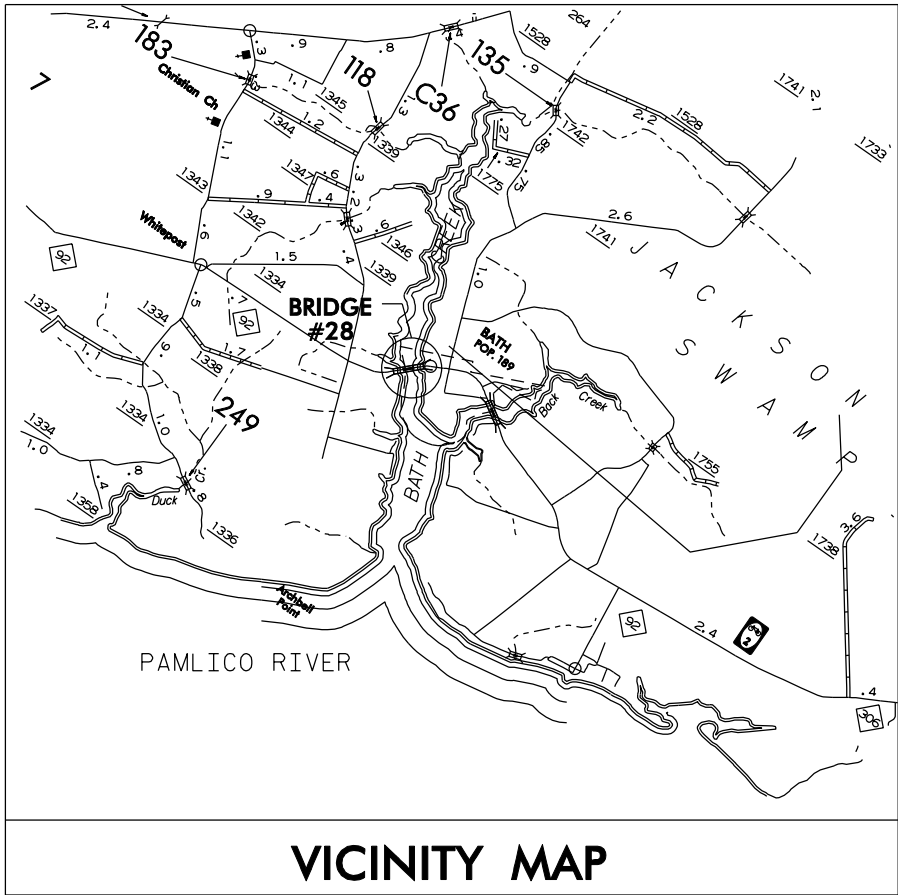


CONTRACT NO. D0000061 TIP# B-4700AG



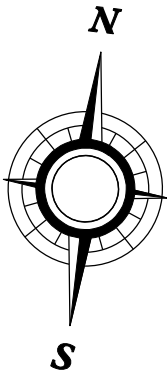
VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BEAUFORT COUNTY

LOCATION: BRIDGE #28, ON NC92, OVER BATH CREEK
TYPE OF WORK: REPAIR OF PILES AND BENT CAPS.

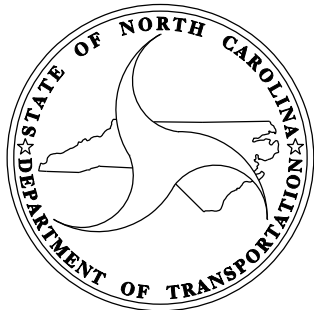
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4700AG	1	13
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
36727.1.1	BRNHS-000S(370)	P.E.	
36727.3.32	BRNHS-000S(370)	CONST	



BATH
CREEK

END BENT #1

END BENT #2



DESIGN DATA

ADT 2005 = 16000
ADT 2025 = 32000

PROJECT LENGTH

LENGTH STRUCTURE PROJECT = XX MILE

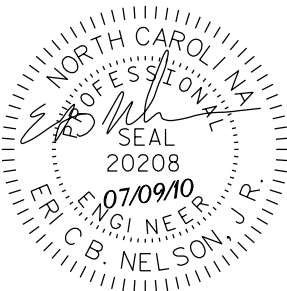
Prepared In the Office of:
BRIDGE MANAGEMENT UNIT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

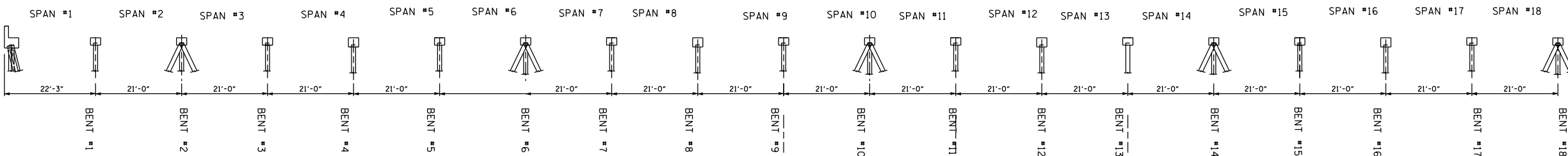
LETTING DATE:
AUGUST 19, 2010

DAN HOLDERMAN, PE
STATE BRIDGE
MANAGEMENT ENGINEER

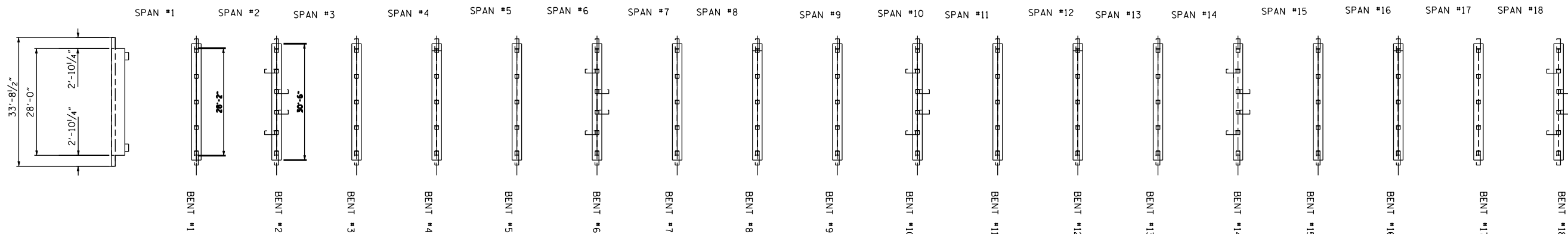
MIKE SUMMERS
BRIDGE MANAGEMENT
PROJECT MANAGER



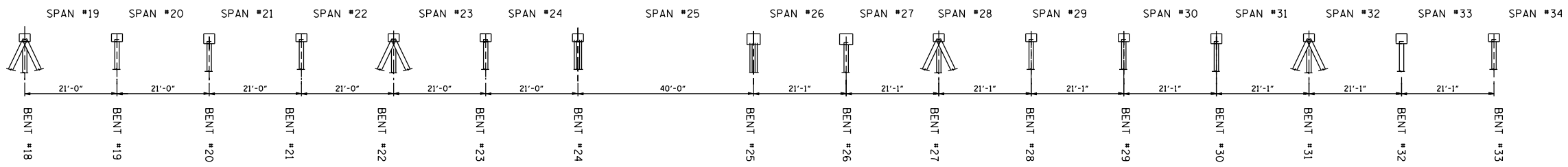
DESIGN ENGINEER



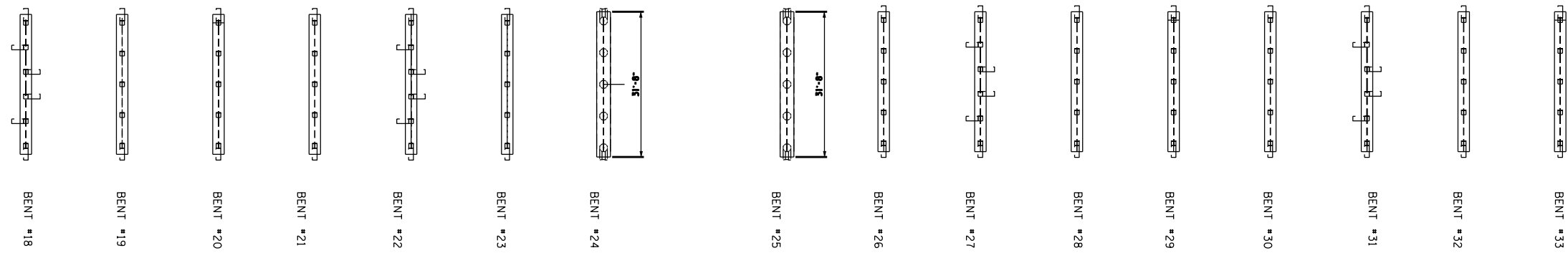
PROFILE OF BRIDGE



PLAN OF BRIDGE



PROFILE OF BRIDGE

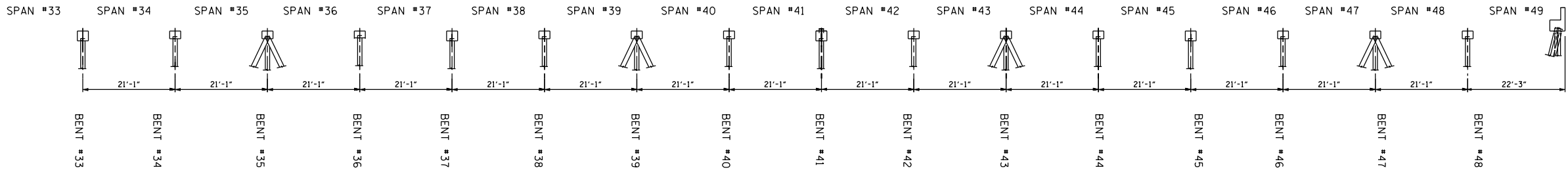


PLAN OF BRIDGE

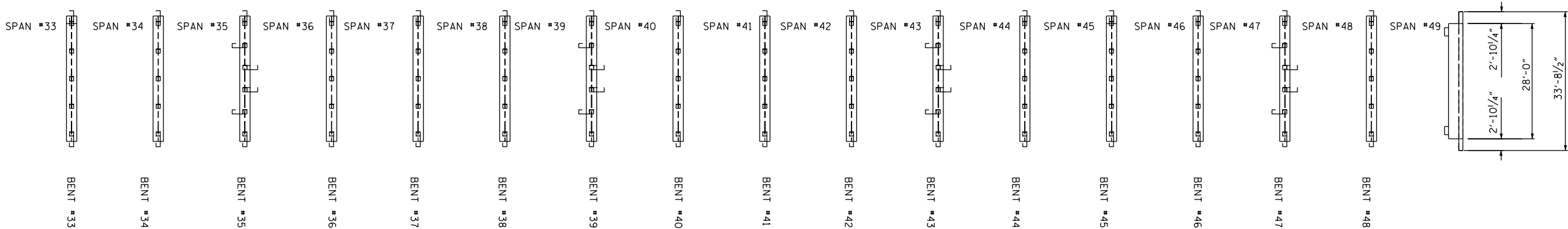
PROJECT NO. B-4700AG
COUNTY: BEAUFORT
STATION:
BRIDGE REPAIR 28

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLAN & PROFILE OF BRIDGE #28 ON NC92 OVER BLACK RUN CREEK					
REVISIONS					
BY	DATE	NO.	BY	DATE	
		3			
		4			
					SHEET NO. 2
					TOTAL SHEETS 13

DRAWN BY : S. T. SANDOR DATE : 1/25/10
CHECKED BY : A. ABRAHA DATE : 1/25/10



PROFILE OF BRIDGE



PLAN OF BRIDGE

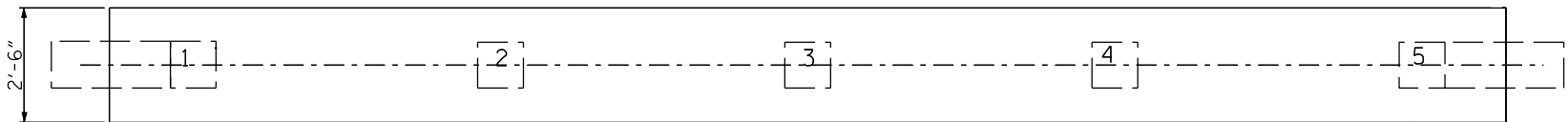
BILL OF MATERIAL				
	MOBILIZATION	CONCRETE REPAIRS TO CAPS	PILE ENCAPSULATION	PILE JACKETS
UNIT	LUMP SUM	CU. FT.	LF	LF
TOTAL	LUMP SUM	30	1106	251

PROJECT NO. B-4700AG
COUNTY: BEAUFORT
STATION:
BRIDGE REPAIR 28

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLAN & PROFILE OF BRIDGE #28 ON NC 92 OVER BLACK RUN CREEK					
REVISIONS					
BY	DATE	NO.	BY	DATE	SHEET NO.
		3			3
		4			TOTAL SHEETS
					13

NOTES

1. FOR EXAMPLES OF TYPICAL CAP REPAIRS SEE SHEET #8.
2. FOR EXAMPLES OF PILE JACKETS SEE SHEETS #12 AND #13.
3. FOR EXAMPLES OF TYPICAL ENCAPSULATION OF PILES SEE SHEETS #9 AND #10.



