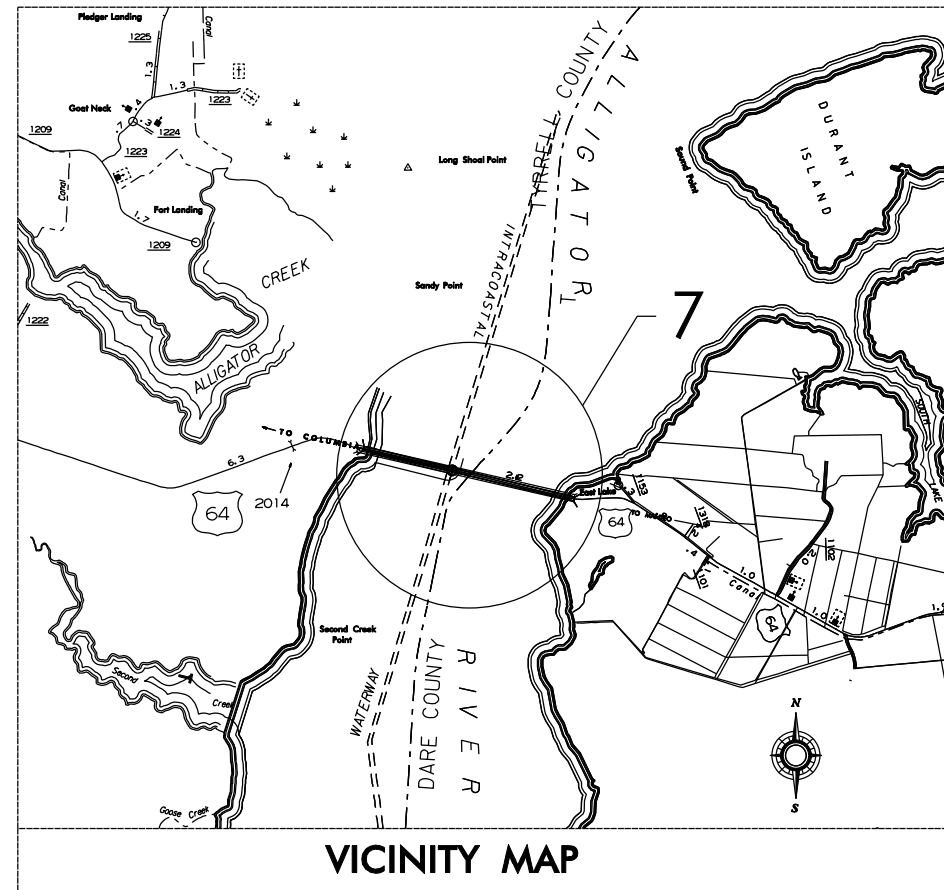


WBS NO. 41732.3 PROJECT # F-880007



VICINITY MAP

TO COLUMBIA

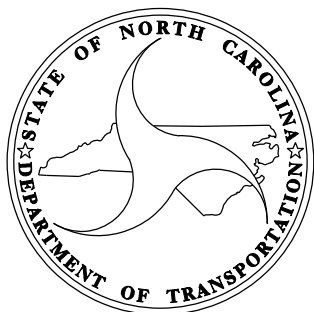
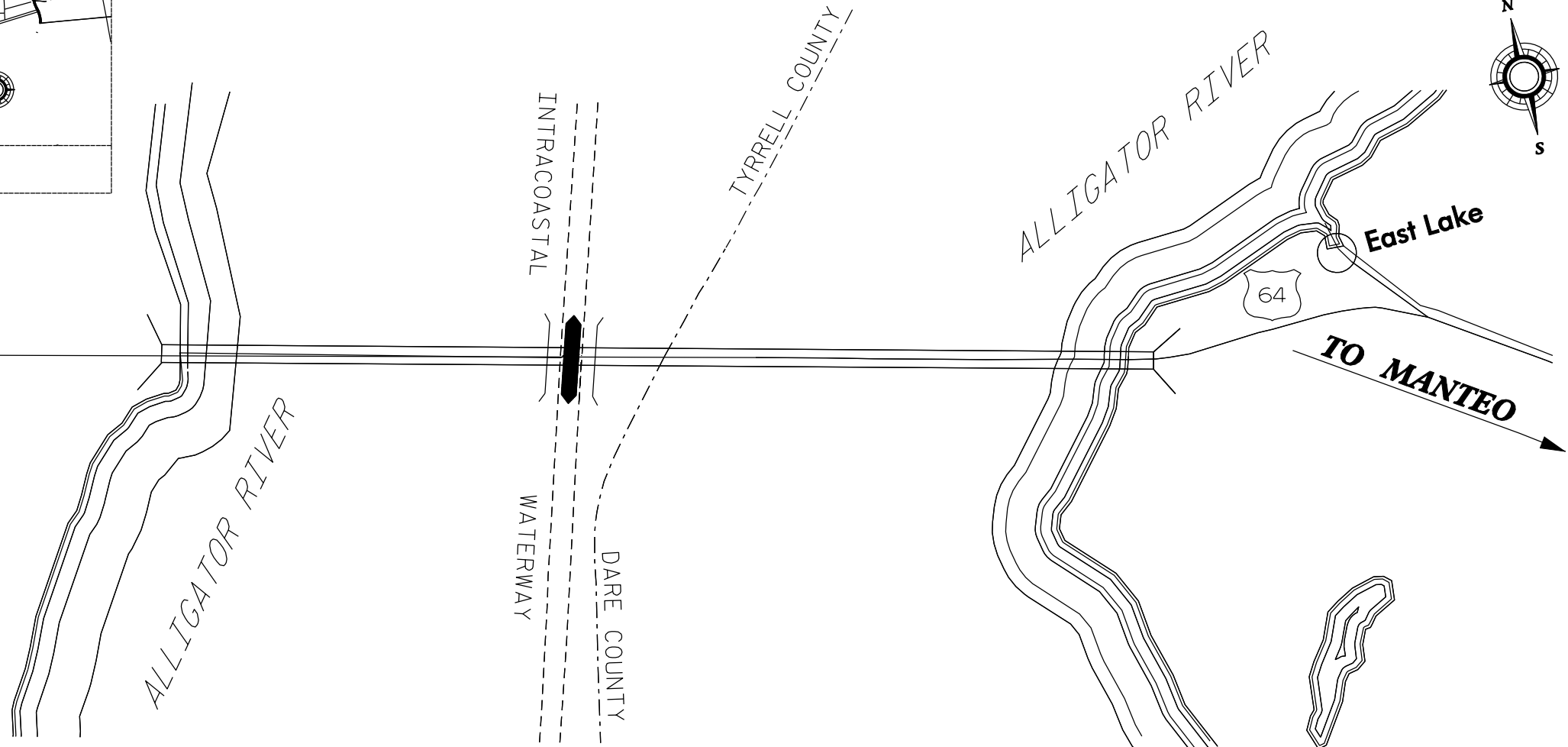
INDEX OF SHEETS

1

S1 THRU S10

TITLE SHEET

STRUCTURE PLANS



DESIGN DATA

PROJECT DATA

BRIDGE CONSISTS OF 291 SPANS @ VARIOUS LENGTHS AND 2 SPANS @ 131'. 289 BENTS, 2 REST BENTS, END BENT #1 AND SEA WALL @ END BENT #2

BRIDGE LENGTH IN TYRRELL COUNTY = APPROX. 1.43 MILES
BRIDGE LENGTH IN DARE COUNTY = APPROX. 1.40 MILES
TOTAL BRIDGE LENGTH = APPROX. 2.83 MILES

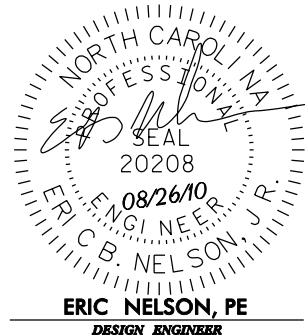
Prepared in the Office of:

DIVISION OF BRIDGE MANAGEMENT

2006 STANDARD SPECIFICATIONS

LETTING DATE: 01/21/2011

DAN HOLDERMAN, PE
PROJECT ENGINEER



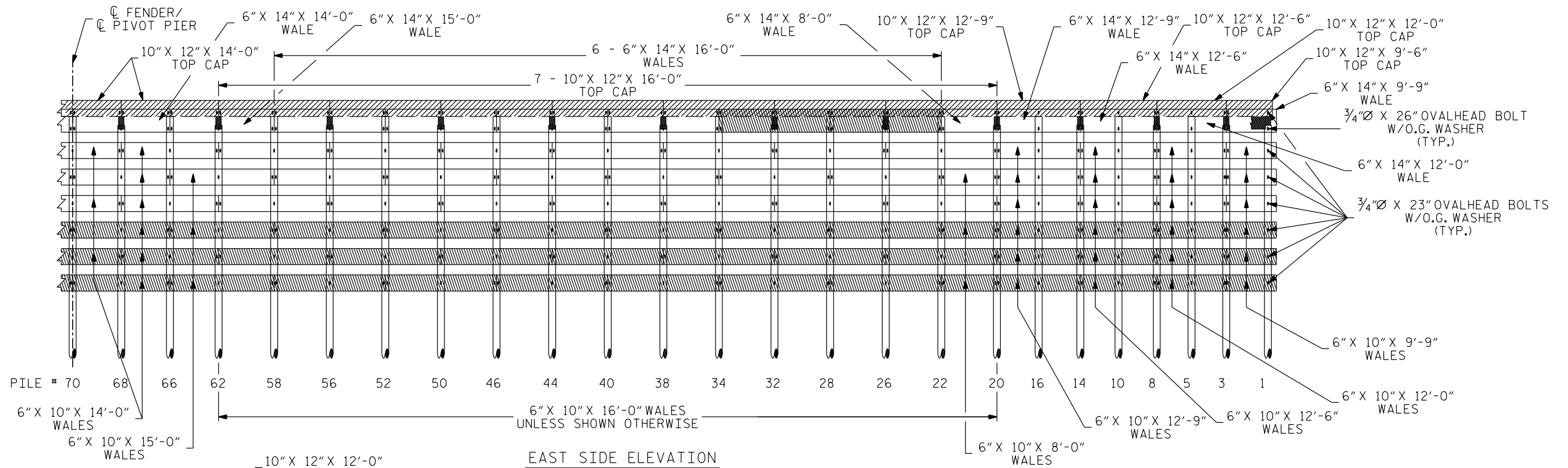
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N.C.	WBS 41732.3	1	11
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41732.3		PE	
41732.3		CONST	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

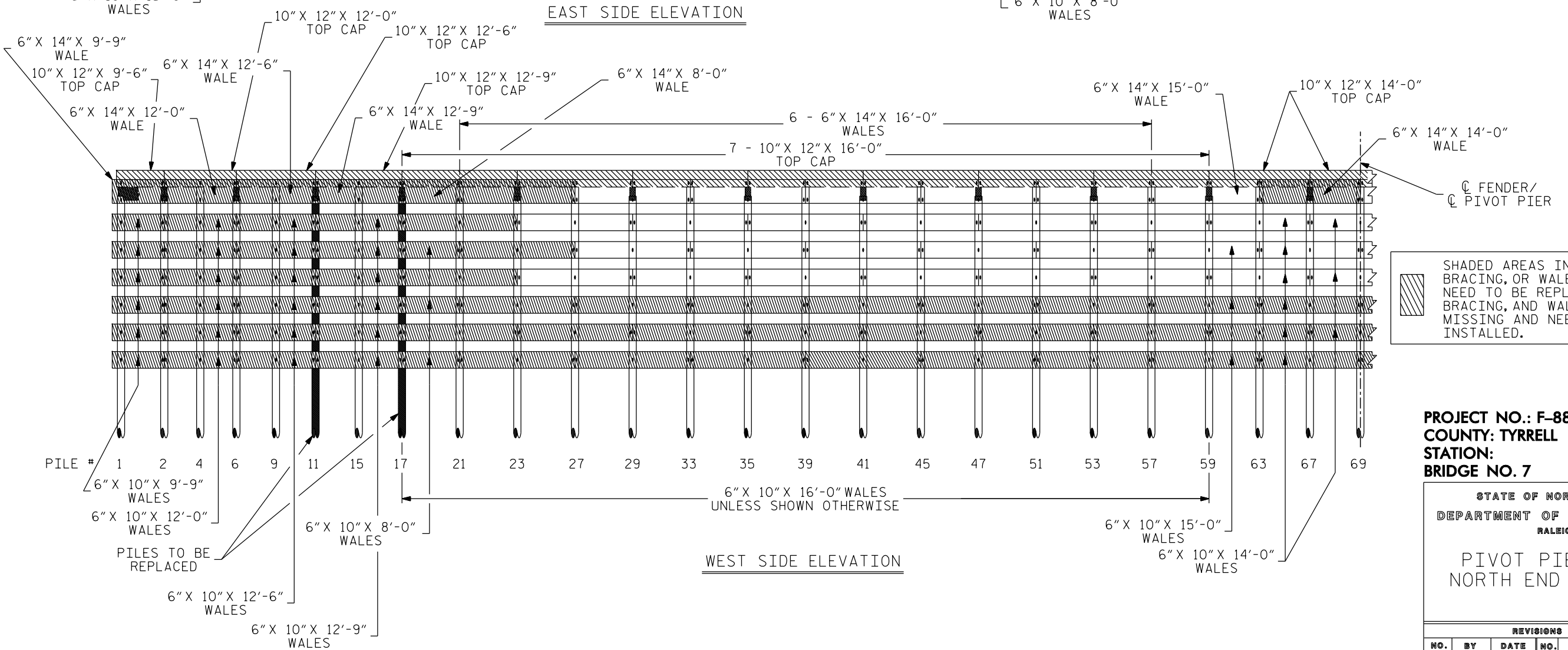
TYRRELL COUNTY

LOCATION: BRIDGE #7, ON US 64, OVER THE ALLIGATOR RIVER.

TYPE OF WORK: FENDER PRESERVATION (REPAIRS TO PIVOT PIER FENDER, REST PIER FENDERS, CAPS, BRACING, AND WALES.)



