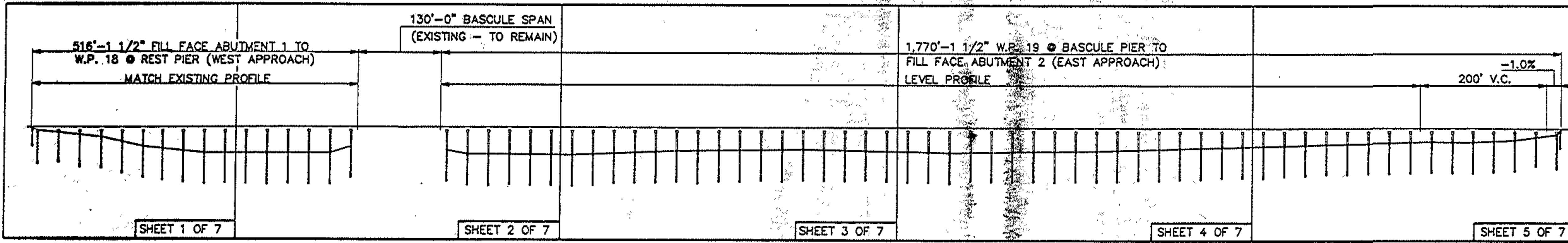
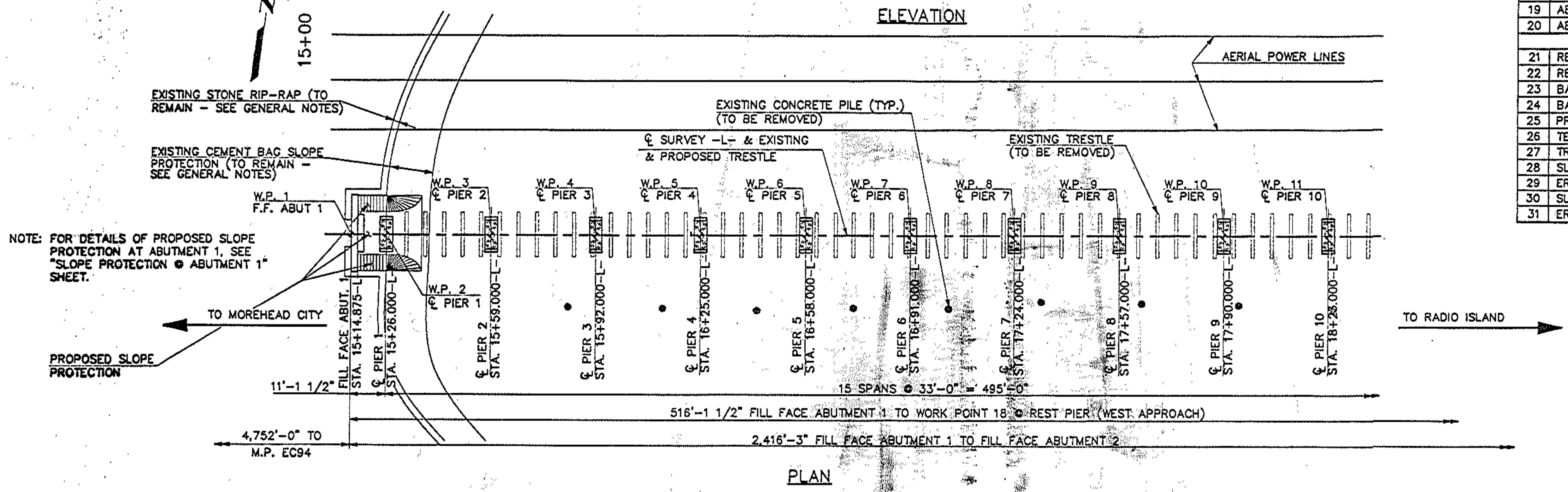


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DWG. NO.	DRAWING TITLE
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2	GENERAL DRAWING 2 OF 7 (G.P.&E.)
3	GENERAL DRAWING 3 OF 7 (G.P.&E.)
4	GENERAL DRAWING 4 OF 7 (G.P.&E.)
5	GENERAL DRAWING 5 OF 7 (G.P.&E.)
6	GENERAL DRAWING 6 OF 7 (FOUNDATION LAYOUT & GENERAL NOTES)
7	GENERAL DRAWING 7 OF 7 (LOC. SKETCH & TOTAL BILL)
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27	TRACKWORK DETAILS
28	SLOPE PROTECTION @ ABUTMENT 1
29	EROSION CONTROL @ ABUTMENT 1
30	SLOPE PROTECTION @ ABUTMENT 2
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SCHMATIC FULL LENGTH PROFILE & GENERAL DRAWING KEY