PLAN OF BENT CAPS

BENT CAP REPAIRS

BENT	DESCRIPTION	LENGTH (FEET)	WIDTH (FEET)	DEPTH (FEET)	VOLUME (CU.FT.)
1	SPALL ON CAP OVER PILE 2	1.00	1.00	0.167	0.167

PILE ENCAPSULATION LOCATIONS

BENT	PILE	BENT	PILE	BENT	PILE	BENT	PILE	BENT	PILE
3	3	11	4	21	3	32	3	42	1
5	2	11	5	21	4	32	4	42	1
5	4	13	3	21	5	32	5	42	3
5	5	13	4	23	ALL	34	1	42	5
7	3	13	5	26	ALL	34	2	44	ALL
7	4	15	2	28	2	34	3	46	2
9	2	15	3	28	3	34	4	46	3
9	3	15	4	28	4	36	ALL	46	4
9	4	15	5	30	1	38	ALL	46	5
9	5	17	ALL	30	4	40	3		
11	3	19	5	32	2	40	4		

PILE JACKET LOCATIONS

BENT	PILE	BENT	PILE
7	2	30	2
7	5	32	1
9	1	34	5
11	2	40	1
19	3	40	5
19	3		
21	2		
28	4		
28	5		

PROJECT NO. B-4700AG

COUNTY: BEAUFORT

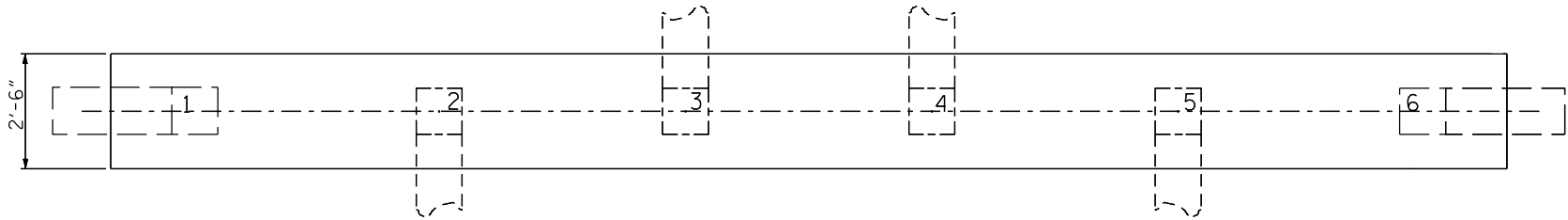
BRIDGE NO. 28

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BENT REPAIRS					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
SHEET NO. 4					TOTAL SHEETS 13

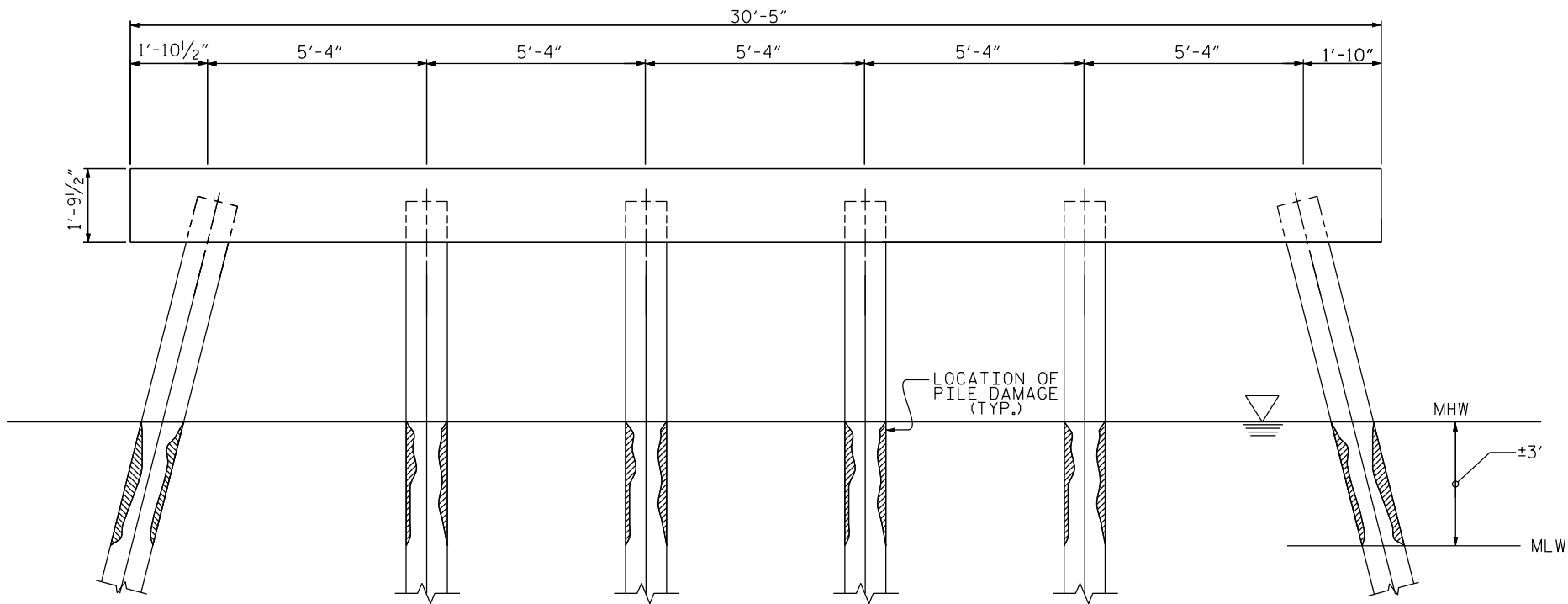
BENTS : 1, 3, 5, 7, 9, 11, 12, 13, 15, 17, 19, 21, 23, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46 & 48.

NOTES

1. FOR EXAMPLES OF TYPICAL CAP REPAIRS SEE SHEET #8.
2. FOR EXAMPLES OF PILE JACKETS SEE SHEETS #12 AND #13.
3. FOR EXAMPLES OF TYPICAL ENCAPSULATION OF PILES SEE SHEETS #9 AND #10.



PLAN OF BENT CAPS



ELEVATION VIEW

PILE ENCAPSULATION LOCATIONS

BENT	PILE	BENT	PILE	BENT	PILE	BENT	PILE
6	3	18	6	35	3	43	6
6	6	22	ALL	35	4	47	ALL
10	1	27	1	35	6		
10	3	27	2	39	1		
14	2	27	4	39	2		
14	4	27	5	39	4		
14	6	27	6	39	6		
18	1	31	1	43	2		
18	2	31	4	43	3		
18	4	31	6	43	4		
18	5	35	1	43	5		

PILE JACKET LOCATIONS

BENT	PILE
22	1
6	5
6	4
10	2
10	4
14	5
31	2
35	2
35	5
39	3
39	5

PROJECT NO. B-4700AG

COUNTY: BEAUFORT

BRIDGE NO. 28

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT REPAIRS

BENTS : 2, 6, 10, 14,
18, 22, 27, 31, 35, 39,
43 & 47.

DRAWN BY: S. T. SANDOR

CHECKED BY: A. ABRAHA

DATE: 01/2010

DATE: 01/2010

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5
1			3			TOTAL SHEETS 13
2			4			

*****SYSTIME***** *****USERNAME***** *****DCN*****

NOTES

1. FOR EXAMPLES OF TYPICAL CAP REPAIRS SEE SHEET #8.
2. FOR EXAMPLES OF PILE JACKETS SEE SHEETS #12 AND #13.
3. FOR EXAMPLES OF TYPICAL ENCAPSULATION OF PILES SEE SHEETS #9 AND #10.

BENT CAP REPAIRS

BENT	DESCRIPTION	LENGTH (FEET)	WIDTH (FEET)	DEPTH (FEET)	VOLUME (CU.FT.)
4	SPAN 4 OVER P1 FROM LEFT END	4.75	2.25	0.33	3.56
4	SPAN 4 OVER P2 83" FROM END	4.33	1.58	0.33	2.29
4	SPAN 4 OVER PILE 3	2.00	1.00	0.25	0.50
4	SPAN 4 OVER PILE 4	2.00	1.00	0.25	0.50
16	SPAN 16 OVER PILE 1	1.00	0.50	0.33	0.17
16	SPAN 16 OVER PILE 4	3.00	1.50	0.33	1.50
20	SPAN 20 OVER P2- 8.25' FROM END	3.33	3.25	0.33	3.61
20	SPAN 20 BETWEEN PILES 1 & 2	6.50	1.50	0.75	7.31
29	SPAN 30 OVER PILES 1 & 2	6.00	1.50	0.33	3.00
29	SPAN 30 OVER PILES 2 & 3	6.50	1.50	0.25	2.44
33	SPAN 34 BETWEEN PILES 2 & 3	1.83	1.67	0.33	1.02
TOTAL					25.90

PILE ENCAPSULATION LOCATIONS

BENT	PILE	BENT	PILE	BENT	PILE
4	5	29	3	41	3
8	2	29	4	41	5
8	3	29	5	45	2
16	1	33	1	45	3
16	3	33	3		
16	4	33	4		
16	5	37	1		
20	1	37	2		
20	3	37	4		
20	4	37	5		
20	5	41	2		

