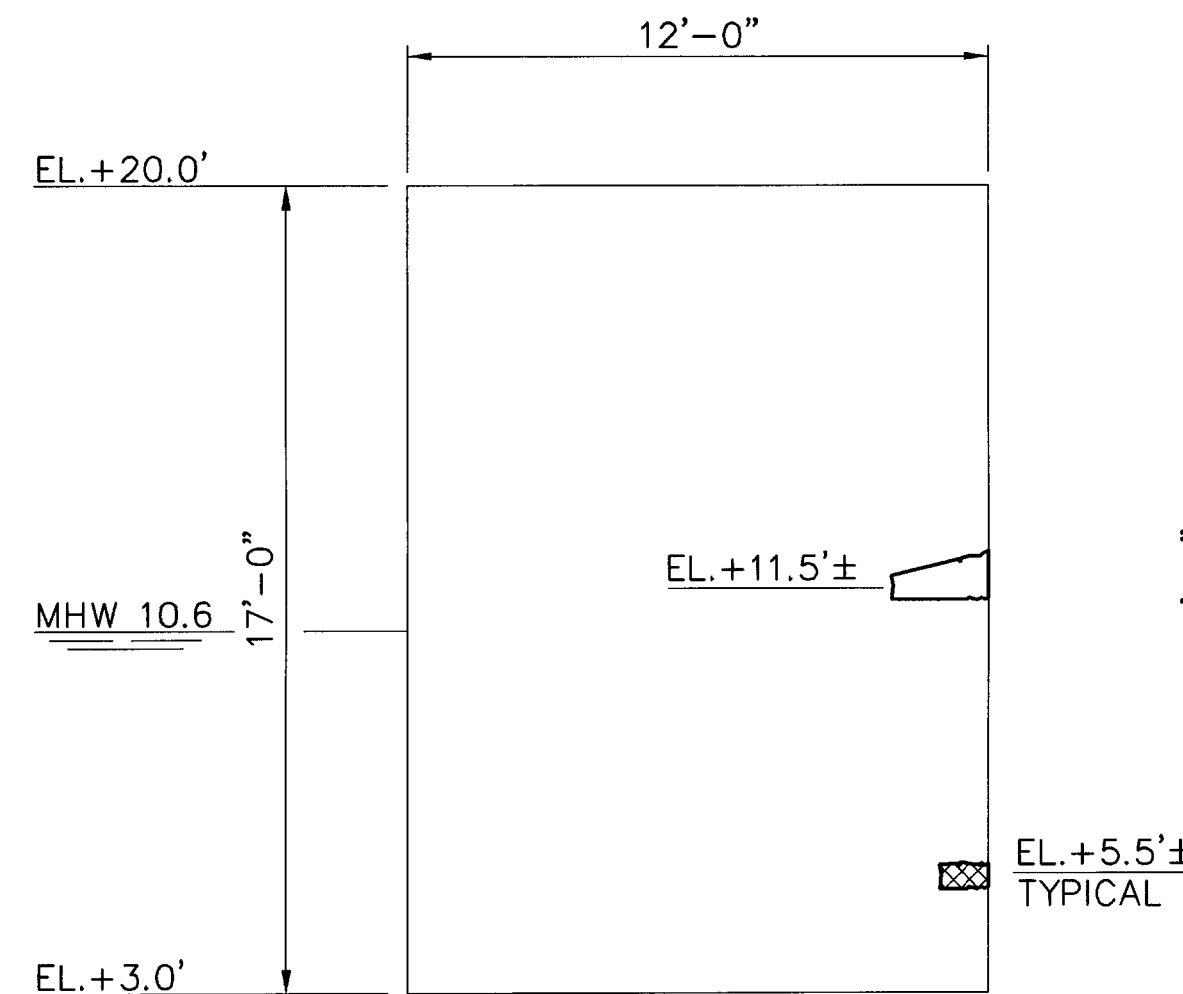
WEST ELEVATION
SIDE DOLPHIN No. 2
SCALE: 1/4"=1'-0"



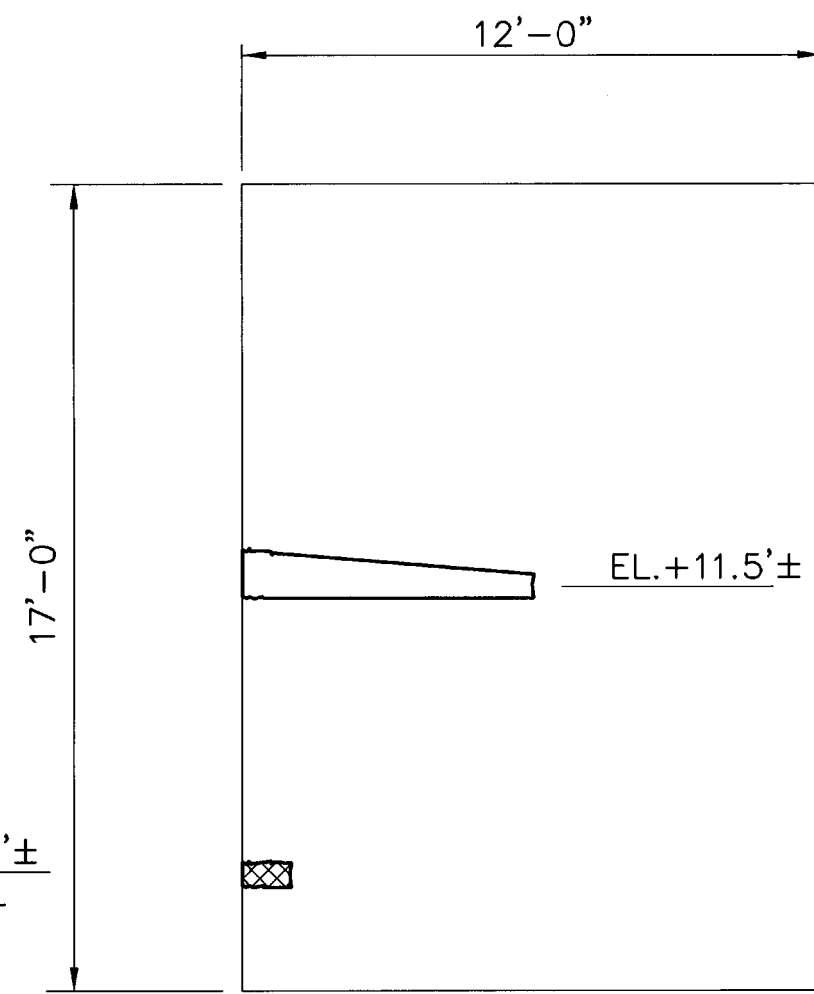
NORTH ELEVATION
TURNING DOLPHIN No. 4
SCALE: 1/4"=1'-0"