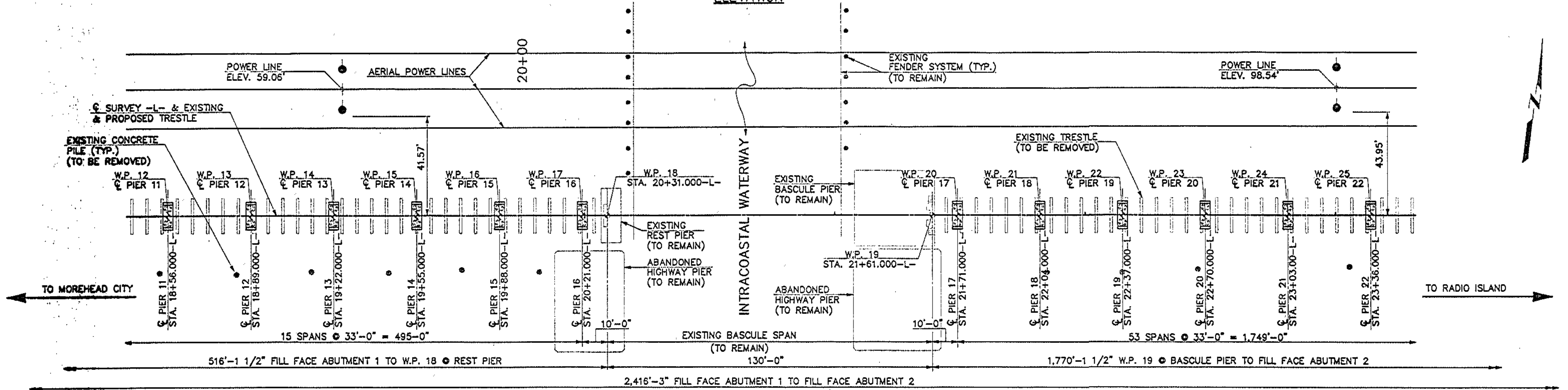
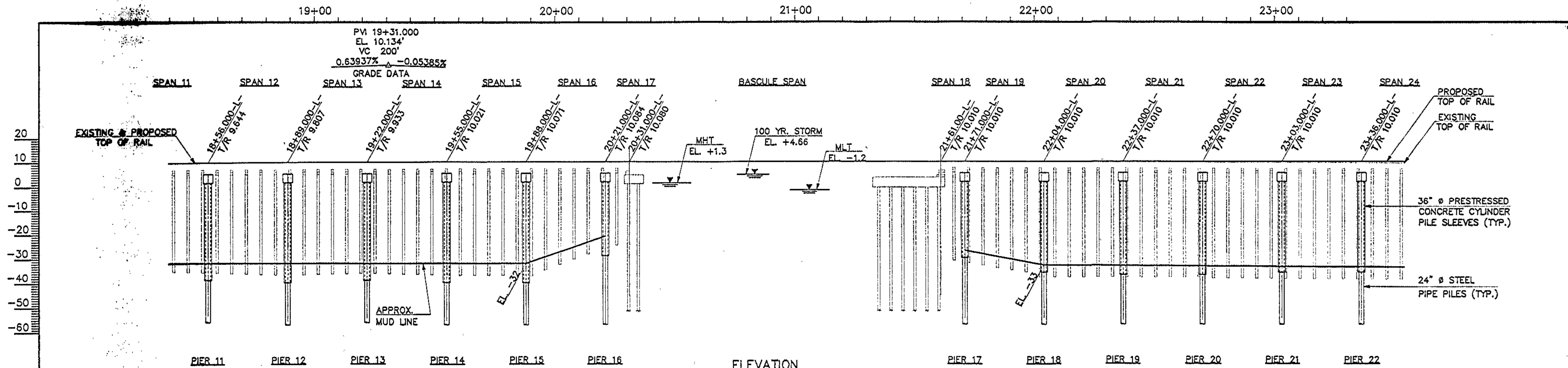