PILE JACKET LOCATIONS

BENT	PILE
8	1
8	5
20	2
29	1
33	3
33	5
37	3
41	1
41	4
45	4
45	5

PROJECY NO. B-4700AG

COUNTY: BEAUFORT

BRIDGE NO. 28

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

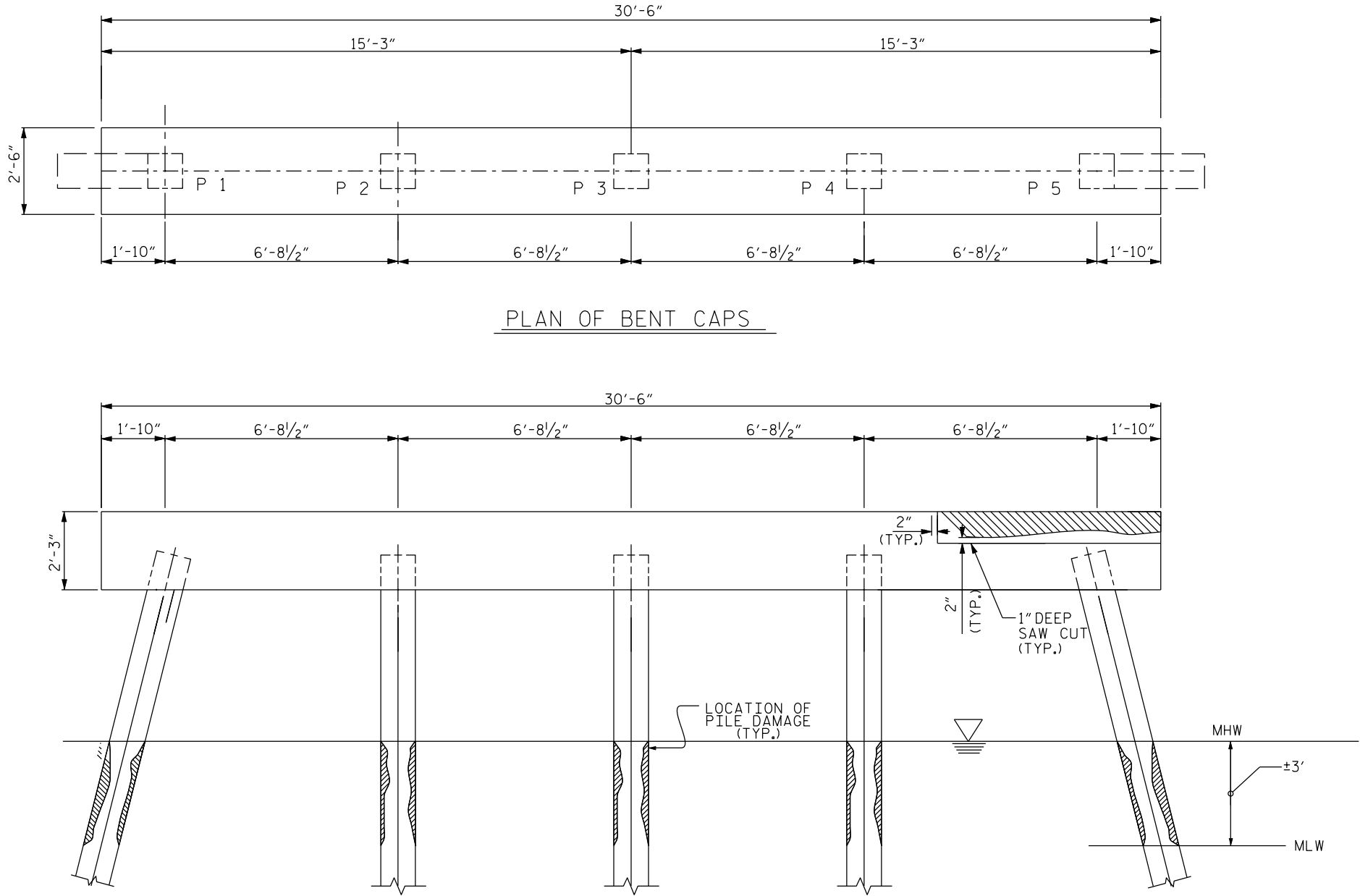
RALEIGH

BENT REPAIRS

NOTES

ALL QUANTITIES ARE APPROXIMATE.

BENTS : 4, 8, 16, 20,
29, 33, 37, 41, 45.



ELEVATION VIEW (BENT CAPS)

DRAWN BY: S. T. SANDOR DATE: 02/10

CHECKED BY: A. ABRAHA DATE: 02/10

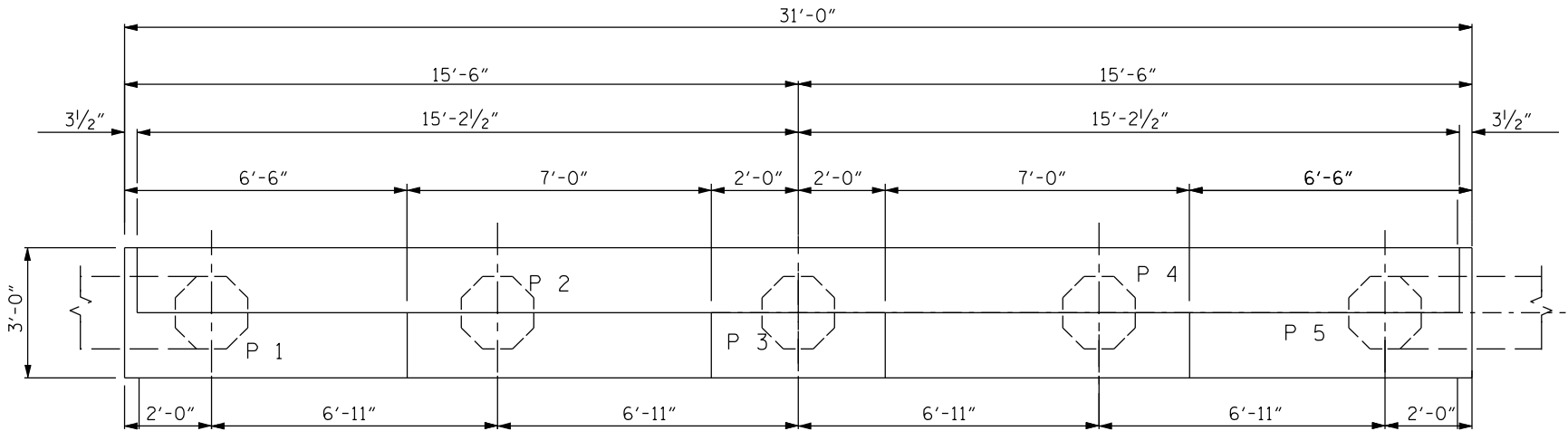
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	6
1			3			TOTAL SHEETS 13
2			4			

NOTES

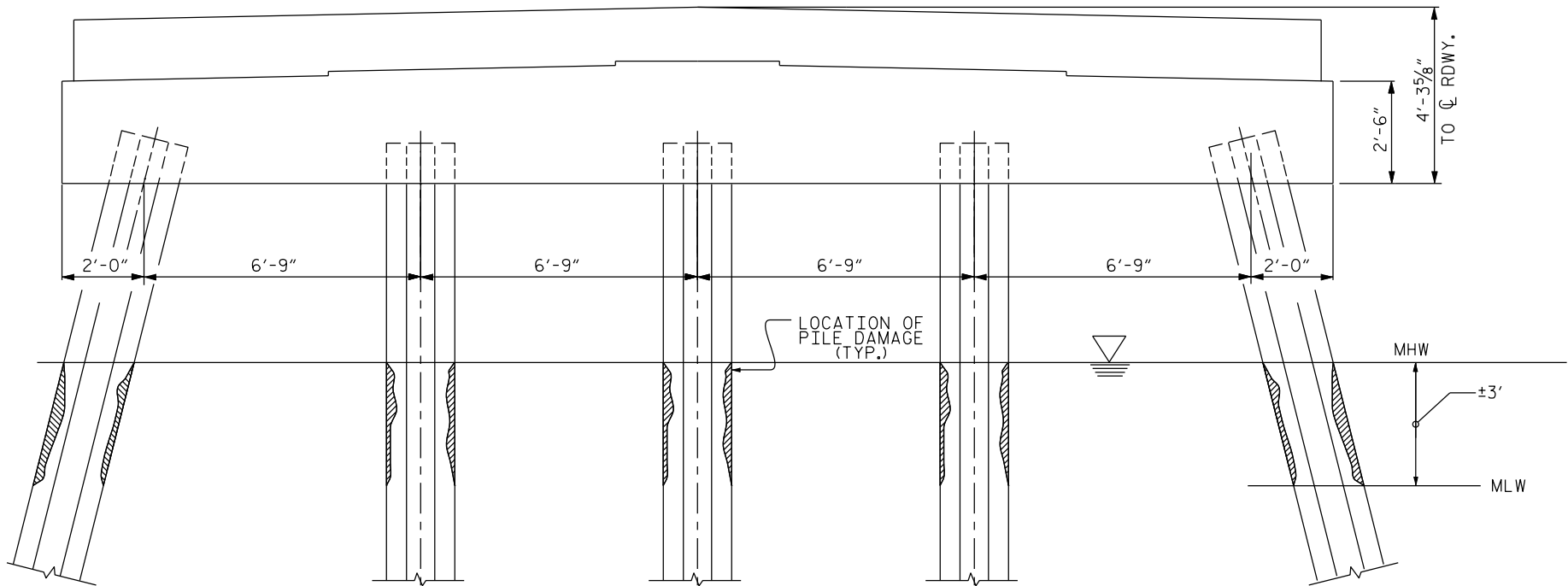
1. FOR EXAMPLES OF TYPICAL ENCAPSULATION OF PILES SEE SHEETS #9 AND #10.

PILE ENCAPSULATION LOCATIONS

BENT	PILE
24	ALL
25	ALL



PLAN OF BENT No. 25
(BENT No. 24 SIMILAR BY ROTATION)



ELEVATION VIEW BENT No. 25
(BENT No. 24 SIMILAR BY ROTATION)

PROJECY NO. B-4700AG
COUNTY: BEAUFORT
BRIDGE NO. 28

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BENT REPAIRS					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
SHEET NO. 7					TOTAL SHEETS 13

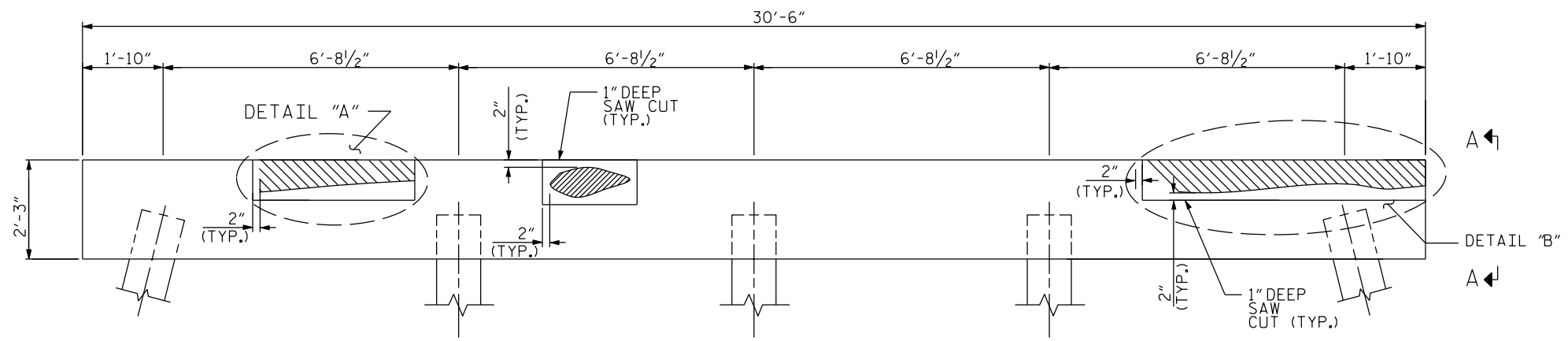
BENTS #24 AND #25

DRAWN BY: S. T. SANDOR DATE: 02/10
CHECKED BY: A. ABRAHA DATE: 02/10

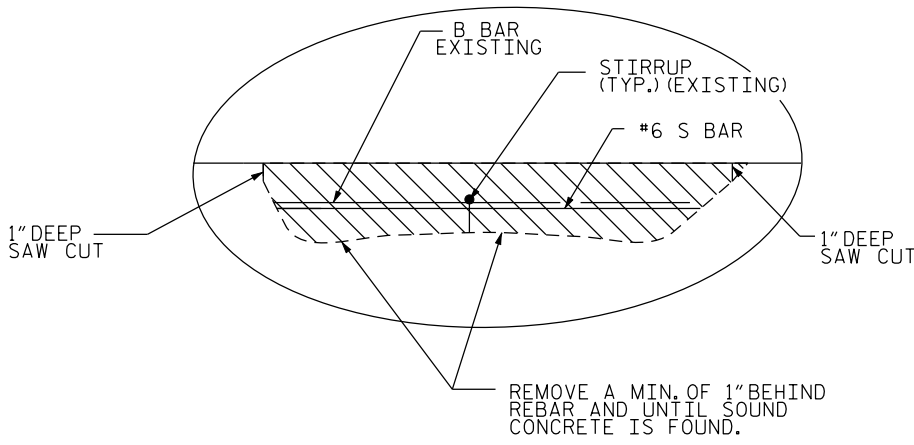
*****SYTIME***** *****USERNAME***** *****DGN*****