EAST SIDE ELEVATION



WEST SIDE ELEVATION

DRAWN BY: R. PUTTEK DATE: SEP. 2009
CHECKED BY: A. ABRAHA DATE: JUN. 2010

NOTE: NOT TO SCALE

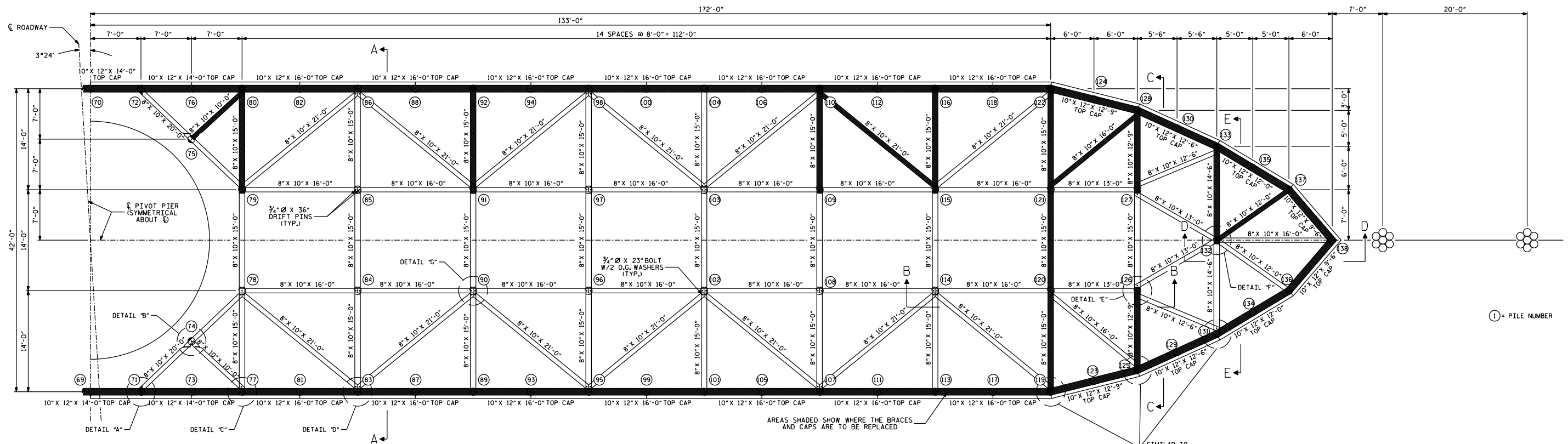
PROJECT NO.: F-880007
COUNTY: TYRRELL
STATION:
BRIDGE NO. 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

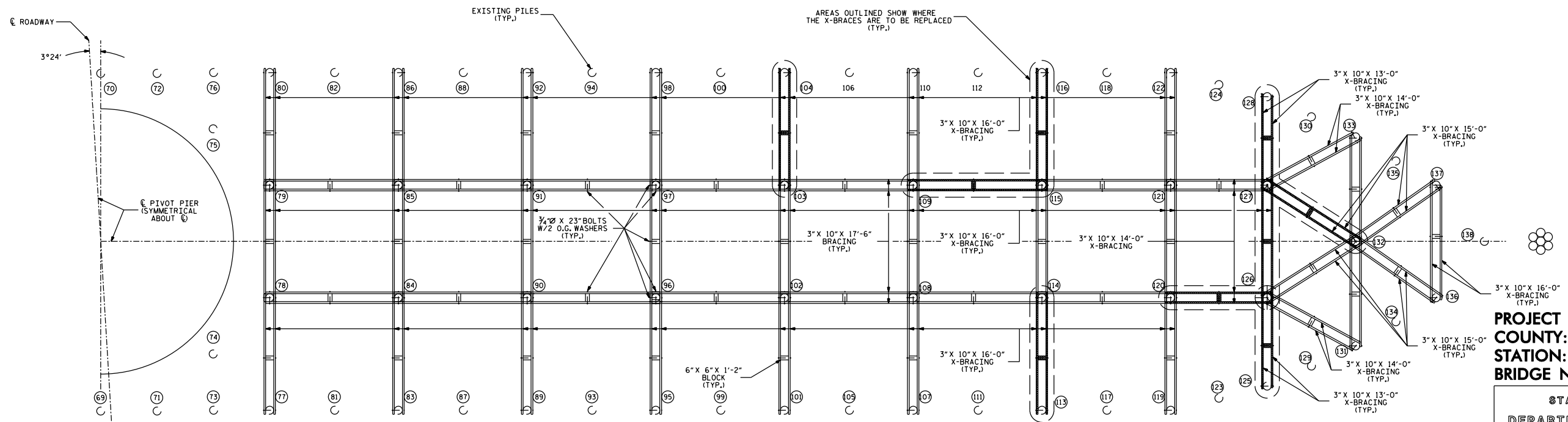
PIVOT PIER FENDER
NORTH END ELEVATION

REVISIONS						SHEET NO. S2
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS S10
2			4			

*****SYTIME***** *****DCN*****



PLAN VIEW
(8" X 10" BRACING)



PLAN VIEW
(3" X 10" X-BRACING)

PROJECT NO.: F-880007
COUNTY: TYRRELL
STATION:
BRIDGE NO. 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PIVOT PIER FENDER
SOUTH END
PLAN VIEW

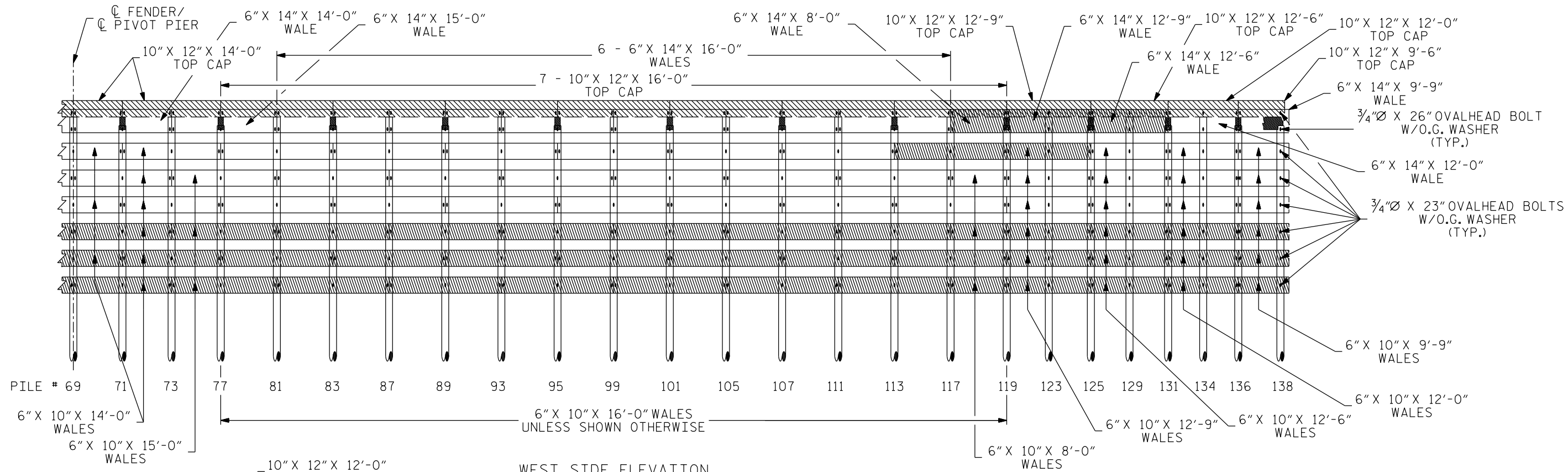
SHADED AREAS INDICATE CAPS, BRACING, OR WALES THAT EITHER NEED TO BE REPLACED OR CAPS, BRACING, AND WALES THAT ARE MISSING AND NEED TO BE INSTALLED.