PROJECT No. P-3100
 CARTERET COUNTY
 STATION: POT 10+00.00 -L-
 MILE POST EC94.90
 SHEET 1 OF 7 REPLACING BR. NO. R110

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH GENERAL DRAWING BEAUFORT AND MOREHEAD RAILROAD TRESTLE OVER NEWPORT RIVER BETWEEN MOREHEAD CITY AND RADIO ISLAND					
REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
					TOTAL SHEETS

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 18 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY: J. BAYNE DATE: 1/98
 CHECKED BY: N. GREENLEE DATE: 1/98
 DWG. NO. # 1

NAME: P:\27858\DWG\3\BAP\1.DWG DATE: MAY 12, 1998 TIME: 9:17 AM



PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
 MILE POST EC94.90
 SHEET 2 OF 7

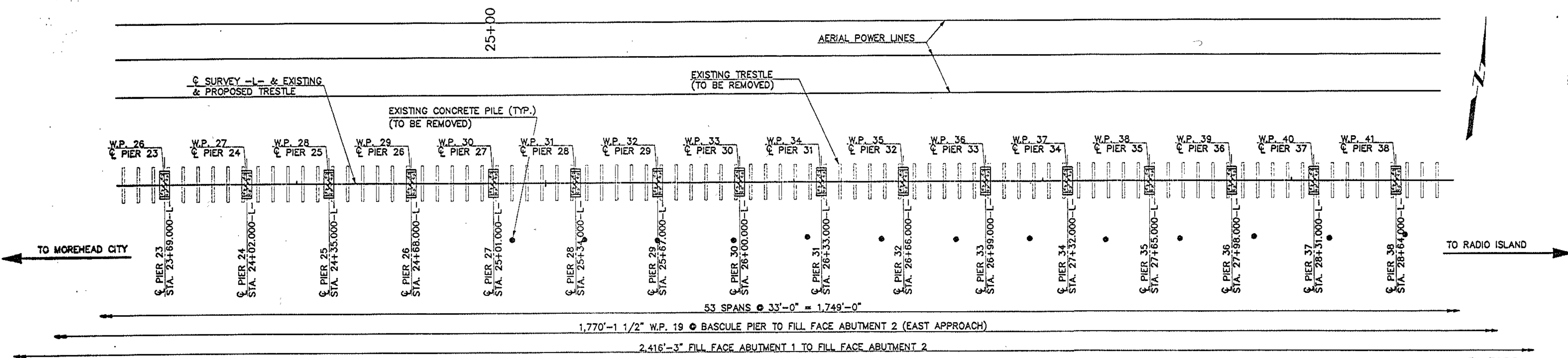
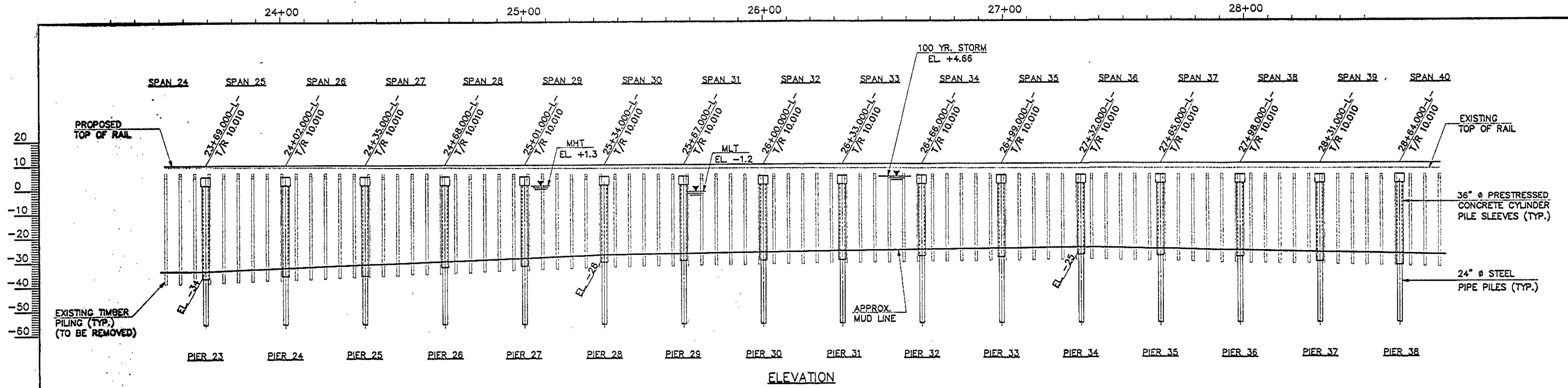