GENERAL NOTES

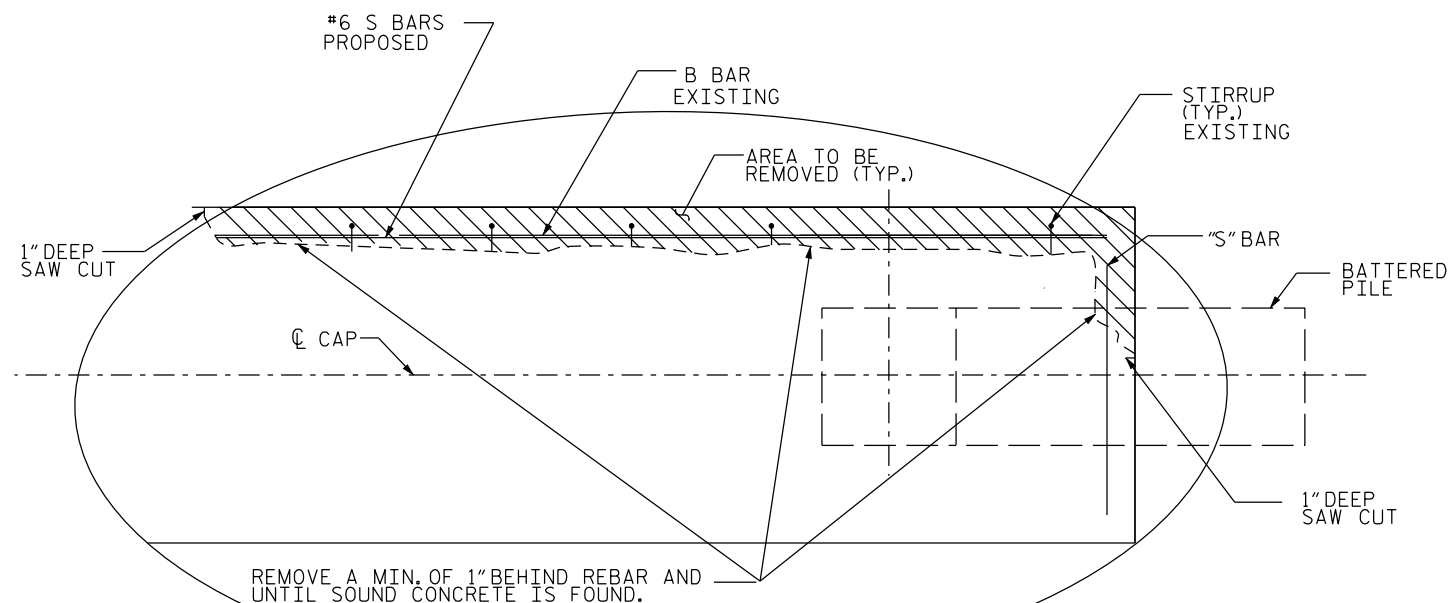
- 1. SPALL DIMENSIONS SHOWN ARE APPROXIMATE.
- 2. REINFORCING STEEL SHALL BE GRADE 60.
- 3. FOR ADHESIVELY ANCHORED DOWELS SEE SPECIAL PROVISIONS.
- 4. FIELD TESTING FOR ADHESIVE BONDING SYSTEM IS NOT REQUIRED.
- 5. REPAIR MATERIAL FOR CAP SPALLS SHALL BE POLYMER MODIFIED CONCRETE OR SHOTCRETE.



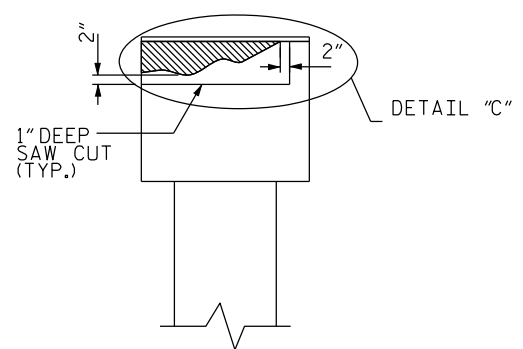
TYPICAL ELEVATION VIEW (BENT CAPS)



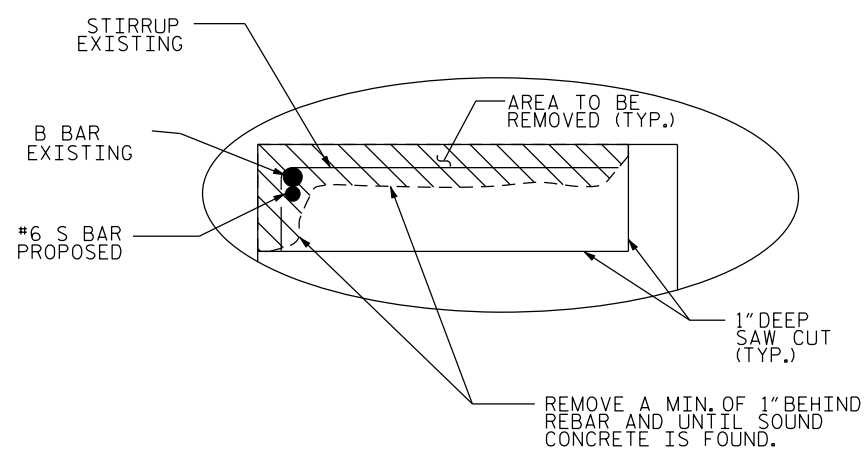
DETAIL "A"



DETAIL "B"



SECTION A-A



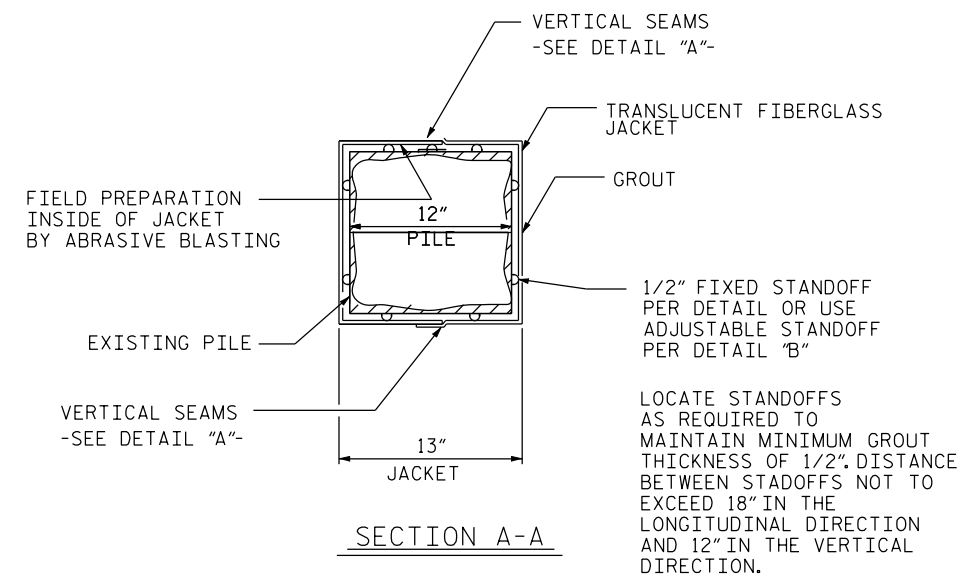
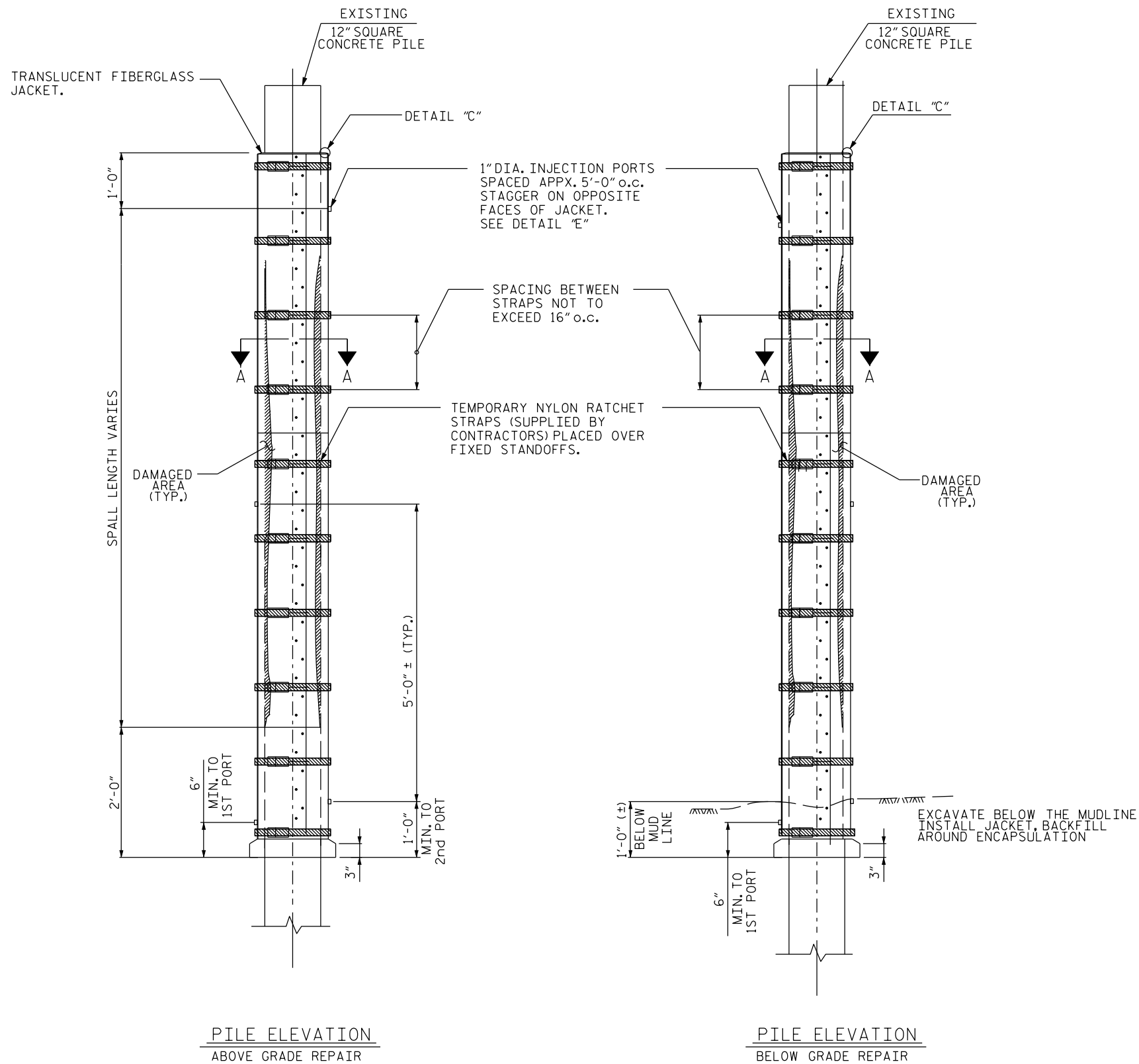
DETAIL "C"

PROJECT NO. B-4700AG
COUNTY: BEAUFORT
BRIDGE NO. 28

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
TYPICAL BENT CAP REPAIR DETAILS					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO.
8

TOTAL SHEETS
13



NOTES:

- ALL PILE JACKETS ARE ESTIMATED 7 FT. IN LENGTH AND START 2 FEET ABOVE MEAN WATER ELEVATION.
- APPROXIMATELY 5 FEET OF PILE JACKET WILL BE PLACED BELOW WATER ELEVATION DEPENDING ON THE WATER SURFACE ELEVATION.
- SOME PILE JACKET LOCATIONS ARE SHALLOW AND IN THOSE AREAS THE PILE JACKET WILL ONLY NEED TO EXTEND 1 FEET BELOW MUD LINE.

REPAIR SEQUENCES

1. AFTER SURFACE PREPARATION, PLACE JACKET IN PROPER LOCATION AROUND PILE AND SEAL LONGITUDINAL SEAMS (SEE DETAIL "A"). INSTALL TEMPORARY BRACING.
2. CONFIRM SPACING BETWEEN JACKET AND PILE. INSTALL BOTTOM SEAL (SEE DETAIL "D"). ALLOW BOTTOM SEAL TO CURE APPX. 4 HOURS.
3. ATTACH GROUT HOSE TO LOWERMOST INJECTION PORT AND PUMP GROUT FOR 30-sec. CHECK FOR LEAKS ALONG SEAMS AND BOTTOM SEAL. (OPTIONALLY ALLOW THIS GROUT TO CURE AND PROCEED WITH GROUT INJECTION FROM 2ND PORT.)
4. PLUG UPPER INJECTION PORTS AND PUMP GROUT INTO LOWER PORT UNTIL GROUT REACHES TOP OF JACKET. ONLY USE UPPER PORTS IF INJECTION BECOMES DIFFICULT.