NOTE: NOT TO SCALE

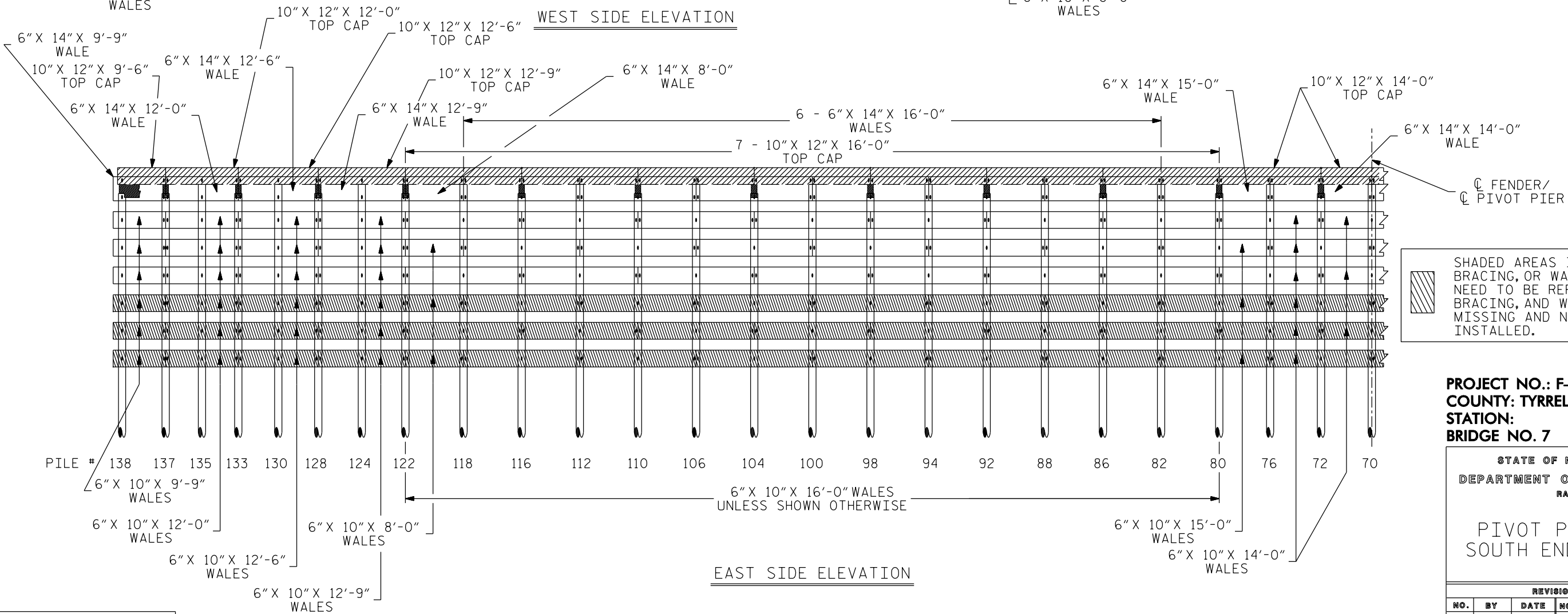
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CHECKED BY: A. ABRAHA DATE: JUN. 2010

REVISIONS						SHEET NO. S3	TOTAL SHEETS S10
NO.	BY	DATE	NO.	BY	DATE		
1			3				
2			4				

*****SYTIME***** *****DCN*****



WEST SIDE ELEVATION



EAST SIDE ELEVATION

SHADED AREAS INDICATE CAPS, BRACING, OR WALES THAT EITHER NEED TO BE REPLACED OR CAPS, BRACING, AND WALES THAT ARE MISSING AND NEED TO BE INSTALLED.

PROJECT NO.: F-880007
COUNTY: TYRRELL
STATION:
BRIDGE NO. 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

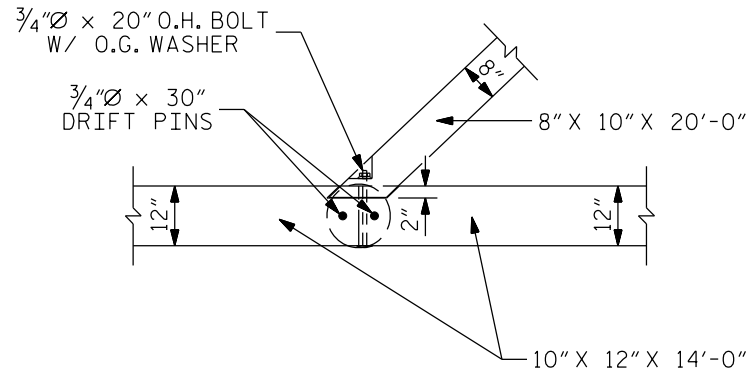
PIVOT PIER FENDER
SOUTH END ELEVATION

REVISIONS						SHEET NO. S4	TOTAL SHEETS S10
NO.	BY	DATE	NO.	BY	DATE		
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2			4				

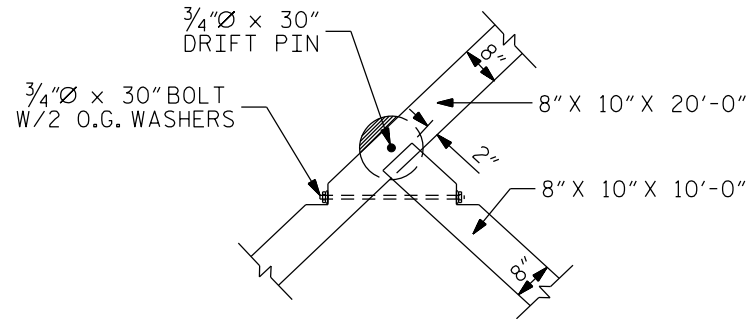
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CHECKED BY: A. ABRAHA DATE: JUN. 2010