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 BEAUFORT AND MOREHEAD RAILROAD
 TRESTLE OVER NEWPORT RIVER BETWEEN
 MOREHEAD CITY AND RADIO ISLAND

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CARTERET COUNTY
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 MILE POST EC94.90
 SHEET 3 OF 7

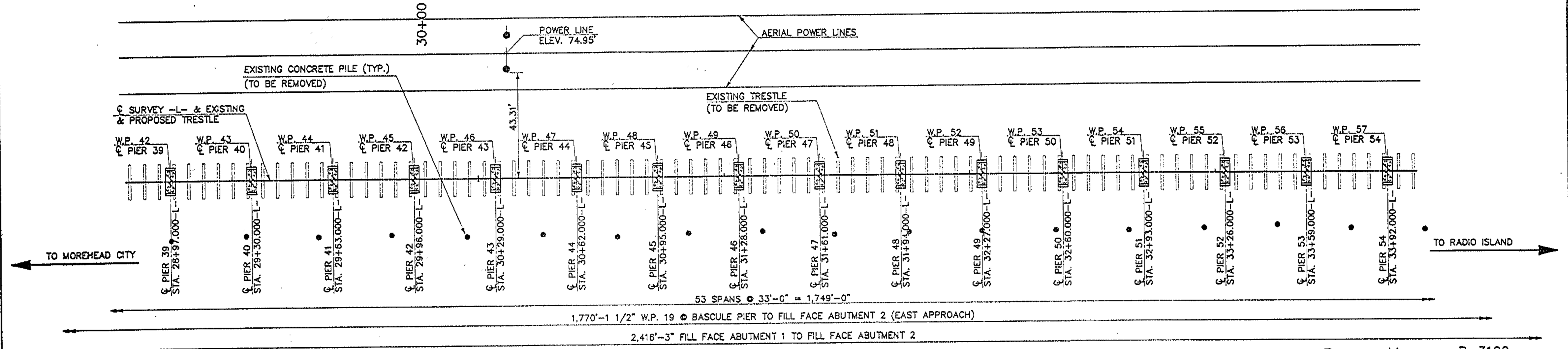
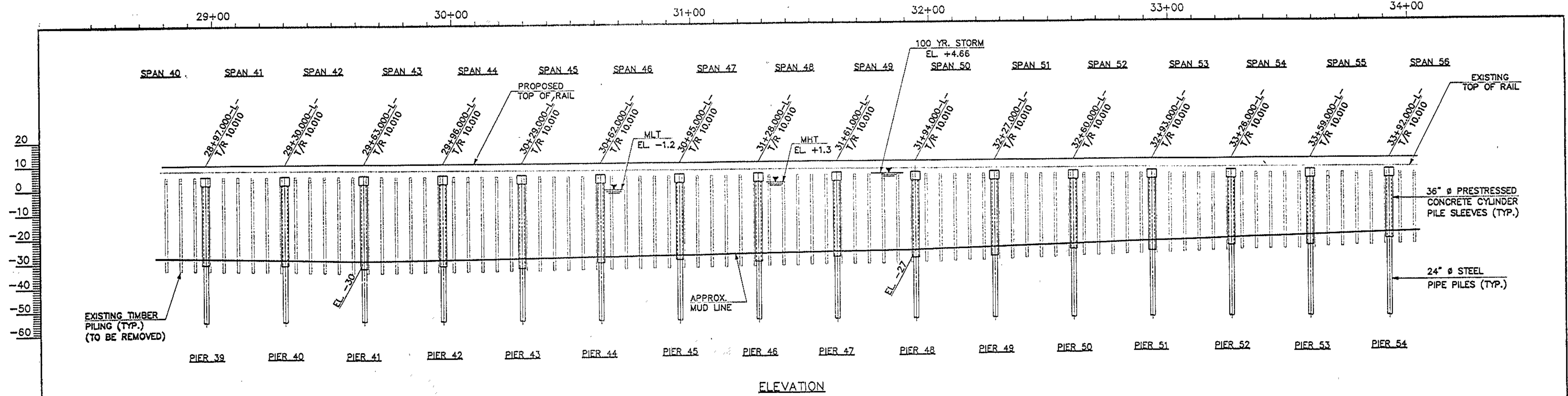