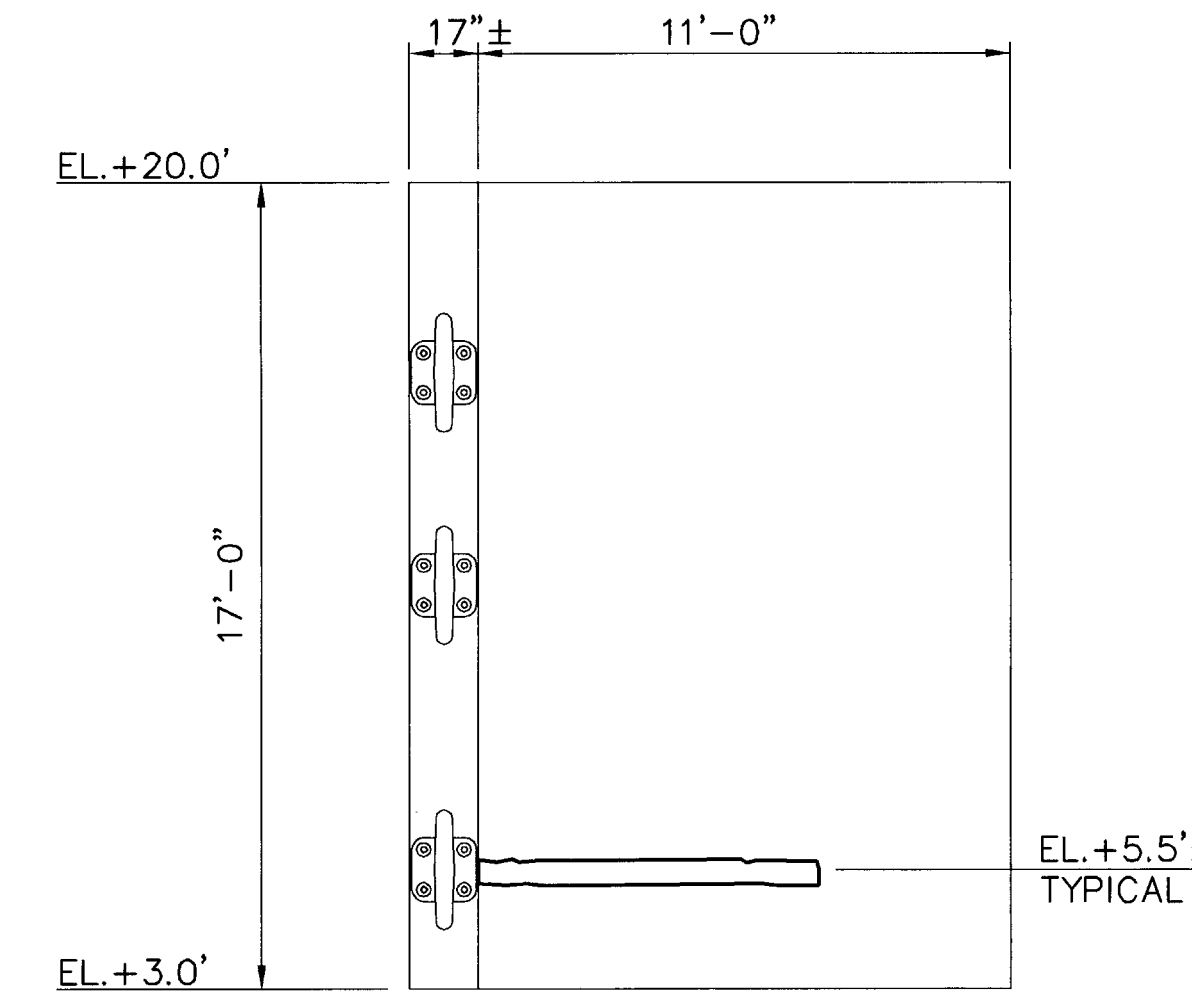
WEST ELEVATION
TURNING DOLPHIN No. 4
SCALE: 1/4"=1'-0"