PROJECT NO. B-4700AG
COUNTY: BEAUFORT
BRIDGE NO. 28

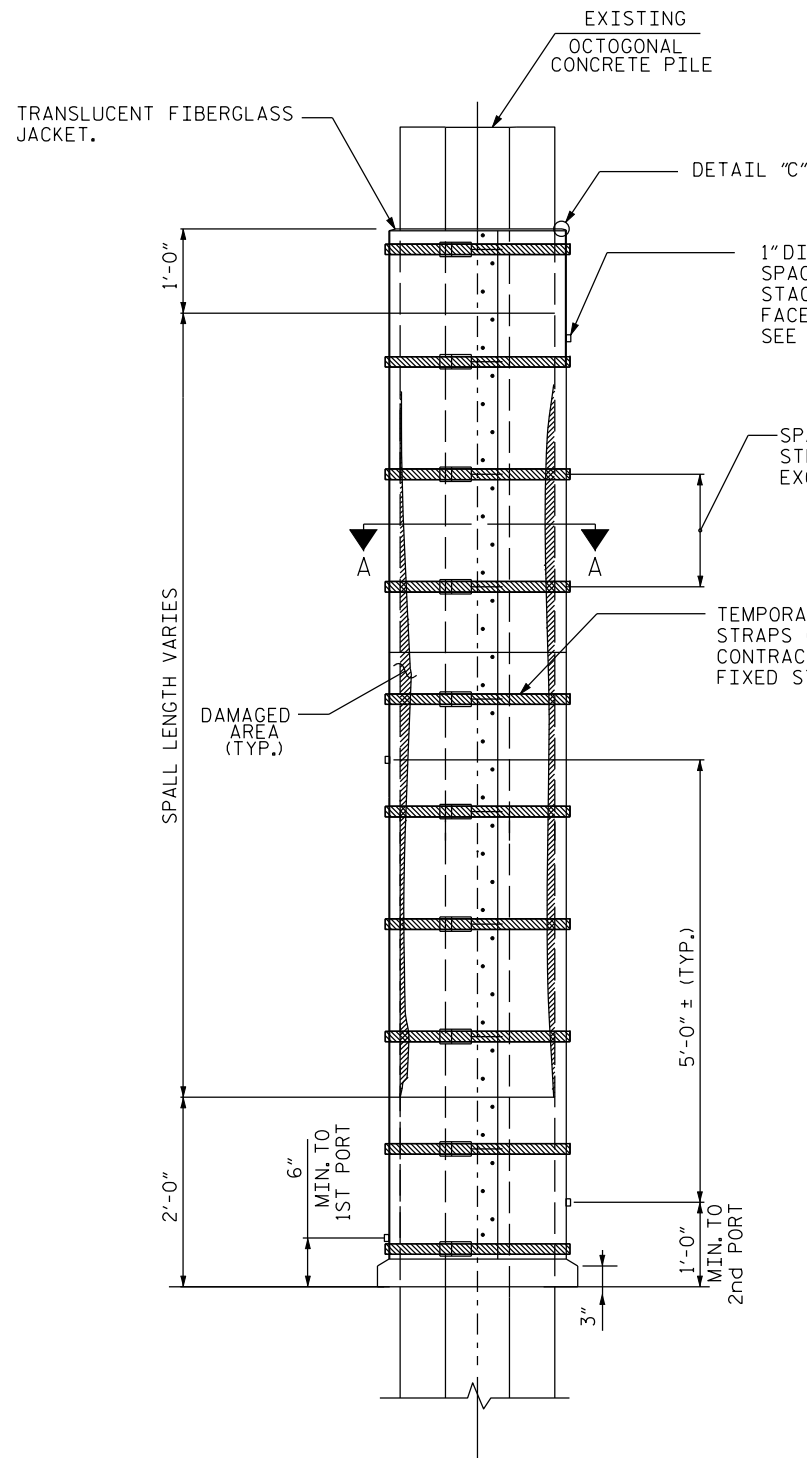
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE ENCAPSULATION FOR
SQUARE PILES

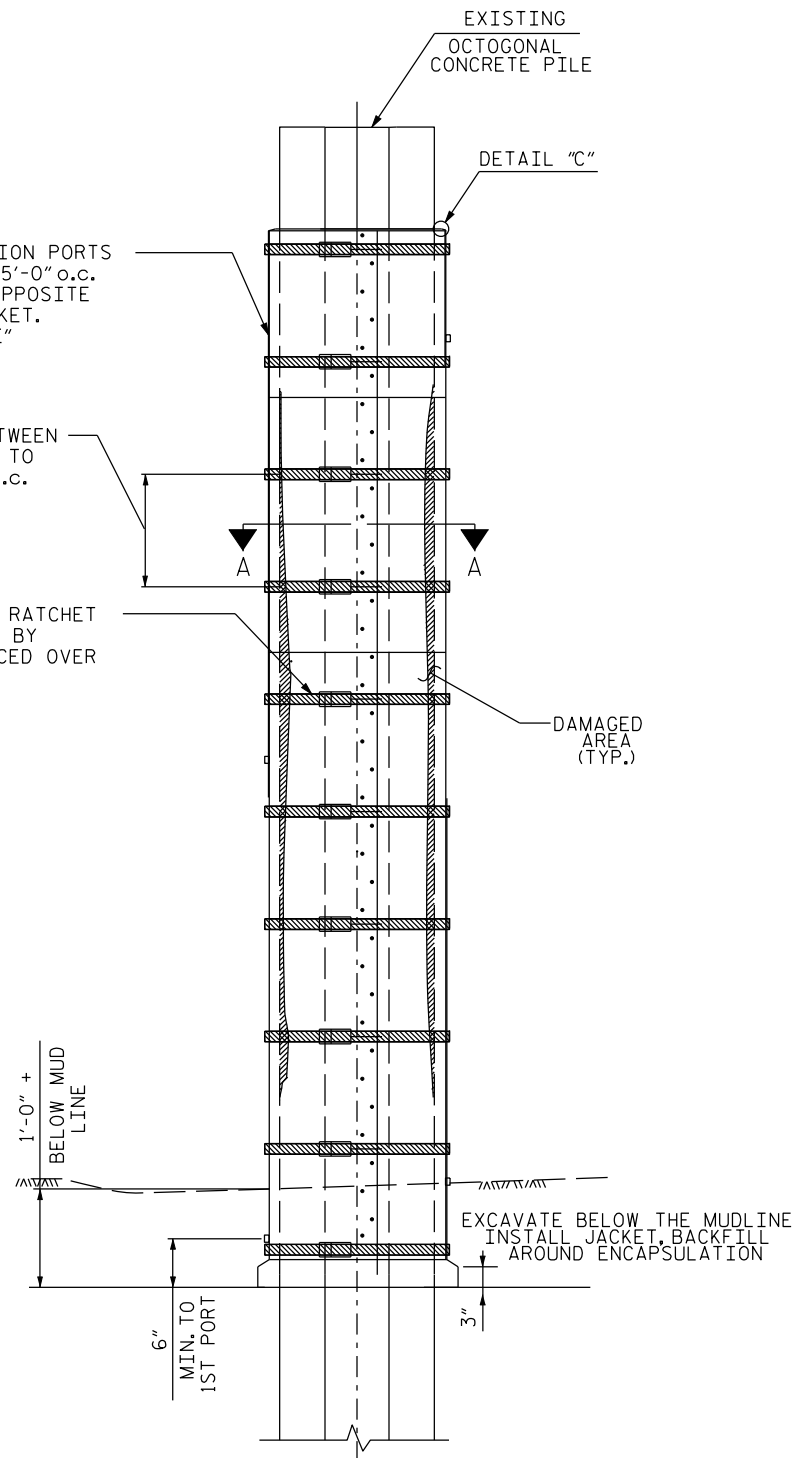
REVISIONS						SHEET NO. 9
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 13
2			4			

DRAWN BY: S. T. SANDOR DATE: 01/2010
CHECKED BY: A. ABRAHA DATE: 01/2010

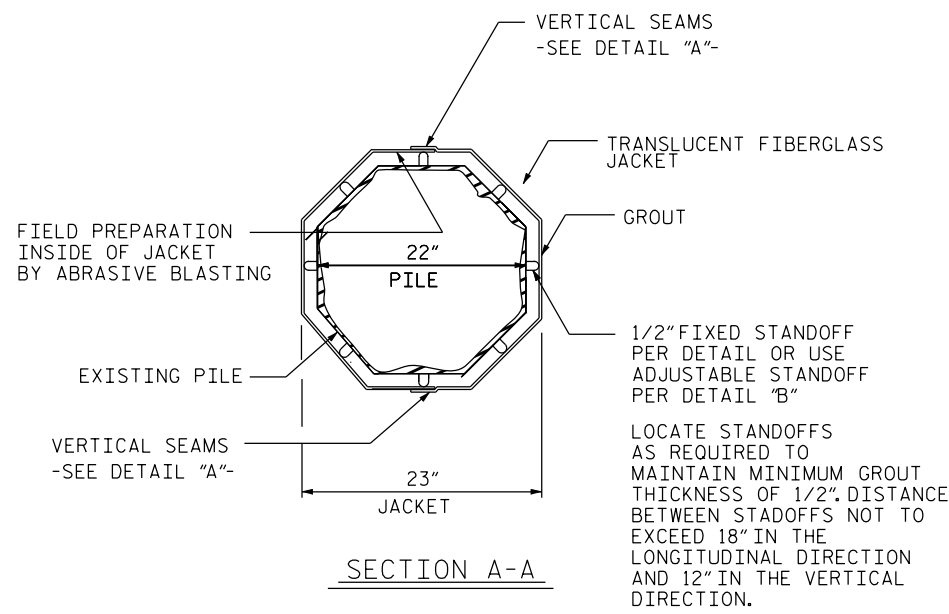
*****SYSTIME***** *****USERNAME***** *****DGN*****



PILE ELEVATION
ABOVE GRADE REPAIR



PILE ELEVATION
BELOW GRADE REPAIR



NOTES:

- ALL PILE JACKETS ARE ESTIMATED 7 FT. IN LENGTH AND START 2 FEET ABOVE MEAN WATER ELEVATION.
- APPROXIMATELY 5 FEET OF PILE JACKET WILL BE PLACED BELOW WATER ELEVATION DEPENDING ON THE WATER SURFACE ELEVATION.
- SOME PILE JACKET LOCATIONS ARE SHALLOW AND IN THOSE AREAS THE PILE JACKET WILL ONLY NEED TO EXTEND 1 FEET BELOW MUD LINE.