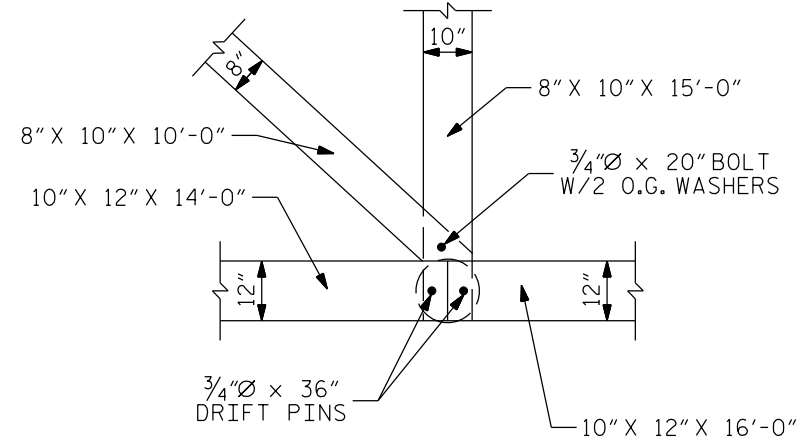
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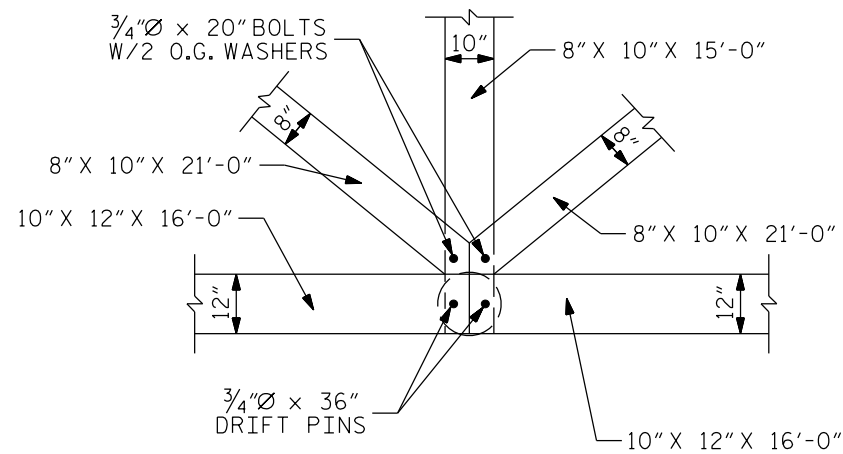
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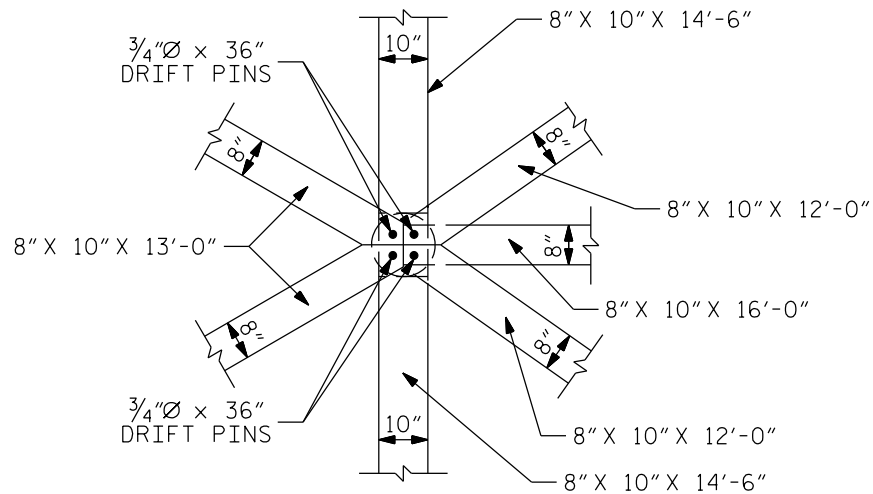
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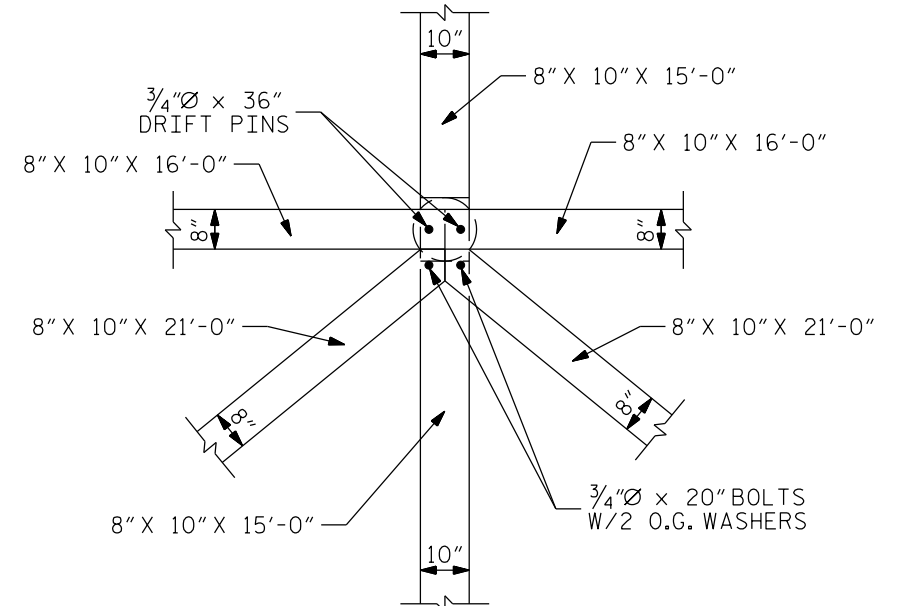
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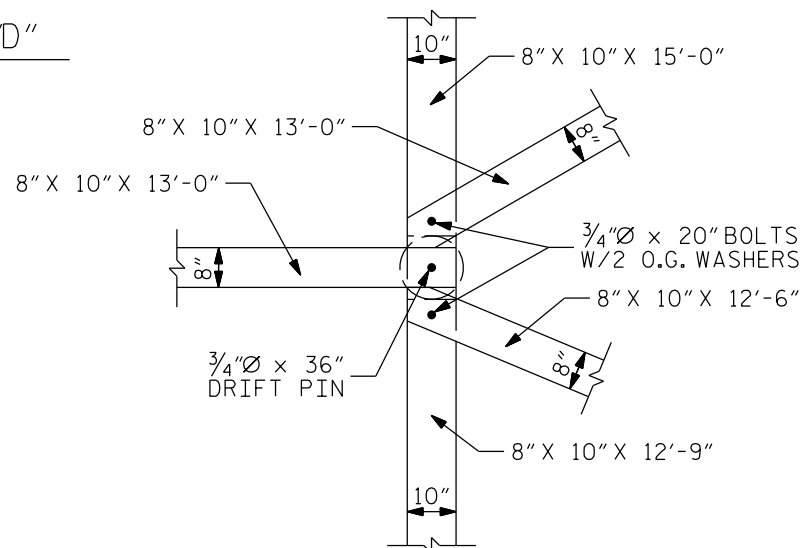
DETAIL "D"



DETAIL "E"



DETAIL "F"



DETAIL "G"

PROJECT NO.: F-880007
COUNTY: TYRRELL
STATION:
BRIDGE NO. 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

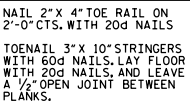
PIVOT PIER
FENDER
DETAILS

REVISIONS						SHEET NO. S5
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS S10
2			4			

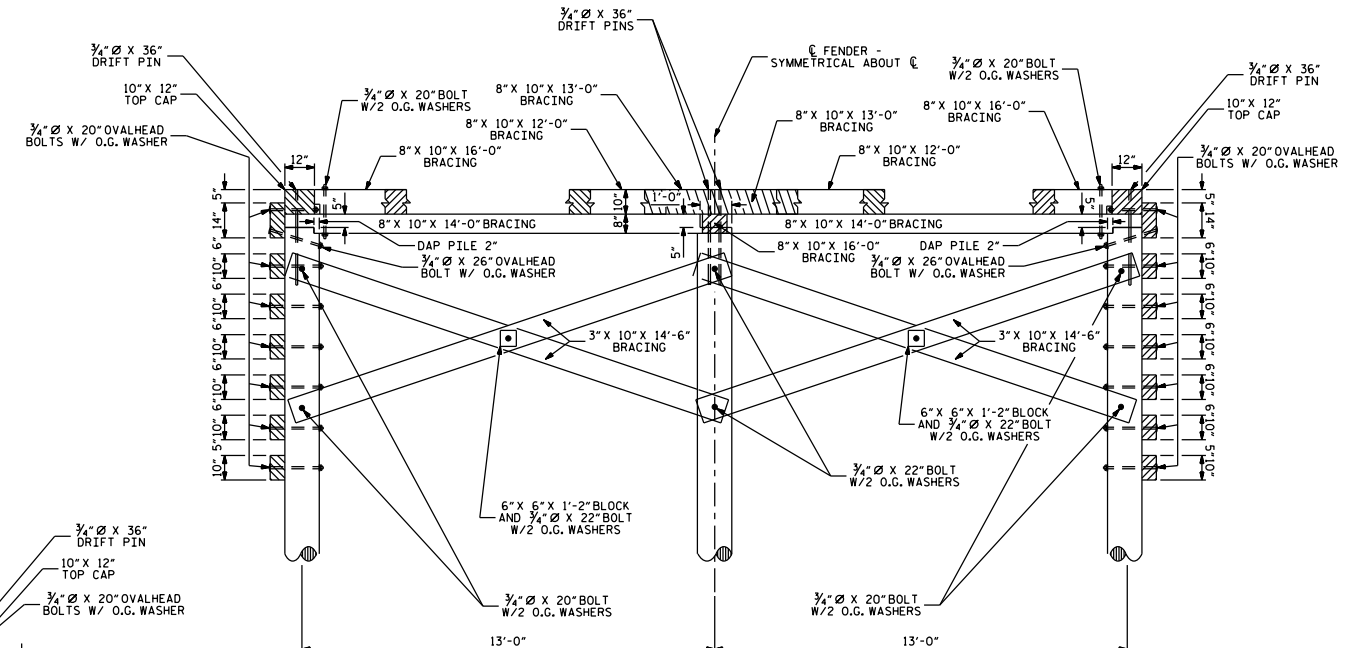
NOTE: NOT TO SCALE

DRAWN BY: R. PUTK DATE: FEB. 2010
CHECKED BY: A. ABRAHA DATE: JUN. 2010

*****SYSTEM***** *****DCN*****

[illegible]

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#####SYSTIME#####DCN#####
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REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S6
1			3			TOTAL SHEET
2			4			\$10