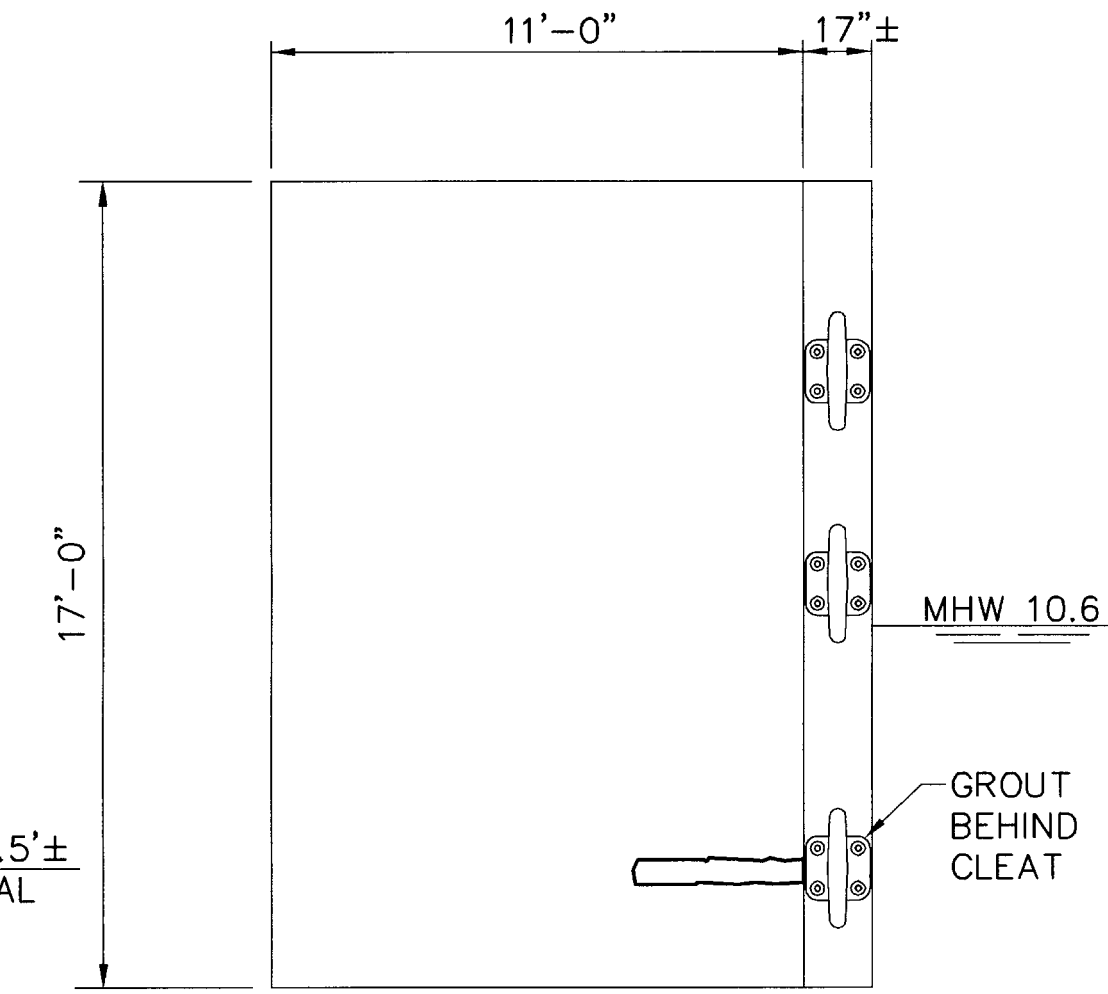
WEST ELEVATION
SIDE DOLPHIN No. 3
SCALE: 1/4"=1'-0"



SOUTH ELEVATION
SIDE DOLPHIN No. 3
SCALE: 1/4"=1'-0"

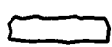


NORTH ELEVATION
BERTHING DOLPHIN No. 5
SCALE: 1/4"=1'-0"



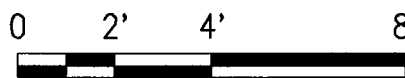
EAST ELEVATION
BERTHING DOLPHIN No. 5
SCALE: 1/4"=1'-0"

LEGEND:

- TYPE A REPAIR 
TYPE B REPAIR 
TYPE C REPAIR 

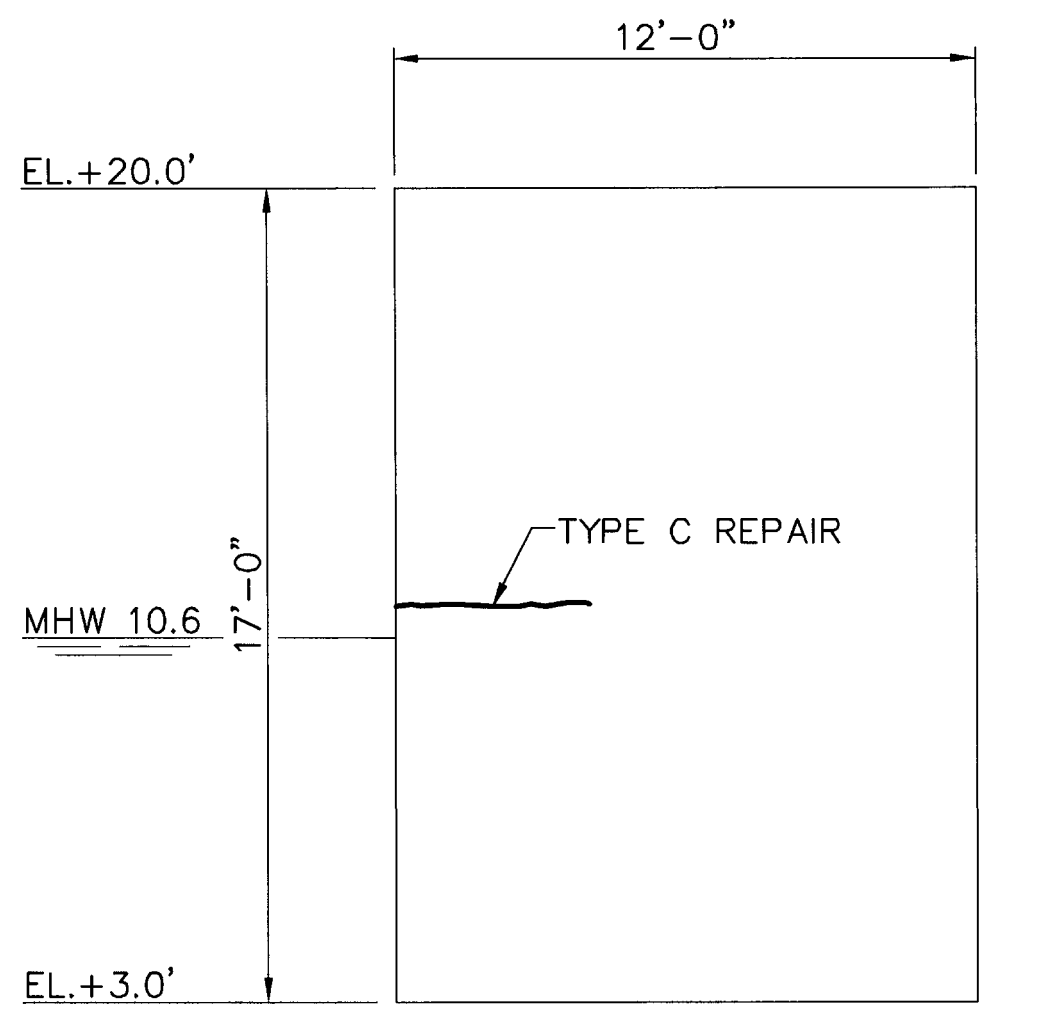
NOTE:

SEE SHEET S5 FOR REPAIR DETAILS

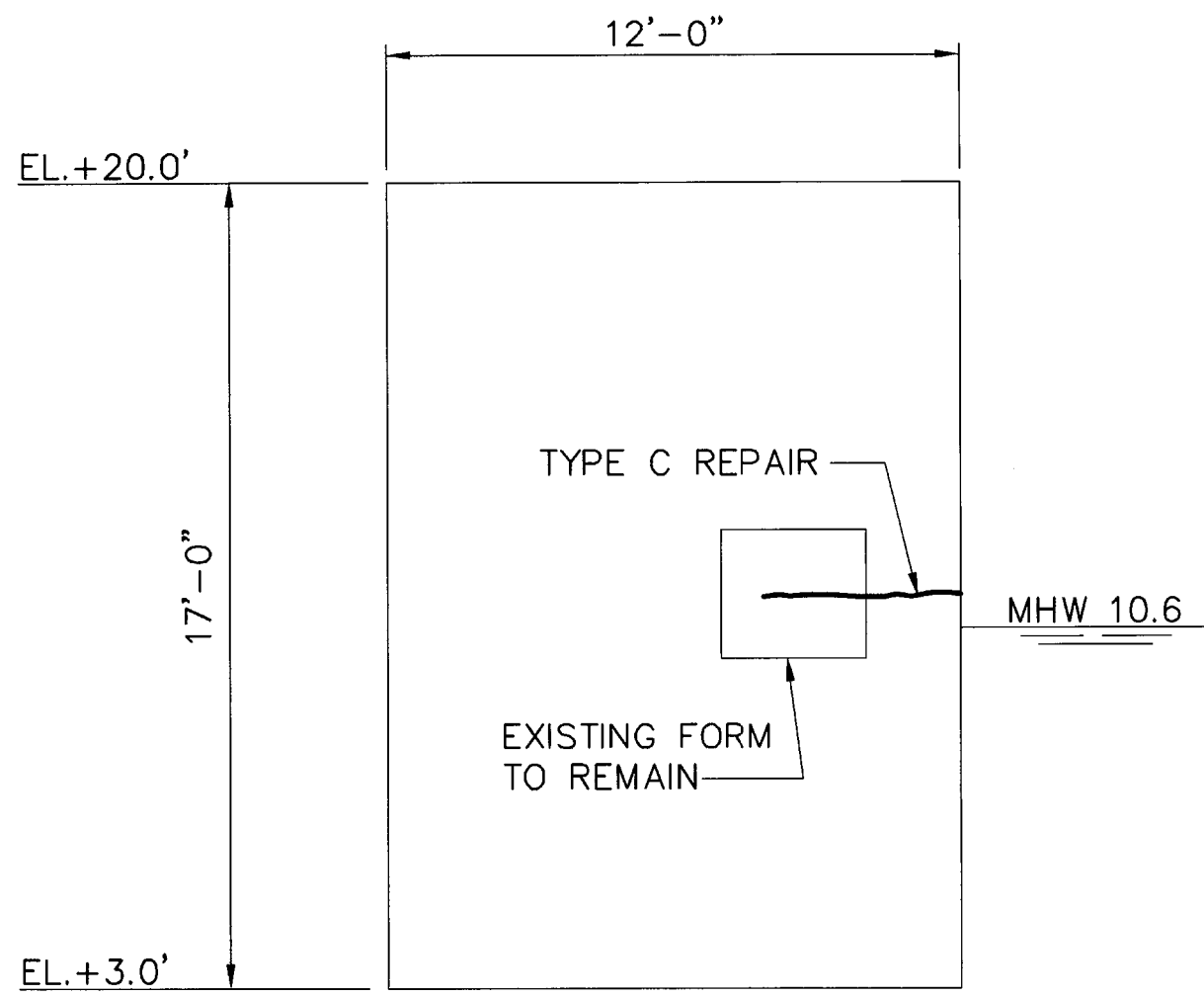
1/4" = 1'-0" 

FERRY TERMINALS LINCOLNVILLE/ISLESBORO, MAINE FENDER REPLACEMENT		PROJECT INFORMATION		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
LINCOLNVILLE CONCRETE REPAIR DETAILS		PROGRAM		APPROVED	DATE
		PROJECT MANAGER			
		DESIGNER			
		CONSULTANT			
		FAY, SPOFFORD & THORNDIKE			
		P.E. NUMBER		COMMISSIONER:	
		PROJECT RESIDENT		CHIEF ENGINEER:	
		CONTRACTOR			
		PROJECT COMPLETION DATE			
			DATE		
			5/25/10		