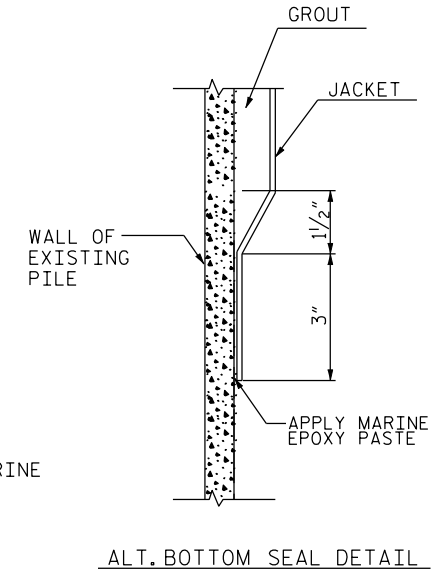
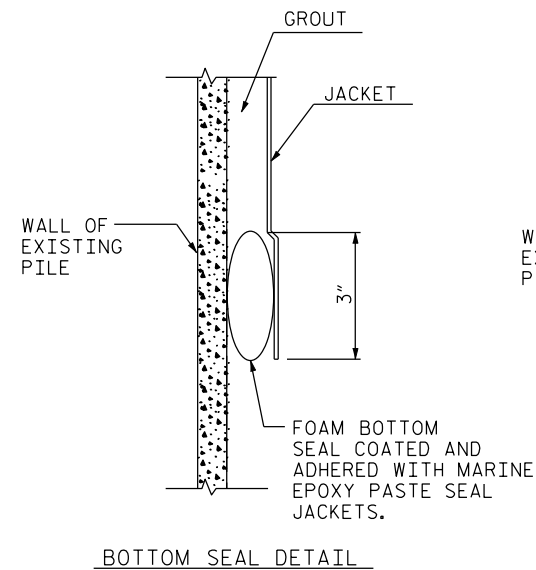
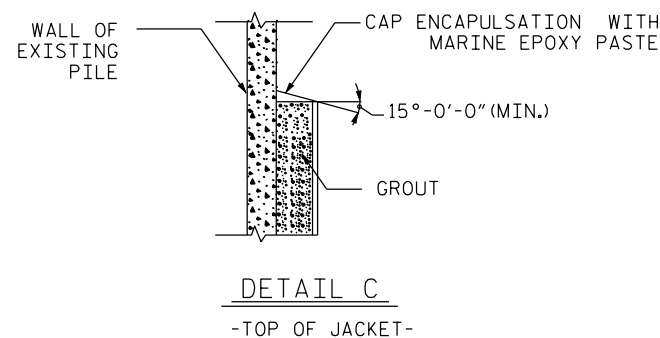
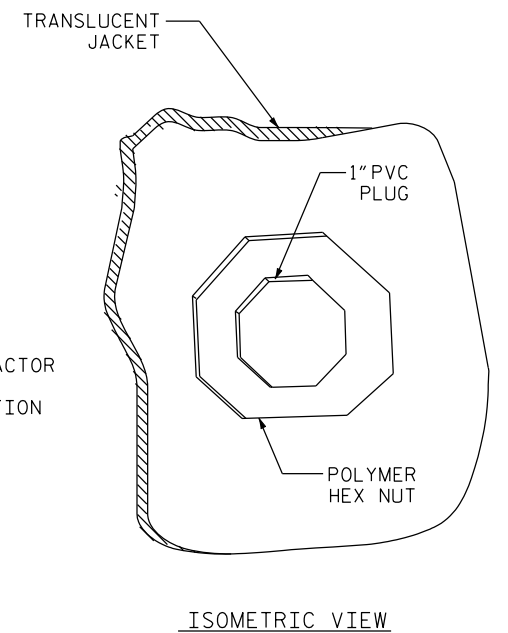
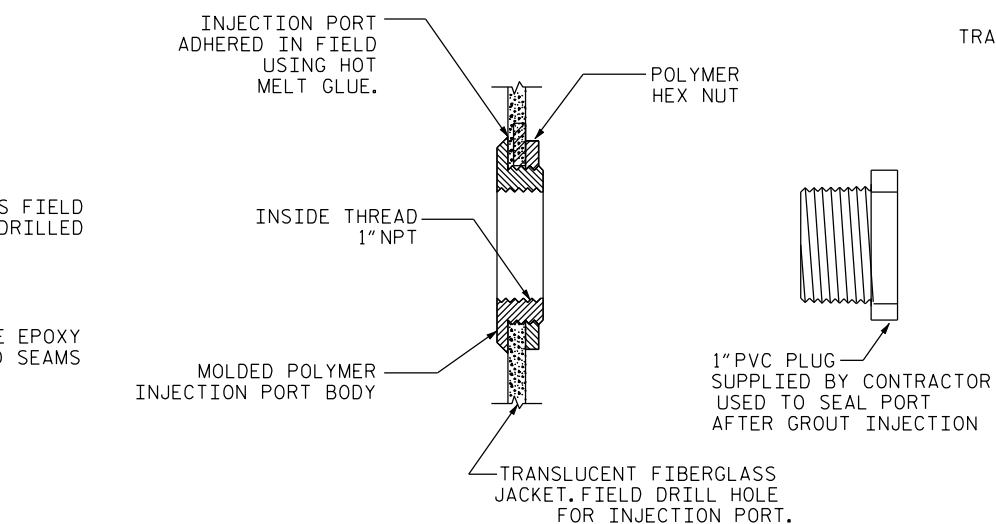
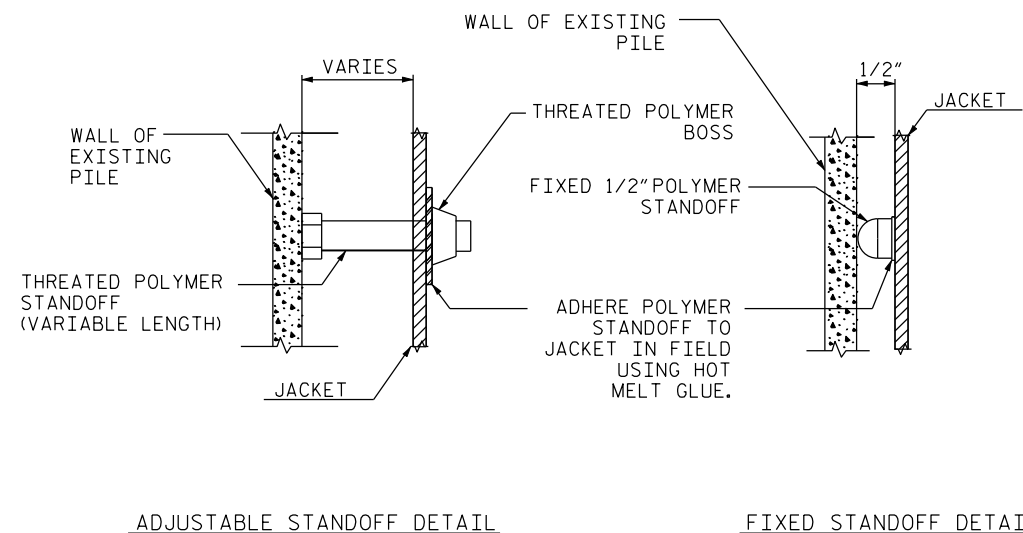
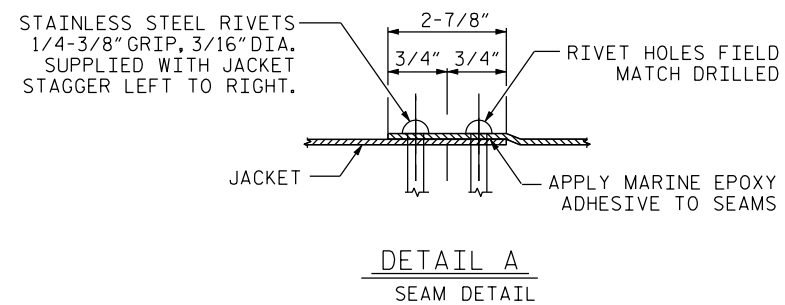
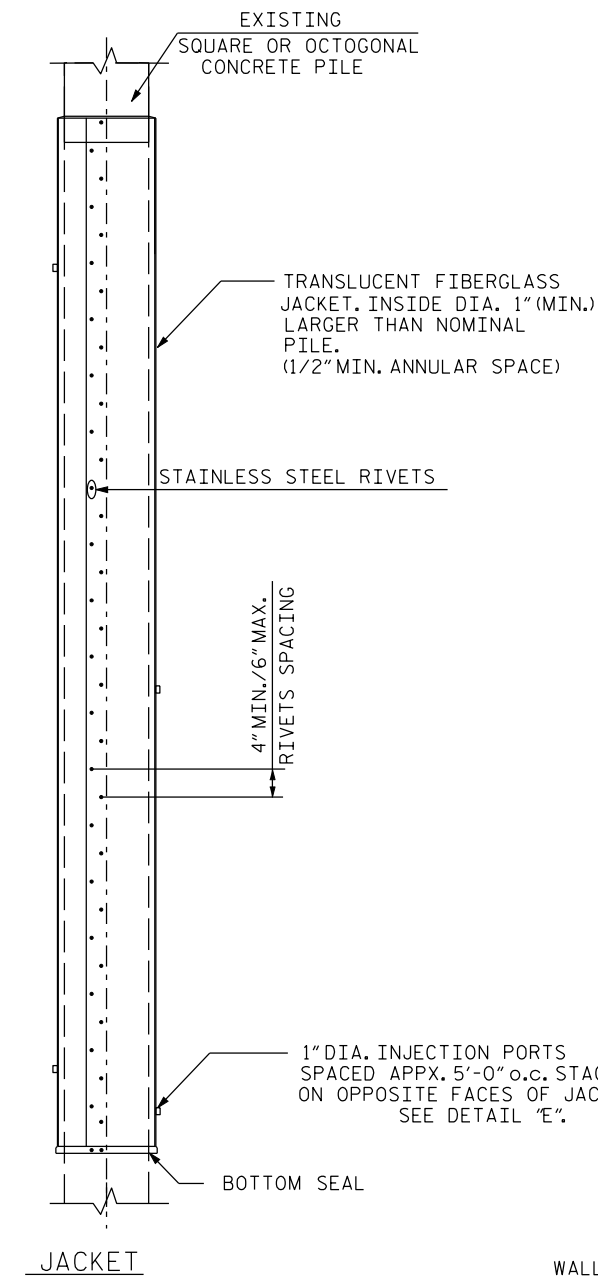
REPAIR SEQUENCES

1. AFTER SURFACE PREPARATION, PLACE JACKET IN PROPER LOCATION AROUND PILE AND SEAL LONGITUDINAL SEAMS (SEE DETAIL "A"). INSTALL TEMPORARY BRACING.
2. CONFIRM SPACING BETWEEN JACKET AND PILE. INSTALL BOTTOM SEAL (SEE DETAIL "D"). ALLOW BOTTOM SEAL TO CURE APPX. 4 HOURS.
3. ATTACH GROUT HOSE TO LOWERMOST INJECTION PORT AND PUMP A-P-E GROUT FOR 30-sec. CHECK FOR LEAKS ALONG SEAMS AND BOTTOM SEAL. (OPTIONALLY ALLOW THIS GROUT TO CURE AND PROCEED WITH GROUT INJECTION FROM 2ND PORT.)
4. PLUG UPPER INJECTION PORTS AND PUMP GROUT INTO LOWER PORT UNTIL GROUT REACHES TOP OF JACKET. ONLY USE UPPER PORTS IF INJECTION BECOMES DIFFICULT.

PROJECT NO. B-4700AG
COUNTY: BEAUFORT
BRIDGE NO. 28

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PILE ENCAPSULATION FOR
OCTOGONAL PILES

REVISIONS						SHEET NO. 10
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 13
2			4			



PROJECT NO. B-4700AG
 COUNTY: BEAUFORT
 BRIDGE NO. 28

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.
PILE ENCAPSULATION DETAILS						11
REVISIONS						TOTAL SHEETS
NO.	BY	DATE	NO.	BY	DATE	13
1			3			
2			4			

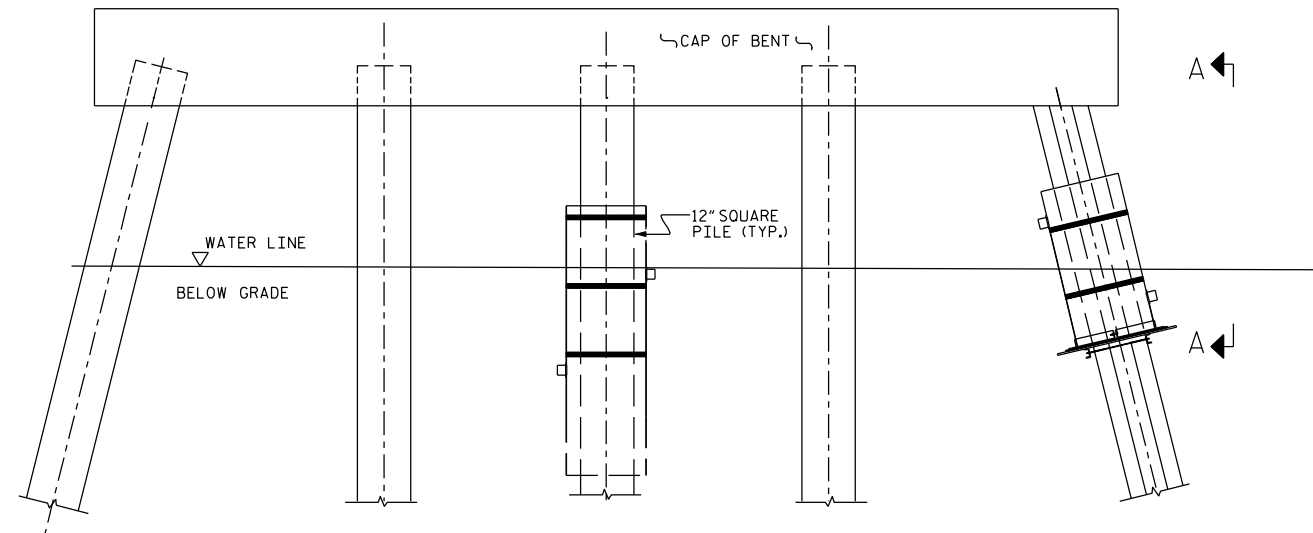
NOTES:

PILE JACKETS TO BE INSTALLED ON 12" SQUARE PILES.