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
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 GENERAL DRAWING
 BEAUFORT AND MOREHEAD RAILROAD
 TRESTLE OVER NEWPORT RIVER BETWEEN
 MOREHEAD CITY AND RADIO ISLAND

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CARTERET COUNTY
 STATION: POT 10+00.00 -L-
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 SHEET 4 OF 7

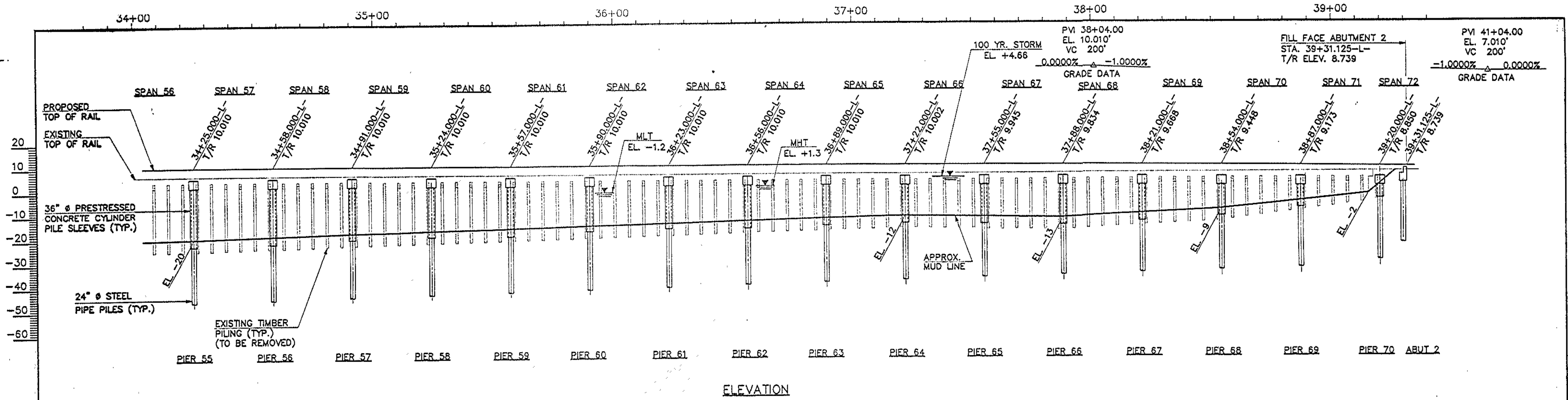


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
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 GENERAL DRAWING
 BEAUFORT AND MOREHEAD RAILROAD
 TRESTLE OVER NEWPORT RIVER BETWEEN
 MOREHEAD CITY AND RADIO ISLAND

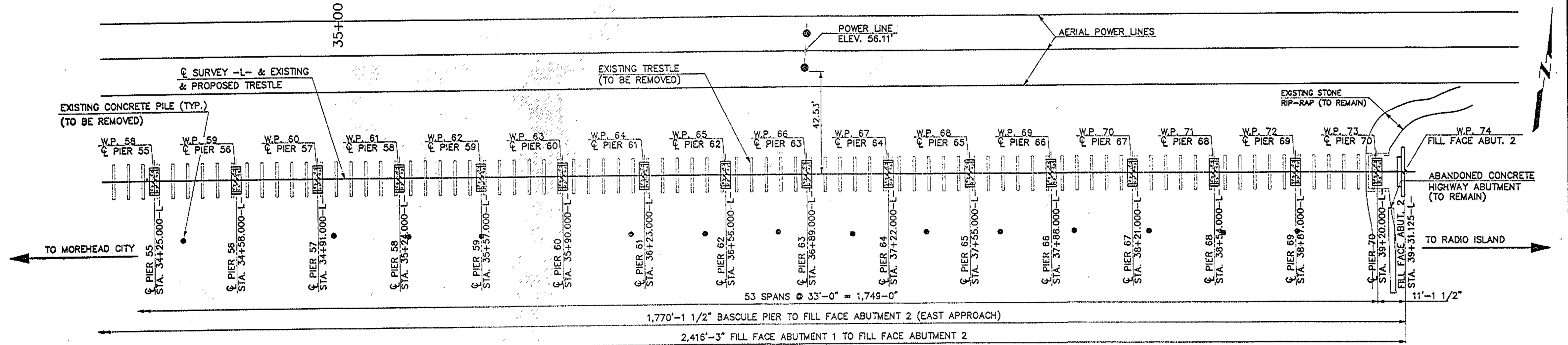
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 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609
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NO.	BY	DATE	NO.	BY	DATE	
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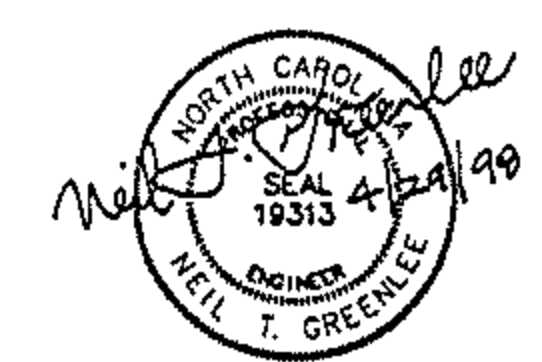