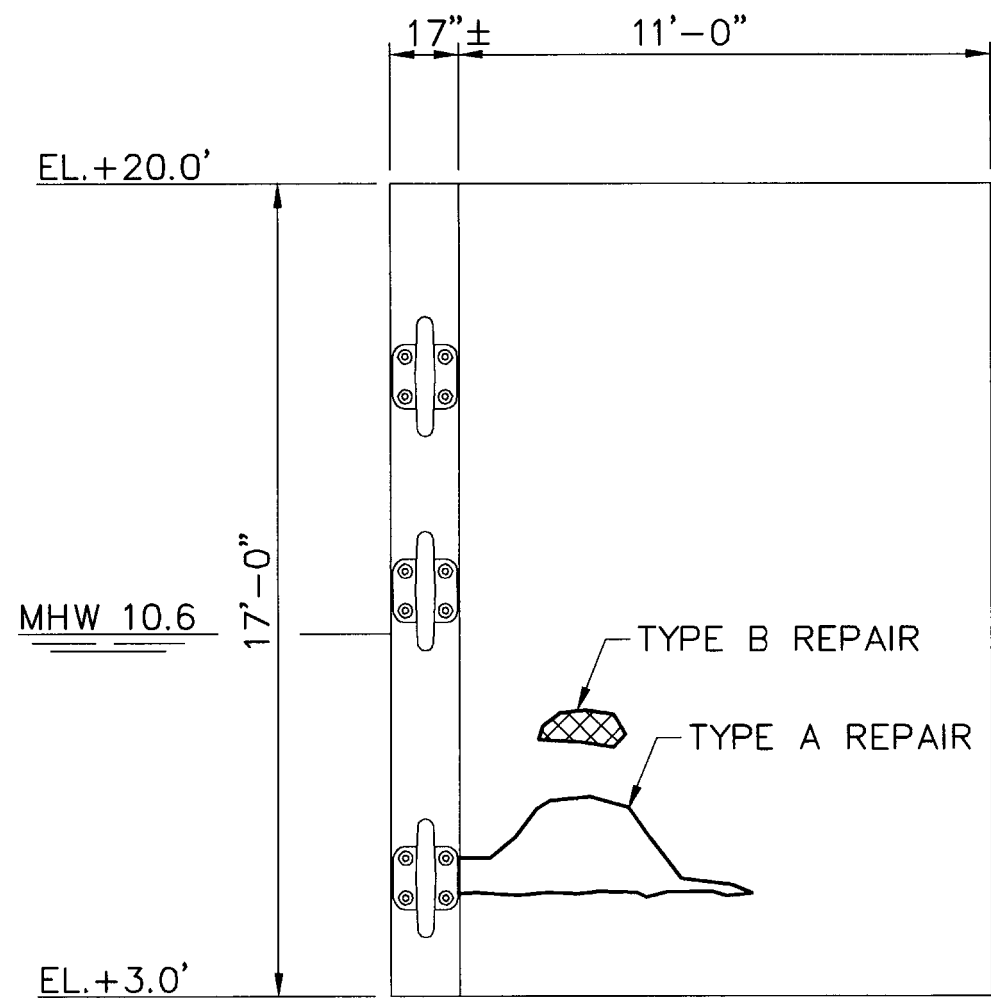
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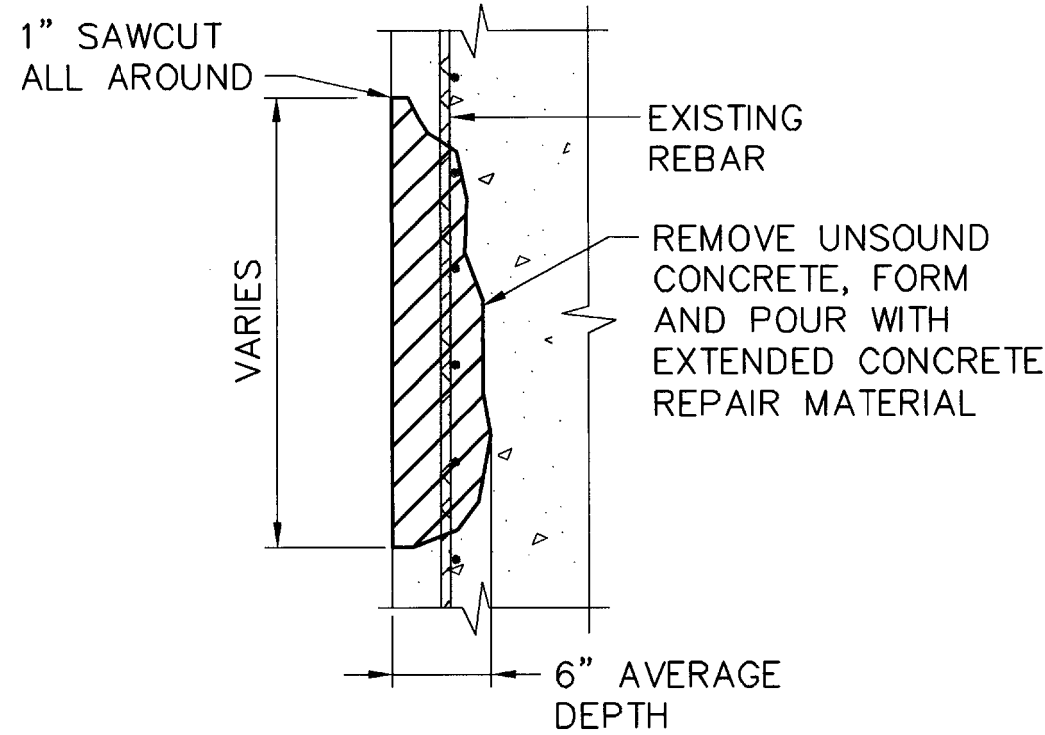
NOTE: EXISTING FENDER NOT SHOWN
WEST ELEVATION
SIDE DOLPHIN No. 2
SCALE: 1/4"=1'-0"



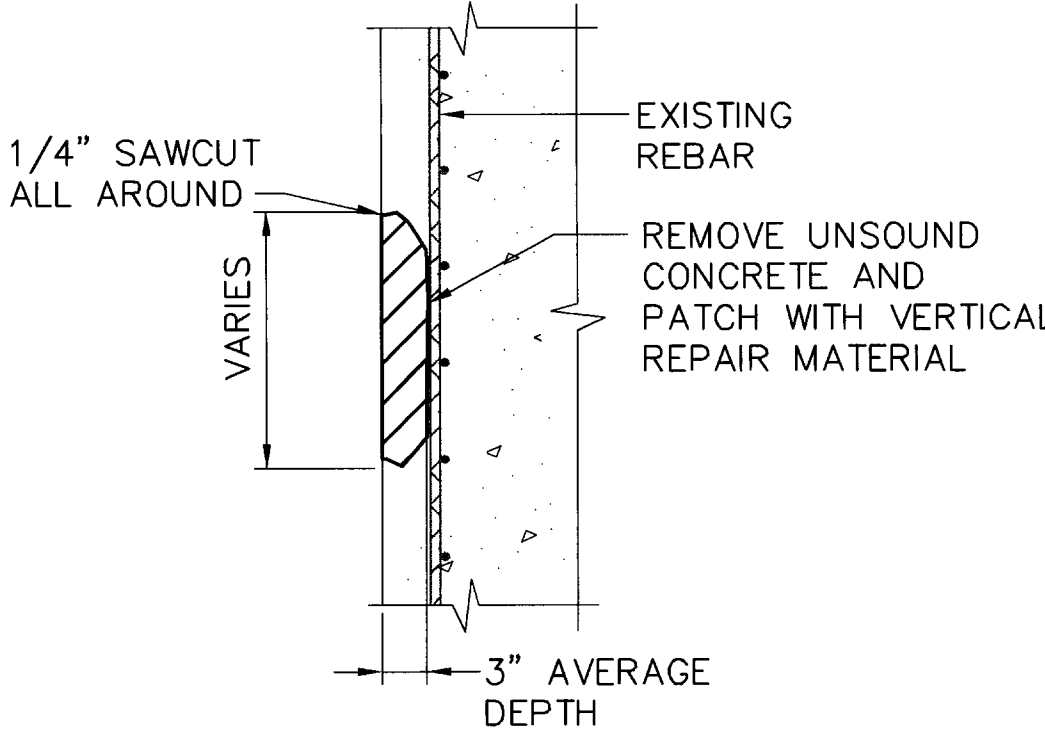
NORTH ELEVATION
SIDE DOLPHIN No. 2
SCALE: 1/4"=1'-0"