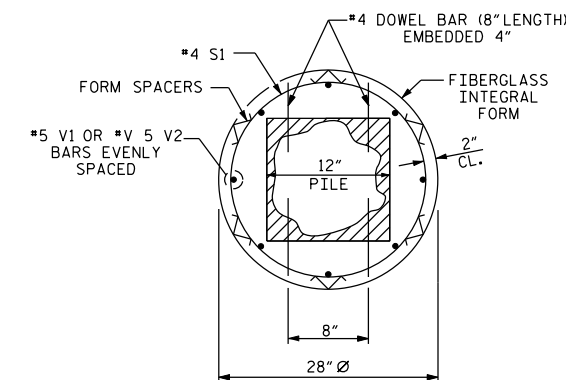
ALL PILE JACKETS ARE ESTIMATED 7 FT. IN LENGTH AND START 2 FEET ABOVE MEAN WATER ELEVATION.

APPROXIMATELY 5 FEET OF PILE JACKET WILL BE PLACED BELOW WATER ELEVATION DEPENDING ON THE ELEVATION OF RIVER.

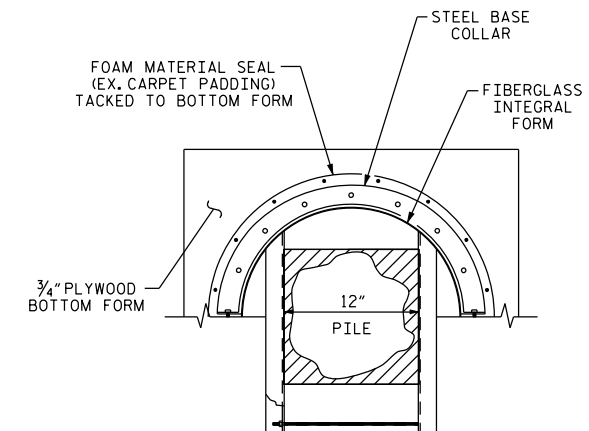
SOME PILE JACKET LOCATIONS ARE SHALLOW AND THOSE AREAS THE PILE JACKET WILL ONLY NEED TO EXTEND 1 FEET BELOW MUD LINE.



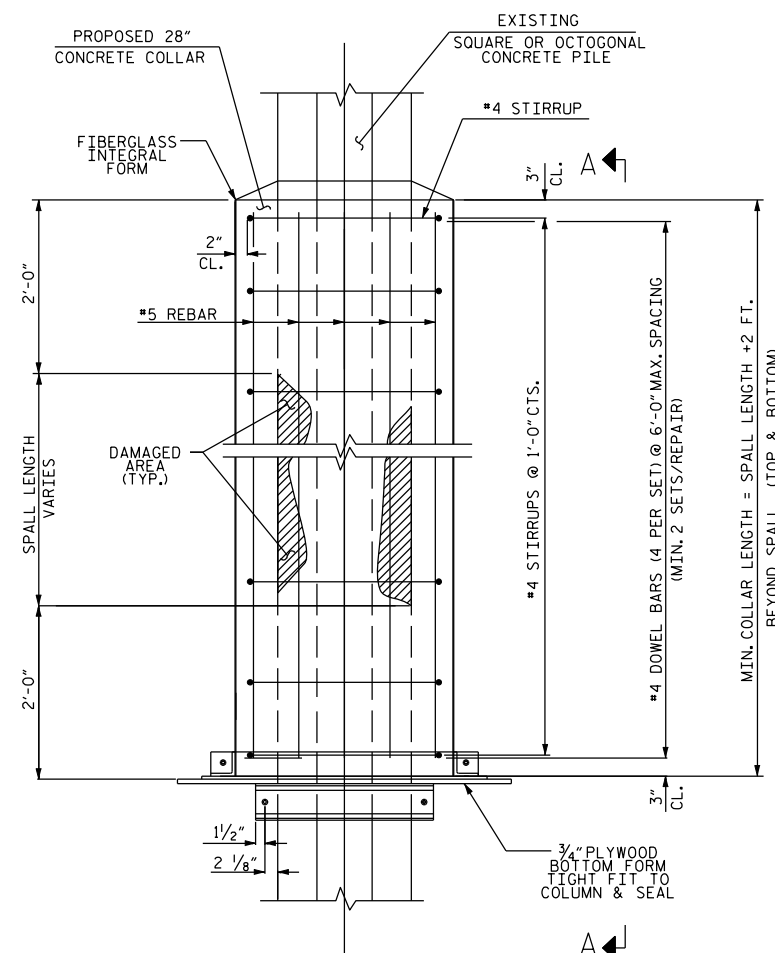
ELEVATION VIEW



JACKET DETAIL

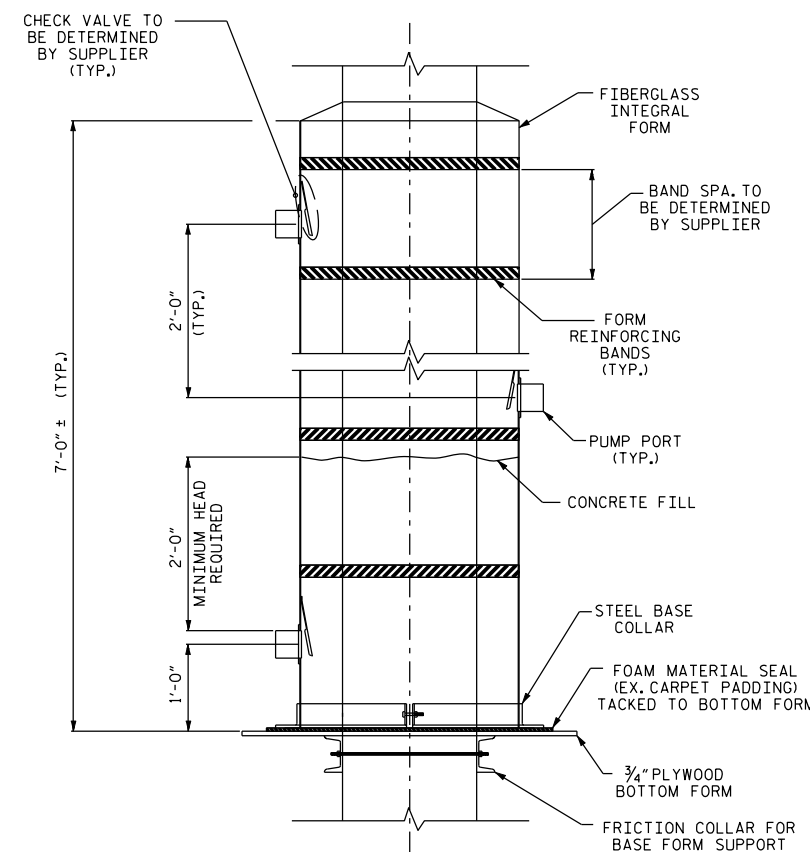


PLATFORM DETAIL



JACKET ELEVATION

(ABOVE GRADE/WATER APPLICATIONS)



SECTION A-A

PILE JACKET W/ PUMP PORTS

(ABOVE GRADE REPAIR)

PROJECT: B-4700AG

COUNTY: BEAUFORT

REPLACES BRIDGE NO. 28

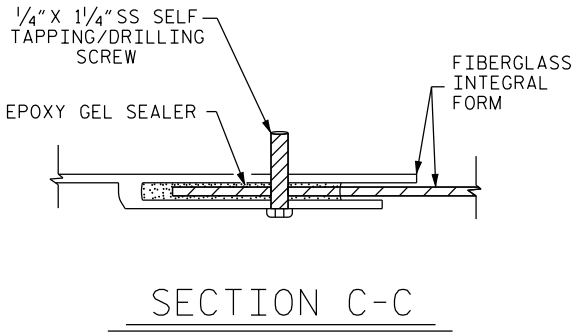
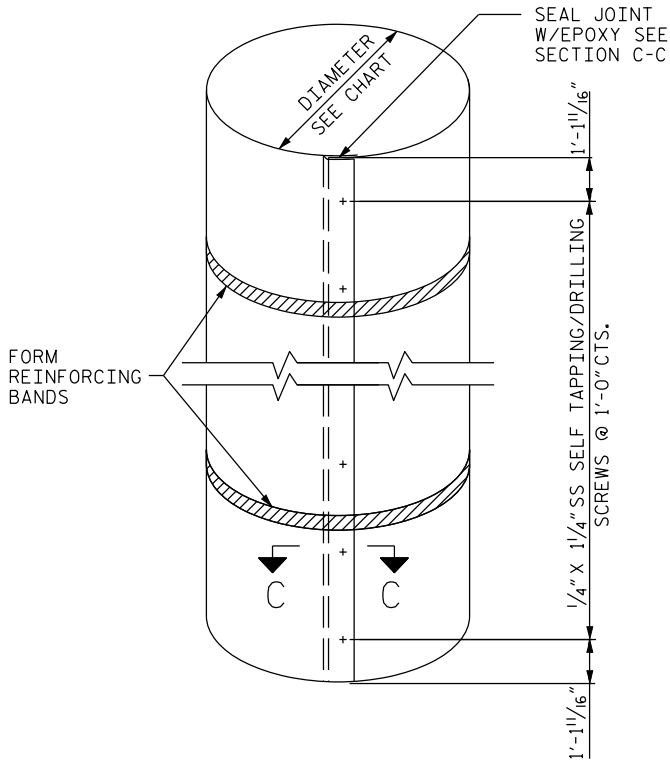
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE JACKET DETAILS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	12
1			3			TOTAL SHEETS 13
2			4			