ELEVATION



PLAN

PROJECT NO. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
 MILE POST EC94.90
 SHEET 5 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 BEAUFORT AND MOREHEAD RAILROAD
 TRESTLE OVER NEWPORT RIVER BETWEEN
 MOREHEAD CITY AND RADIO ISLAND

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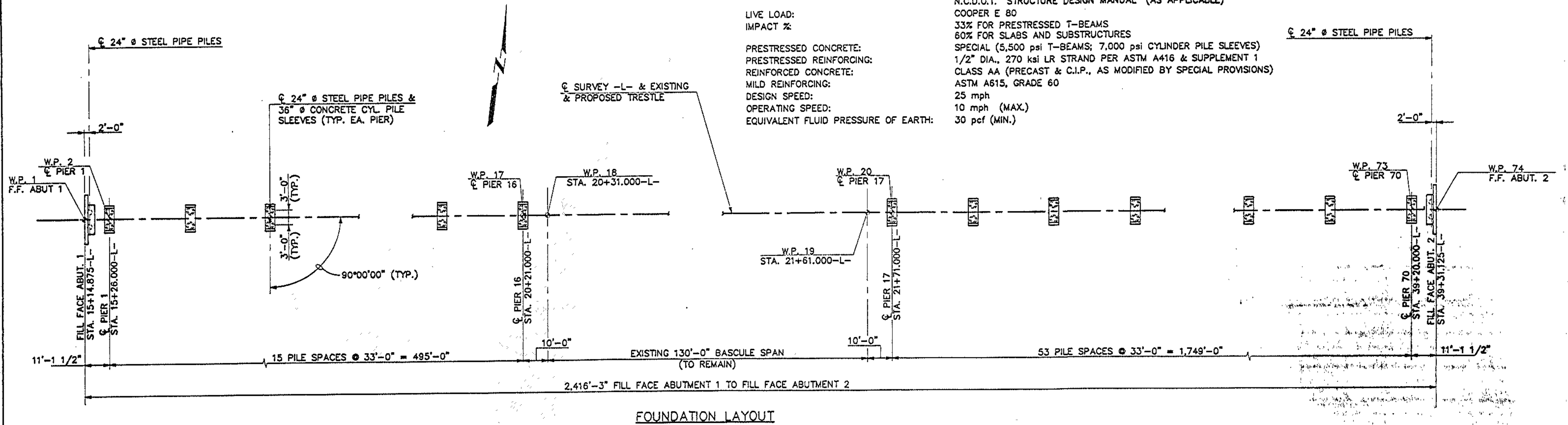
BRIDGE DESIGN DATA

SPECIFICATIONS:

LIVE LOAD:
IMPACT %:

PRESTRESSED CONCRETE:
PRESTRESSED REINFORCING:
REINFORCED CONCRETE:
MILD REINFORCING:
DESIGN SPEED:
OPERATING SPEED:
EQUIVALENT FLUID PRESSURE OF EARTH:

1996 A.R.E.A. "MANUAL FOR RAILWAY ENGINEERING"
N.C.D.O.T. "STRUCTURE DESIGN MANUAL" (AS APPLICABLE)
COOPER E 80
33% FOR PRESTRESSED T-BEAMS
60% FOR SLABS AND SUBSTRUCTURES
SPECIAL (5,500 psi T-BEAMS; 7,000 psi CYLINDER PILE SLEEVES)
1/2" DIA., 270 ksi LR STRAND PER ASTM A416 & SUPPLEMENT 1
CLASS AA (PRECAST & C.I.P., AS MODIFIED BY SPECIAL PROVISIONS)
ASTM A615, GRADE 60
25 mph
10 mph (MAX.)
30 pcf (MIN.)