NOTE: NOT TO SCALE

BILL OF MATERIAL						
FOR NORTH END PIVOT PIER FENDER						
TREATED LUMBER						
ITEM	NO.	SIZE	LENGTH	LIN. FT.	SURFACE TO	BRD. FT.
CAP	2	10" X 12"	9'-6"	19'-0"	9½" X 11¼"	169.21
CAP	2	10" X 12"	12'-0"	24'-0"	9½" X 11¼"	213.75
CAP	2	10" X 12"	12'-6"	25'-0"	9½" X 11¼"	222.66
CAP	2	10" X 12"	12'-9"	25'-6"	9½" X 11¼"	227.11
CAP	2	10" X 12"	14'-0"	28'-0"	9½" X 11¼"	249.38
CAP	14	10" X 12"	16'-0"	224'-0"	9½" X 11¼"	1995.00
BRACING	0	8" X 10"	10'-0"	N/A	N/A	N/A
BRACING	0	8" X 10"	12'-0"	N/A	N/A	N/A
BRACING	1	8" X 10"	12'-6"	12'-6"	7½" X 9¼"	72.27
BRACING	2	8" X 10"	12'-9"	25'-6"	7½" X 9¼"	147.42
BRACING	1	8" X 10"	13'-0"	13'-0"	7½" X 9¼"	75.16
BRACING	1	8" X 10"	14'-6"	14'-6"	7½" X 9¼"	83.83
BRACING	10	8" X 10"	15'-0"	150'-0"	7½" X 9¼"	867.21
BRACING	8	8" X 10"	16'-0"	128'-0"	7½" X 9¼"	740.00
BRACING	0	8" X 10"	20'-0"	N/A	N/A	N/A
BRACING	2	8" X 10"	21'-0"	42'-0"	7½" X 9¼"	242.81
X-BRACING	4	3" X 10"	13'-0"	52'-0"	2½" X 9¼"	100.21
X-BRACING	2	3" X 10"	14'-0"	28'-0"	2½" X 9¼"	53.96
X-BRACING	0	3" X 10"	15'-0"	N/A	N/A	N/A
X-BRACING	11	3" X 10"	16'-0"	176'-0"	2½" X 9¼"	339.17
X-BRACING	0	3" X 10"	17'-6"	N/A	N/A	N/A
WALES	1	6" X 14"	8'-0"	8'-0"	5½" X 13¼"	48.58
WALES	1	6" X 14"	9'-9"	9'-9"	5½" X 13¼"	59.21
WALES	1	6" X 14"	12'-0"	12'-0"	5½" X 13¼"	72.88
WALES	1	6" X 14"	12'-6"	12'-6"	5½" X 13¼"	75.91
WALES	1	6" X 14"	12'-9"	12'-9"	5½" X 13¼"	77.43
WALES	1	6" X 14"	14'-0"	14'-0"	5½" X 13¼"	85.02
WALES	0	6" X 14"	15'-0"	N/A	N/A	N/A
WALES	3	6" X 14"	16'-0"	48'-0"	5½" X 13¼"	291.50
WALES	5	6" X 10"	8'-0"	40'-0"	5½" X 9¼"	169.58
WALES	9	6" X 10"	9'-9"	87'-9"	5½" X 9¼"	372.02
WALES	9	6" X 10"	12'-0"	108'-0"	5½" X 9¼"	457.88
WALES	9	6" X 10"	12'-6"	112'-6"	5½" X 9¼"	476.95
WALES	9	6" X 10"	12'-9"	114'-9"	5½" X 9¼"	486.49
WALES	7	6" X 10"	14'-0"	98'-0"	5½" X 9¼"	415.48
WALES	4	6" X 10"	15'-0"	60'-0"	5½" X 9¼"	254.38
WALES	41	6" X 10"	16'-0"	656'-0"	5½" X 9¼"	2781.17
FILLER BLOCK	8	6" X 6"	1'-2"	9'-4"	5½" X 5½"	23.52
TREATED LUMBER - TOTAL BOARD FEET = 11896.80						
TREATED TIMBER PILES						
ITEM	NO.	SIZE	LENGTH	LIN. FT.		
PILES	3	14" Ø	50'-0"	150'-0"		
TREATED TIMBER PILES - TOTAL LIN. FT. = 150'-0"						
HARDWARE						
ITEM	NO.	SIZE	LENGTH	WEIGHT	LIN. FT.	
O. H. BOLTS	384	¾" Ø	23"	1455.5		
O. H. BOLTS	29	¾" Ø	26"	121.3		
STUD BOLTS	40	¾" Ø	20"	103.0		
STUD BOLTS	21	¾" Ø	22"	59.5		
O. G. WASHERS	535	¾" Ø	-	533.7		
DRIFT PINS	94	¾" Ø	36"	423.6		
DRIFT PINS	4	¾" Ø	30"	15.0		
WIRE ROPE	1	¾" Ø	50'-0"	-	50'-0"	
CABLE CLAMPS	2	¾"	-	1.5		
STAPLES	48	⅝"	5"	24.0		
HARDWARE - TOTAL LBS. = 2737.1 TOTAL LIN FT. = 50'-0"						
DRAWN BY: R.PUTEK DATE: APR. 2010 CHECKED BY: A.ABRAHA DATE: JUL. 2010						

*****SYSTM***** *****DCN*****

BILL OF MATERIAL						
FOR SOUTH END PIVOT PIER FENDER						
TREATED LUMBER						
ITEM	NO.	SIZE	LENGTH	LIN. FT.	SURFACE TO	BRD. FT.
CAP	2	10" X 12"	9'-6"	19'-0"	9½" X 11¼"	169.21
CAP	2	10" X 12"	12'-0"	24'-0"	9½" X 11¼"	213.75
CAP	2	10" X 12"	12'-6"	25'-0"	9½" X 11¼"	222.66
CAP	2	10" X 12"	12'-9"	25'-6"	9½" X 11¼"	227.11
CAP	4	10" X 12"	14'-0"	56'-0"	9½" X 11¼"	498.75
CAP	14	10" X 12"	16'-0"	224'-0"	9½" X 11¼"	1995.00
BRACING	1	8" X 10"	10'-0"	10'-0"	7½" X 9¼"	57.82
BRACING	1	8" X 10"	12'-0"	12'-0"	7½" X 9¼"	69.38
BRACING	0	8" X 10"	12'-6"	N/A	N/A	N/A
BRACING	2	8" X 10"	12'-9"	25'-6"	7½" X 9¼"	147.42
BRACING	0	8" X 10"	13'-0"	N/A	N/A	N/A
BRACING	1	8" X 10"	14'-6"	14'-6"	7½" X 9¼"	83.83
BRACING	6	8" X 10"	15'-0"	90'-0"	7½" X 9¼"	520.31
BRACING	2	8" X 10"	16'-0"	32'-0"	7½" X 9¼"	185.00
BRACING	0	8" X 10"	20'-0"	N/A	N/A	N/A
BRACING	1	8" X 10"	21'-0"	21'-0"	7½" X 9¼"	121.41
X-BRACING	4	3" X 10"	13'-0"	52'-0"	2½" X 9¼"	100.21
X-BRACING	2	3" X 10"	14'-0"	28'-0"	2½" X 9¼"	53.96
X-BRACING	2	3" X 10"	15'-0"	30'-0"	2½" X 9¼"	57.81
X-BRACING	8	3" X 10"	16'-0"	128'-0"	2½" X 9¼"	246.67
X-BRACING	2	3" X 10"	17'-6"	35'-0"	2½" X 9¼"	67.45
WALES	1	6" X 14"	8'-0"	8'-0"	5½" X 13¼"	48.58
WALES	0	6" X 14"	9'-9"	N/A	N/A	N/A
WALES	1	6" X 14"	12'-0"	12'-0"	5½" X 13¼"	72.88
WALES	1	6" X 14"	12'-6"	12'-6"	5½" X 13¼"	75.91
WALES	1	6" X 14"	12'-9"	12'-9"	5½" X 13¼"	77.43
WALES	0	6" X 14"	14'-0"	N/A	N/A	N/A
WALES	0	6" X 14"	15'-0"	N/A	N/A	N/A
WALES	0	6" X 14"	16'-0"	N/A	N/A	N/A
WALES	4	6" X 10"	8'-0"	32'-0"	5½" X 9¼"	135.67
WALES	6	6" X 10"	9'-9"	58'-6"	5½" X 9¼"	248.02
WALES	6	6" X 10"	12'-0"	72'-0"	5½" X 9¼"	305.25
WALES	6	6" X 10"	12'-6"	75'-0"	5½" X 9¼"	317.97
WALES	6	6" X 10"	12'-9"	76'-6"	5½" X 9¼"	324.33
WALES	7	6" X 10"	14'-0"	112'-0"	5½" X 9¼"	415.48
WALES	4	6" X 10"	15'-0"	60'-0"	5½" X 9¼"	254.38
WALES	39	6" X 10"	16'-0"	624'-0"	5½" X 9¼"	2645.50
FILLER BLOCK	9	6" X 6"	1'-2"	10'-6"	5½" X 5½"	26.47
TREATED LUMBER - TOTAL BOARD FEET = 9985.62						
TREATED TIMBER PILES						
ITEM	NO.	SIZE	LENGTH	LIN. FT.		
PILES	0	14" Ø	N/A	N/A		
TREATED TIMBER PILES - TOTAL LIN. FT. = N/A						
HARDWARE						
ITEM	NO.	SIZE	LENGTH	WEIGHT		
O. H. BOLTS	328	¾" Ø	23"	1243.3		
O. H. BOLTS	10	¾" Ø	26"	41.8		
STUD BOLTS	34	¾" Ø	20"	89.3		
STUD BOLTS	29	¾" Ø	22"	82.1		
STUD BOLTS	1	¾" Ø	30"	4.8		
O. G. WASHERS	466	¾" Ø	-	464.8		
DRIFT PINS	76	¾" Ø	36"	491.2		
DRIFT PINS	6	¾" Ø	30"	22.5		
HARDWARE - TOTAL LBS. = 2439.8						