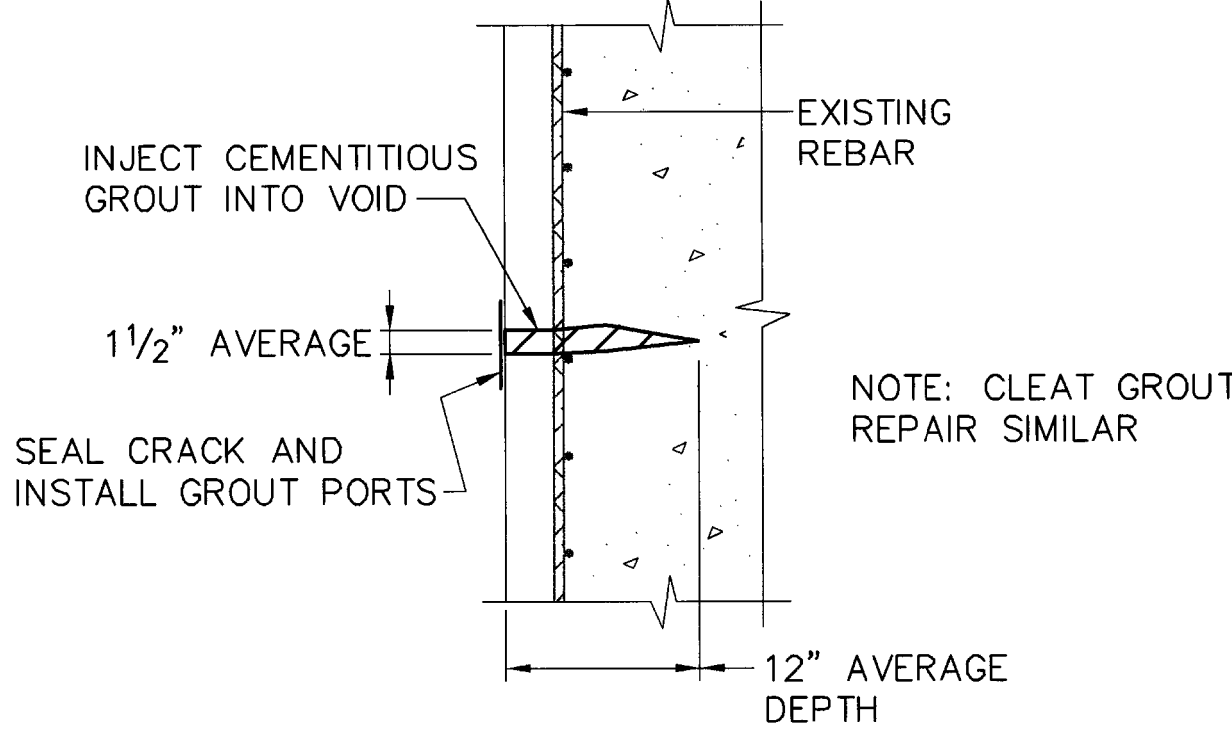
NORTH ELEVATION
BERTHING DOLPHIN No. 5
SCALE: 1/4"=1'-0"



SECTION
TYPE A REPAIR
SCALE: 1"=1'-0"



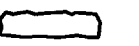
SECTION
TYPE B REPAIR
SCALE: 1"=1'-0"

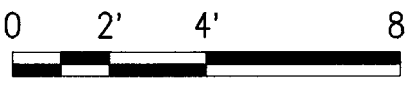


SECTION
TYPE C REPAIR
SCALE: 1"=1'-0"

CONCRETE REPAIR SCHEDULE				
	TYPE A SPALL REPAIR FORM & POUR	TYPE B SPALL REPAIR HAND PATCH	TYPE C CRACK REPAIR	GROUT CLEATS
LINCOLNVILLE	15 S.F.	20 S.F.	-	2 C.F.
ISLESBORO	12 S.F.	1 S.F.	10 L.F.	-

LEGEND:

- TYPE A REPAIR 
TYPE B REPAIR 
TYPE C REPAIR 

1/4" = 1'-0" 