DRAWN BY: S. T. SANDOR DATE: 02/10
CHECKED BY: A. ASTER DATE: 02/10

*****SYTIME***** *****USERNAME***** *****DGN*****



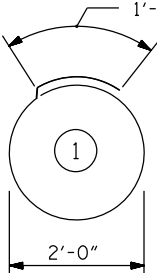
FIBERGLASS INTEGRAL FORM

REPAIR SEQUENCE

- 1) COMPLETELY REMOVE ALL LOOSE DELAMINATED AND WEAK CONCRETE, OIL, GREASE, LAITANCE AND OTHER CONTAMINANTS. PREPARE CONCRETE USING ACCEPTABLE MECHANICAL MEANS AND CONCRETE CLEANERS AND DEGREASERS AS NECESSARY TO OBTAIN CLEAN, SOUND AND ROUGH SURFACES. COARSE AGGREGATE SHALL BE EXPOSED. CONCRETE PILE SURFACES SHOULD BE SOUND AND FREE OF CONTAMINATION. WHERE MARINE GROWTH OR OTHER CONTAMINANTS EXIST, INCLUDING VISIBLE SIGNS OF CORROSION, A HIGH PRESSURE WATER BLAST SHOULD BE UTILIZED TO ENSURE A CLEAN, SOUND, CONTAMINANT- FREE SURFACE FOR OPTIMUM BOND.
- 2) CLEAN REINFORCING STEEL & COLUMNS OR PILE, OF ALL RUST AND FOREIGN MATERIAL.
- 3) DETERMINE FIBERGLASS INTEGRAL FORM LENGTH. MINIMUM LENGTH IS 2' ABOVE AND BELOW CLEAN, SOUND, CONTAMINANT-FREE SURFACE.
- 4) DRILL 5/8" HOLES AND PLACE #4 DOWELS W/ EPOXY GROUT.
- 5) BUILD THE REBAR CAGE BY PLACING THE #4 STIRRUPS AND VERTICAL REINFORCING STEEL IN ACCORDANCE WITH THE PROJECT DRAWING.
- 6) INSTALL FORM SPACERS TO INSURE ADEQUATE CONCRETE COVER AT ALL PARTS OF THE SLEEVE.
- 7) INSTALL THE LEAVE- IN PLACE FIBERGLASS FORM (ALSO CALLED JACKET OR COLLAR). THE DIAMETER OF THE JACKET SHOULD BE LARGE ENOUGH TO IN- CIRCLE THE PILE WHILE PROVIDING A MINIMUM OF 5" TOTAL CLEARANCE, 2" OF CLEARANCE BETWEEN THE PILE AND THE REINFORCING STEEL AND 2" OF CLEARANCE BETWEEN THE REINFORCING STEEL AND THE FORM.. (SEE JACKET SIZING CHART)
- 8) INSERT CONCRETE PUMP HOSE THRU TOP OF JACKET AND EXTEND TO JUST ABOVE THE BOTTOM AND PUMP AT A FLOW RATE TO THE DESIRED FILL ELEVATION. IF SITE CONDITIONS PROHIBIT INSERTING PUMP HOSE THRU TOP OF JACKET THEN INSTALL PUMP PORTS AND PLACE CONCRETE AS SHOWN IN THE DETAILS.
- 9) PLACE CONCRETE FILL. INSTALL PUMP PORT(S) IN JACKET FOR UNDERWATER APPLICATIONS. PORTS SHOULD HAVE A CHECK VALVE TO KEEP BACK FLOW OF CONCRETE ONCE PUMP NOZZLE IS REMOVED. FOR CONCRETE PLACEMENTS GREATER THAN 5' USE MULTIPLE PORTS SPACED 3' VERTICALLY AND ALTERNATING 180° FROM PREVIOUS PORT. A MINIMUM OF 2' OF CONCRETE HEAD, IS NEEDED ABOVE PORT PRIOR TO CHANGING PORTS.
- 10) REMOVE FORM WORK AFTER 24 HOURS.

DRAWN BY: S. T. SANDOR DATE: 01/10
CHECKED BY: A. ABRAHA DATE: 01/10

*****SYTIME***** ****USERNAME**** *****DGN*****

BAR TYPES		*BILL OF MATERIAL					
		REINFORCING STEEL					
		BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
		V1	48	5	STR	7'-6"	375
		V2	232	5	STR	6'-6"	1573
		S1	239	4	1	7'-4"	1170
		D1	280	4	STR	0'-9 1/2"	148
		REINFORCING STEEL TOTAL =					3266 LBS
		FIBERGLASS JACKETS					
			NO.	TYPE	LENGTH		
		JACKET	6	STR	8'-0"		
		JACKET	29	STR	7'-0"		
		CONCRETE					
		TYPE	VOLUME (CU. FT)		VOLUME (CU. FT)		
		A	908.47		33.647		
ALL BAR DIMENSIONS ARE OUT TO OUT.							

* QUANTITY SHOWN IS FOR INFORMATION ONLY.

JACKET SIZING CHART		
PILE/ COLUMN SIZE	RECOMMENDED JACKET SIZE	
	ROUND	SQUARE
12" SQUARE	28" Ø	24" X 24"

PROJECT: B-4700AG
COUNTY: BEAUFORT
REPLACES BRIDGE NO. 28

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PILE JACKET DETAILS					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
					SHEET NO. 13
					TOTAL SHEETS 13

5/8/2010
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gkarageorge

TIP PROJECT: B-4700AG

WBS 36727.3.32

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
TRAFFIC CONTROL

BEAUFORT COUNTY

LOCATION: BRIDGE NO. 28, ON NC 92, OVER BATH CREEK

TYPE OF WORK: TRAFFIC CONTROL FOR BRIDGE REPAIR

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" -
PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C.,
DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1180.01	SKINNY DRUMS




INDEX OF SHEETS

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND INDEX OF SHEETS
TCP-2	GENERAL NOTES AND PHASING
TCP-3	TEMPORARY LANE CLOSURE DETAIL














STATE PROJECT REFERENCE NO.	SHEET NO.
B-4700AG	TCP-1

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  NORTH ARROW
-  WORK AREA

TRAFFIC CONTROL DEVICES

-  TYPE III BARRICADE
-  CONE
-  DRUM  SKINNY DRUM
-  FLASHING ARROW PANEL (TYPE C)
-  STATIONARY SIGN
-  PORTABLE SIGN
-  STATIONARY OR PORTABLE SIGN
-  TEMPORARY CRASH CUSHION
-  CHANGEABLE MESSAGE SIGN
-  TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
-  POLICE
-  FLAGGER

APPROVED:
DATE: 5/10/10



PLAN PREPARED BY:



Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.851.8866
Fax. 919.851.7024
www.stantec.com
License No. F-0672

BETSY L. WATSON, PE

TRAFFIC CONTROL ENGINEER

GEORGE KARAGEORGE

TRAFFIC CONTROL DESIGNER

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRE

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME DAY AND TIME RESTRICTIONS
NC 92 6:00 A.M.-8:30 A.M. MONDAY THRU SUNDAY (EVERYDAY)

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME
NC 92

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 P.M. DECEMBER 31st TO 6:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 A.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 P.M. THURSDAY AND 6:00 A.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 P.M. FRIDAY TO 6:00 A.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 P.M. FRIDAY AND 6:00 A.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 P.M. TUESDAY TO 6:00 A.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING SHEET TCP-3 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.


TRAFFIC CONTROL PHASING

PERFORM BRIDGE REPAIR WORK USING FLAGGING OPERATION LANE CLOSURES ACCORDING TO SHEET TCP-3 AND THE TIME RESTRICTIONS SET FORTH ON SHEET TCP-2.

AT THE END OF EACH DAY'S OPERATIONS MOVE EQUIPMENT TO A STAGING AREA AT LEAST 40 FEET AWAY FROM ANY TRAVEL LANE AND REMOVE LANE CLOSURES AND DEVICES AS DIRECTED BY THE ENGINEER.

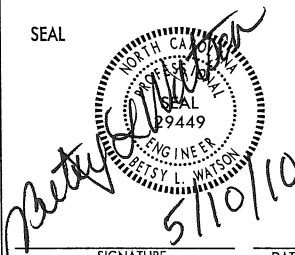
UPON COMPLETION OF THE PROJECT, REMOVE ALL TRAFFIC CONTROL DEVICES.

5/8/2010 8:00am fort 28\TCP\Plan Sheets\B-4700AG_tcp_psh.02.dgn
gk\stg\george




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License No. F-0672

SEAL

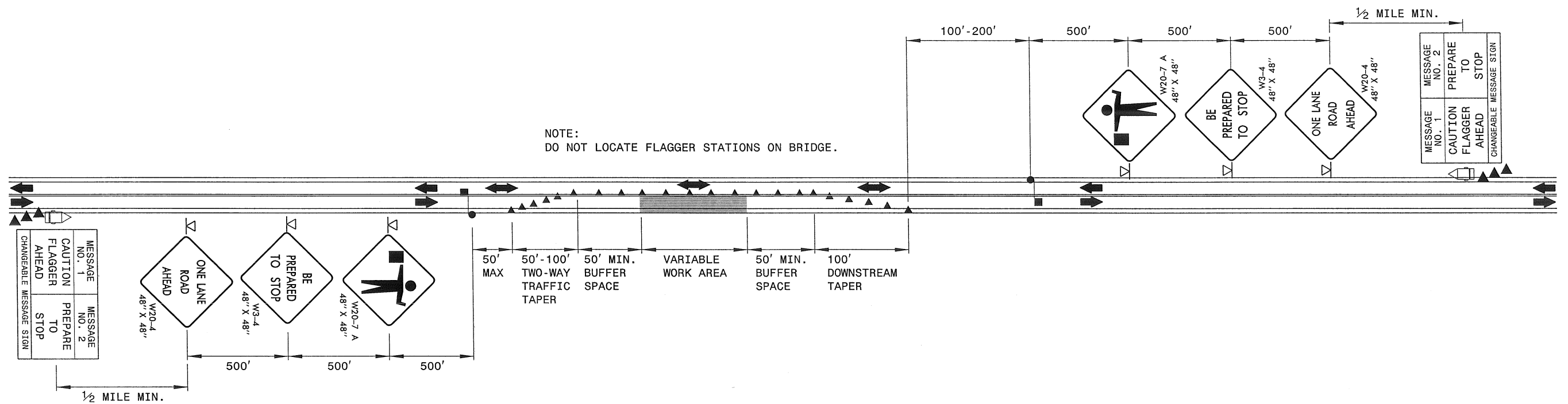


SIGNATURE DATE

GENERAL NOTES
TRAFFIC CONTROL PHASING

SCALE: NONE		REVISIONS
DATE: MAY 2010		
DWG. BY: GK		
DESIGN BY: GK		
REVIEWED BY: BLW		

CADD FILE



NOTES

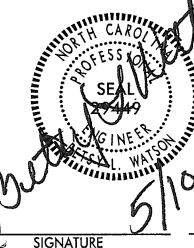
1. INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.
2. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
3. PLACE CONE CHANNELIZING DEVICES THRU THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
4. DRUMS OR SKINNY DRUM CHANNELIZING DEVICES MAY BE USED INSTEAD OF CONES.
5. IF THE TRAVELWAY WIDTH IS 22' OR LESS, OR IF A PILOT CAR IS USED, CHANNELIZING DEVICES MAY NOT BE REQUIRED ALONG THE WORK AREA. CHANNELIZING DEVICES ARE ALWAYS REQUIRED IN THE TWO-WAY TRAFFIC TAPER AND DOWNSTREAM TAPER.
6. DO NOT INSTALL MORE THAN ONE (1) MILE OF LANE CLOSURE, MEASURED FROM THE BEGINNING OF THE TWO-WAY TRAFFIC TAPER TO THE END OF THE LANE CLOSURE.
7. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER. (REFER TO MINIMUM STOPPING SIGHT DISTANCE TABLE ON ROADWAY STD. DWG. 1101.11, SHEET 2)
8. DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.
9. USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. SUPPLEMENT FLAGGERS LOCATED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W20-7a) PLACED APPROXIMATELY 250 FT. IN ADVANCE OF THE FLAGGER. WHERE INTERSECTIONS ARE SIGNALIZED PLACE SIGNALS IN THE FLASH MODE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
10. FLAGGERS SHALL NOT STAND IN A LANE USED BY MOVING TRAFFIC. FLAGGERS SHALL STAND ON THE SHOULDER, WITHIN A CLOSED LANE, OR IN A LANE ONLY ONCE TRAFFIC IS STOPPED.
11. USE THE PILOT CAR METHOD WHEN DIRECTED BY THE ENGINEER. MOUNT SIGN G20-4 "PILOT CAR FOLLOW ME" AT A VISIBLE LOCATION ON THE REAR OF THE PILOT VEHICLE.
12. ADVISE RESIDENTS AND BUSINESSES WITHIN OR NEAR THE LANE CLOSURE LIMITS ABOUT METHODS OF SAFE EGRESS AND INGRESS FROM DRIVEWAYS DURING LANE CLOSURE OPERATIONS.
13. CHANGEABLE MESSAGE SIGN WORD MESSAGES AND LOCATIONS ARE TO BE APPROVED BY THE ENGINEER. ADDITIONAL MESSAGES MAY BE REQUIRED SUCH AS FOR PUBLIC INFORMATION OR DURING SPECIAL EVENTS.

LEGEND

- FLAGGER
- PORTABLE SIGN
- CONE
- CHANGEABLE MESSAGE SIGN
- DIRECTION OF TRAFFIC FLOW



SEAL



TEMPORARY LANE CLOSURE TWO-LANE, TWO-WAY ROADWAY

SCALE: NONE
DATE: MAY 2010
DWG. BY: GK
DESIGN BY: GK
REVIEWED BY: BLW



REVISIONS	

CADD
FILE