GENERAL NOTES:
TIMBER PILES SHALL BE SOUTHERN PINE AND MEET THE REQUIREMENTS OF ASTM D-25 AND SECTION 1082 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, DATED JULY 2006.
TIMBER PILES SHALL BE CCA TREATED IN ACCORDANCE WITH AWPA C-14 STANDARDS. AMOUNT OF TREATMENT SHALL BE 2.5* pcf.
EXISTING TIMBER PILES SHOWN THAT ARE TO BE REPLACED, SHALL BE REMOVED.
STRUCTURAL LUMBER SHALL MEET THE REQUIREMENTS OF SECTION 1082 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, DATED JULY 2006.
ALL STRUCTURAL LUMBER SHALL BE S4S AND TREATED WITH 0.6* pcf CCA IN ACCORDANCE WITH AWPA C-14 STANDARDS. REPLACEMENT MATERIALS SHALL BE NEW.
LENGTHS OF TIMBERS SHOWN ALLOWS FOR CUTS.
BOLT LENGTHS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LENGTH IN THE FIELD.
¾"DIAMETER O.H.BOLTS WITH 3"MINIMUM DIAMETER HEADS SHALL BE USED.
BOLTS SHALL BE ASTM A307, AND HOT DIPPED GALVANIZED.
THE EXISTING FENDER SYSTEM IS TO BE REMOVED AND PROPERLY DISPOSED OF AS NECESSARY TO CLEAR PROPOSED CONSTRUCTION. THE COST FOR THIS WORK IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE SEVERAL PAY ITEMS.
CAPS, BRACING, WALES, AND OTHER MATERIAL THAT NEEDS TO BE REMOVED IN ORDER TO REPAIR, INSTALL, OR REPLACE CAPS, BRACING, AND WALES MAY BE CUT, AND RE-USED IN OTHER AREAS WITH THE APPROVAL OF THE ENGINEER.
ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED.

SHADED AREAS INDICATE CAPS, BRACING, OR WALES THAT EITHER NEED TO BE REPLACED OR CAPS, BRACING, AND WALES THAT ARE MISSING AND NEED TO BE INSTALLED.

PROJECT NO.: F-880007
COUNTY: TYRRELL
STATION:
BRIDGE NO. 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PIVOT PIER
BILL OF MATERIALS
AND GENERAL NOTES

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO.
S7

TOTAL SHEETS
S10

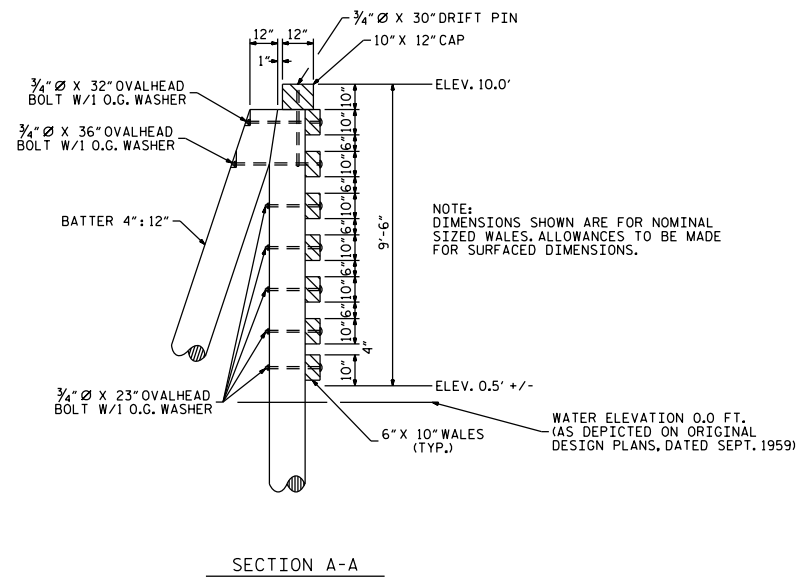


Diagram illustrating the Pile Replacement Location for the West Fender North End, South Dolphin. The diagram shows a series of piles numbered 1 through 13, with dimensions indicating the spacing and replacement lengths.

Dimensions (from left to right):

- 5'-6"
- 5'-6"
- 5'-6"
- 5'-6"
- 6'-0"
- 7'-0"
- 20'-0"

Vertical dimensions (from bottom to top):

- 3'-0"
- 5'-0"
- 6'-0"
- 14'-0"

Notes:

- NORTH EASTERN PILE TO BE REPLACED
- LASH PILES WITH 4 TURNS OF $\frac{3}{4}$ " GALVANIZED CABLE, AND SECURE WITH $\frac{3}{8}$ " STAPLES, AND 2 CABLE CLAMPS.
- BATTER OUTSIDE PILES $1\frac{1}{2}$ " : 12"

BILL OF MATERIAL FOR EASTERN REST FENDER TREATED LUMBER						
ITEM	NO.	SIZE	LENGTH	LIN. FT.	SURFACE TO	BRO. FT.
CAP	0	10" X 12"	6'-0"	N/A	9 1/2" X 11 1/4"	N/A
CAP	0	10" X 12"	9'-3"	N/A	9 1/2" X 11 1/4"	N/A
CAP	1	10" X 12"	11'-9"	11'-9"	9 1/2" X 11 1/4"	104.65
CAP	2	10" X 12"	12'-3"	24'-6"	9 1/2" X 11 1/4"	218.20
CAP	0	10" X 12"	13'-0"	N/A	9 1/2" X 11 1/4"	N/A
CAP	0	10" X 12"	16'-0"	N/A	9 1/2" X 11 1/4"	N/A
WALES	2	6" X 10"	6'-0"	12'-0"	5 1/2" X 9 1/4"	50.88
WALES	7	6" X 10"	8'-0"	56'-0"	5 1/2" X 9 1/4"	237.42
WALES	6	6" X 10"	9'-3"	55'-6"	5 1/2" X 9 1/4"	235.30
WALES	6	6" X 10"	11'-9"	70'-6"	5 1/2" X 9 1/4"	298.89
WALES	6	6" X 10"	12'-3"	73'-6"	5 1/2" X 9 1/4"	311.61
WALES	2	6" X 10"	13'-0"	26'-0"	5 1/2" X 9 1/4"	110.23
WALES	2	6" X 10"	14'-6"	29'-0"	5 1/2" X 9 1/4"	122.95
WALES	46	6" X 10"	16'-0"	736'-0"	5 1/2" X 9 1/4"	3120.33
WALES	2	6" X 10"	19'-0"	38'-0"	5 1/2" X 9 1/4"	161.10