FERRY TERMINALS
LINCOLNVILLE/ISLESBORO, MAINE
FENDER REPLACEMENT
ISLESBORO
CONCRETE REPAIR DETAILS

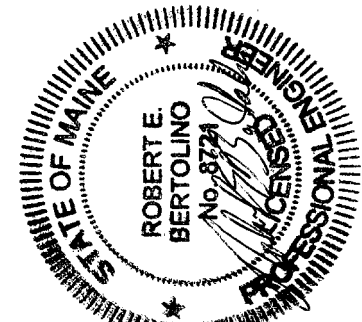
SHEET NUMBER

S5

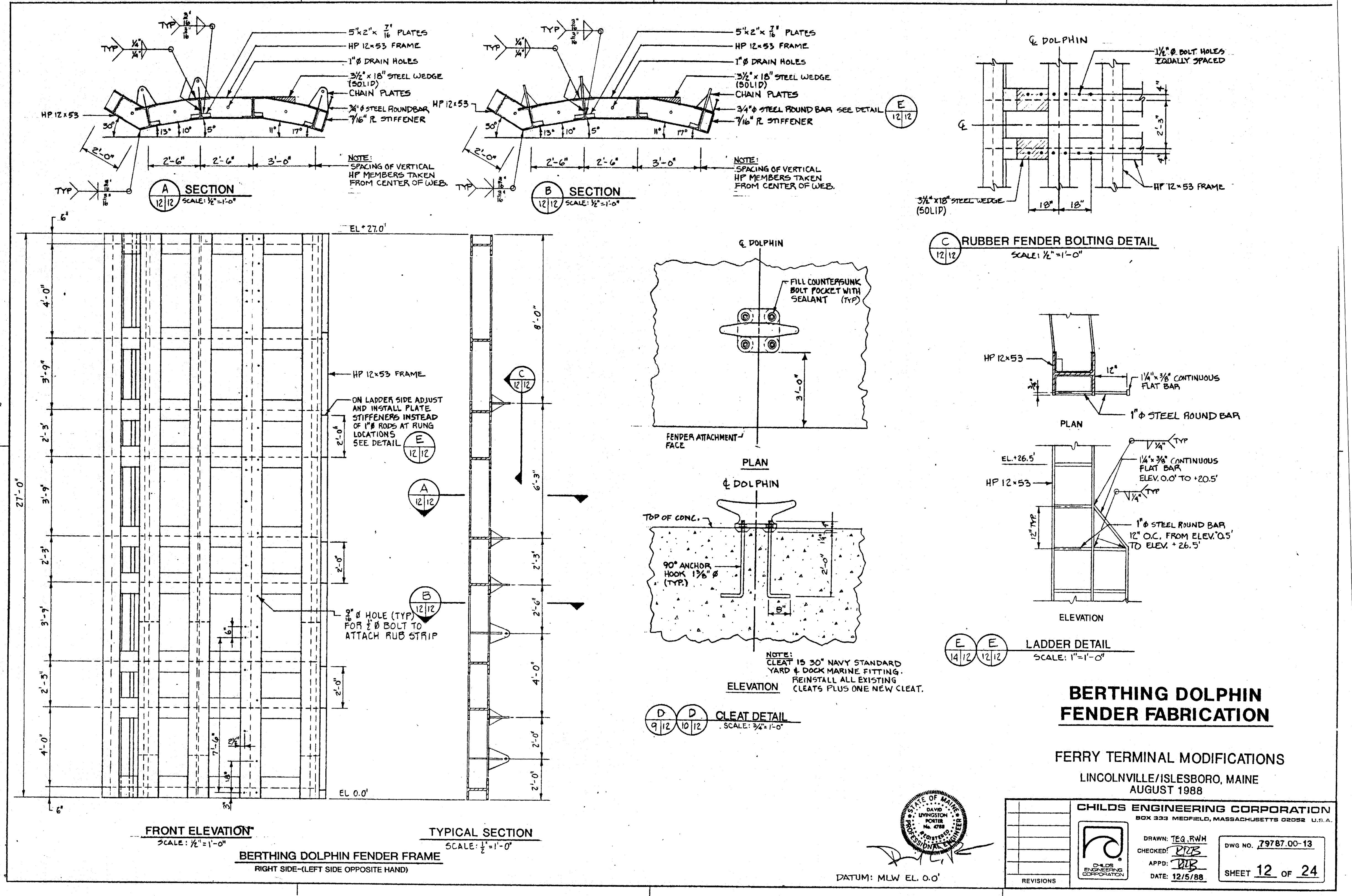
8 OF 12

PROJECT INFORMATION				
PROGRAM	PROJECT MANAGER	DESIGNER	CONSULTANT	CONTRACTOR

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER:
CHIEF ENGINEER:



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER:
CHIEF ENGINEER:



FERRY TERMINALS
LINCOLNVILLE/ISLESBORO, MAINE
FENDER REPLACEMENT

REFERENCE DRAWING 1

SHEET NUMBER

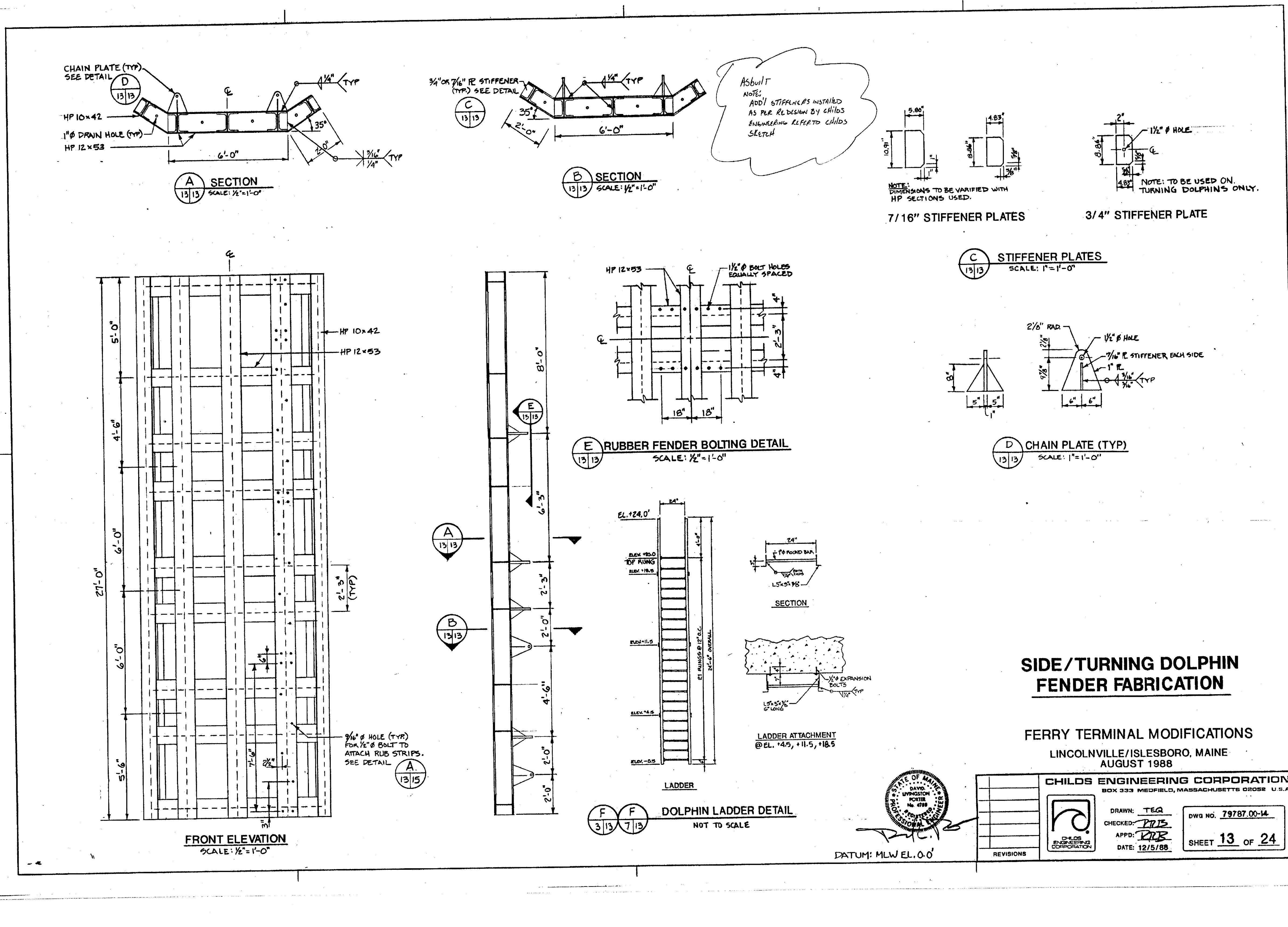
RD1

9 OF 12

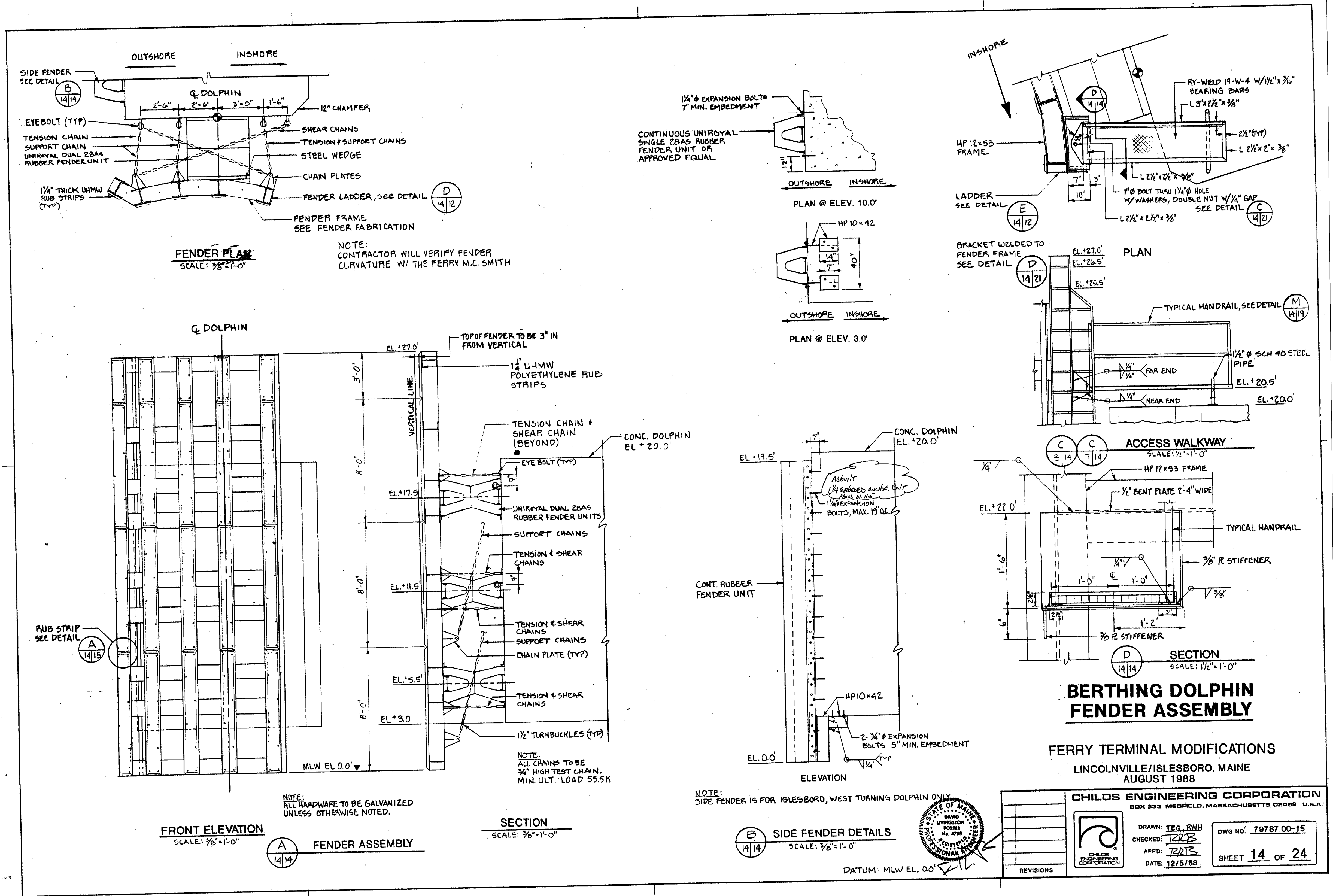
PROJECT INFORMATION		SIGNATURE	P.E. NUMBER
PROGRAM	PROJECT MANAGER		
DESIGNER	CONSULTANT		
PROJECT RESIDENT	CONTRACTOR		
PROJECT COMPLETION DATE			

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	COMMISSIONER:	CHIEF ENGINEER:

5/25/10



SHEET NUMBER RD2 10 OF 12	FERRY TERMINALS LINCOLNVILLE/ISLESBORO, MAINE FENDER REPLACEMENT		PROJECT INFORMATION PROGRAM _____ PROJECT MANAGER _____ DESIGNER _____ CONSULTANT _____ PROJECT RESIDENT _____ CONTRACTOR _____ PROJECT COMPLETION DATE _____		STATE OF MAINE DEPARTMENT OF TRANSPORTATION APPROVED _____ DATE _____ COMMISSIONER: _____ CHIEF ENGINEER: _____	
	REFERENCE DRAWING 2					



FERRY TERMINALS LINCOLNVILLE/ISLESBORO, MAINE FENDER REPLACEMENT REFERENCE DRAWING 3	PROJECT INFORMATION		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
	PROGRAM			
	PROJECT MANAGER	SIGNATURE		
	DESIGNER			
	CONSULTANT	P.E. NUMBER		
		PROJECT RESIDENT		COMMISSIONER: CHIEF ENGINEER:
		CONTRACTOR	DATE	
		PROJECT COMPLETION DATE	3/25/10	
SHEET NUMBER				
RD3				
11 OF 12				