TREATED LUMBER - TOTAL BOARD FEET = 4848.61

TREATED TIMBER PILES					
ITEM	NO.	SIZE	LENGTH	LIN. FT.	
PILES	1	14" Ø	50'-0"	50'-0"	

TREATED TIMBER PILES - TOTAL LIN. FT. = 50'-0"

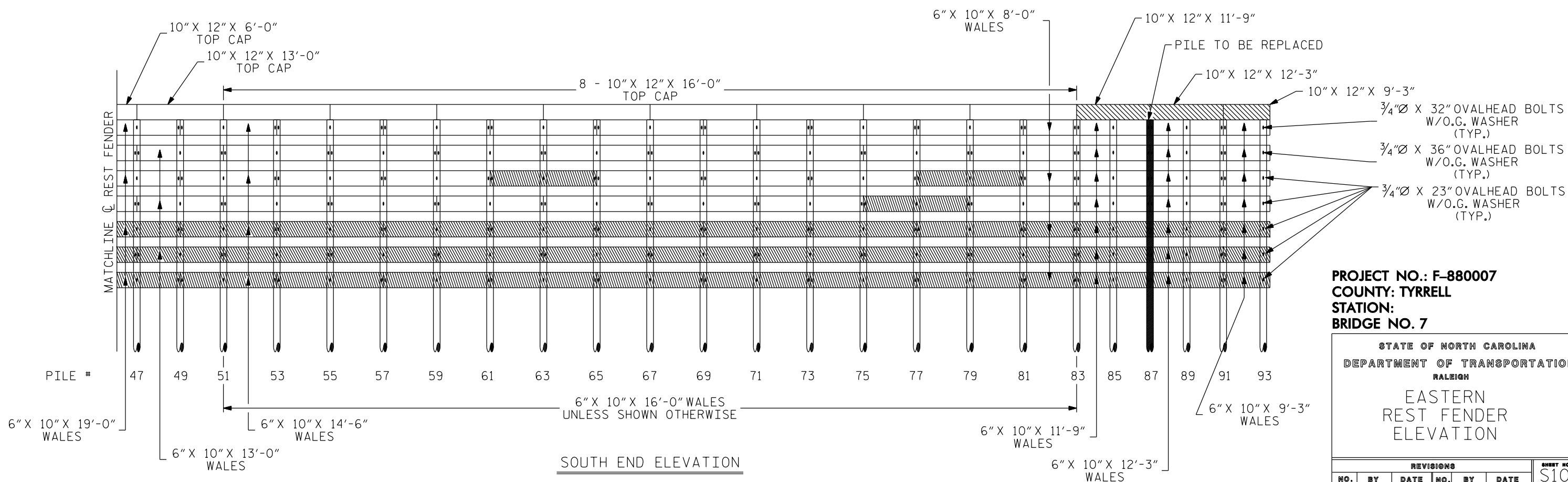
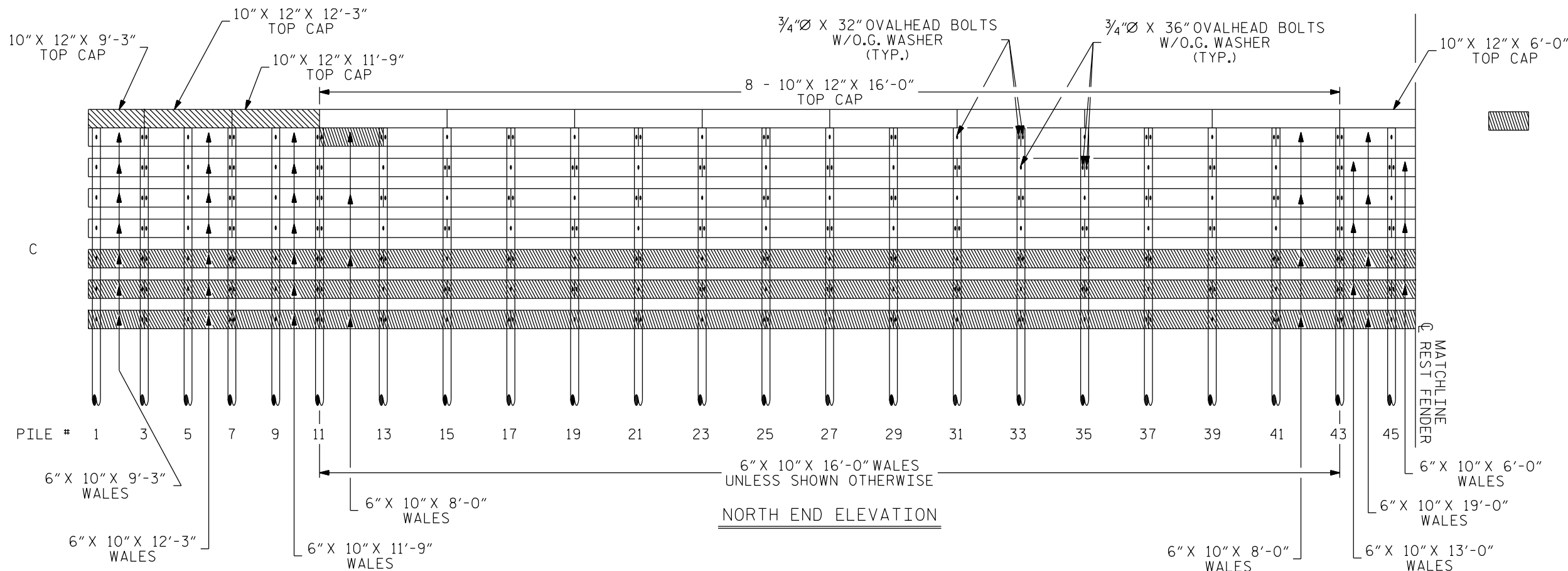
HARDWARE						
ITEM	NO.	SIZE	LENGTH	WEIGHT		
O. H. BOLTS	236	$\frac{3}{4}" \emptyset$	23"	894.5		
O. H. BOLTS	4	$\frac{3}{4}" \emptyset$	32"	19.8		
O. H. BOLTS	2	$\frac{3}{4}" \emptyset$	36"	11.0		
O. G. WASHERS	246	$\frac{3}{4}" \emptyset$	-	245.4		
DRIFT PINS	10	$\frac{3}{4}" \emptyset$	30"	37.6		

HARDWARE - TOTAL LBS. = 1208.3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

REVISIONS						SHEET NO. S8
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEET S10
2			4			

NOTE: NOT TO SCALE



PROJECT NO.: F-880007
COUNTY: TYRRELL
STATION:
BRIDGE NO. 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EASTERN
REST FENDER
ELEVATION

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO.	S10
TOTAL SHEETS	S10

DRAWN BY: R.FUTEK DATE: MAR. 2010
CHECKED BY: A.ABRAHA DATE: JUN. 2010

NOTE: NOT TO SCALE

*****USER NAME***** *****SYSTEM***** *****DC*****