FOUNDATION LAYOUT

GENERAL NOTES

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9, "SEISMIC DESIGN FOR RAILWAY STRUCTURES", OF THE A.R.E.A. "MANUAL FOR RAILWAY ENGINEERING".

THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD IN ACCORDANCE WITH THE A.R.E.A. SPECIFICATIONS.

CORROSION PROTECTION FOR THIS BRIDGE MEETS THE REQUIREMENTS FOR STRUCTURES IN HIGHLY CORROSIVE AREAS OUTLINED IN CHAPTER 11 OF THE N.C.D.O.T. STRUCTURE DESIGN MANUAL.

GENERALLY, IN CASE OF DISCREPANCY, THESE GENERAL NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER THE GENERAL NOTES, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 1995 STANDARD SPECIFICATIONS "FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

THE EXISTING OPEN DECK TIMBER TRESTLE APPROACH STRUCTURE LOCATED ON THE PROPOSED ALIGNMENT SHALL BE REMOVED PER THE SPECIAL PROVISIONS. THE SUBSTRUCTURE AND FOUNDATIONS OF THE EXISTING STRUCTURE AS SHOWN ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST N.C.D.O.T. FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

THE EXISTING MUD LINE SHOWN ON THE PLANS REPRESENTS THE LOCALIZED 100-YR. SCOUR CONDITION DIRECTLY UNDERNEATH THE STRUCTURE. CYLINDER PILE SLEEVE PENETRATION SHALL BE 3 FT. MINIMUM BELOW THIS LINE (SEE SPECIAL PROVISION "INSTALLATION OF CYLINDER PILE SLEEVES"). THE ANTICIPATED FUTURE MUDLINE FOR THE NON-SCOUR CONDITION WILL BE 5 FT. TO 7 FT. HIGHER THAN THE EXISTING MUDLINE.

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

METHOD "A" WATERPROOFING PER THE STANDARD SPECIFICATIONS SHALL BE UTILIZED AS NOTED ON THE PLANS. IN ADDITION, ALL CONSTRUCTION JOINTS AND ANY SHRINKAGE CRACKS WHICH WILL BE COVERED BY FILL SHALL BE WATERPROOFED WITH METHOD "A" WATERPROOFING UTILIZING 2 FT. WIDE FABRIC STRIPS PLACED SYMMETRICALLY OVER SUCH JOINTS OR CRACKS.

ALL GROUT USED ON THIS PROJECT SHALL BE NON-SHRINK, NON-METALLIC, PORTLAND CEMENT GROUT AS APPROVED BY THE ENGINEER WITH ULTIMATE STRENGTH AS CALLED FOR ON THE PLANS. FOR MORE INFORMATION, SEE PIER SHEETS AND "SUPERSTRUCTURE DETAILS" SHEET.

ALL WORK INVOLVED IN THE CONSTRUCTION OF THIS BRIDGE SHALL BE PERFORMED SATISFACTORY TO THE ENGINEER AND/OR THE OPERATING RAILWAY COMPANY. ALL WORK WHICH WILL POTENTIALLY IMPACT THE SAFETY OF SCHEDULED RAIL OPERATIONS MUST BE APPROVED BY THE ENGINEER AND/OR THE OPERATING RAILWAY COMPANY REPRESENTATIVE PRIOR TO PROCEEDING WITH SUCH WORK. SCHEDULED RAIL TRAFFIC SHALL AT ALL TIMES BE MAINTAINED AND PROTECTED. THE CONTRACTOR SHALL NOT AT ANY TIME DELAY OR INTERFERE WITH SCHEDULED RAIL OPERATIONS WITHOUT PRIOR APPROVAL FROM THE ENGINEER AND/OR THE OPERATING RAILWAY COMPANY REPRESENTATIVE.

ALL CONSTRUCTION JOINTS SHOWN ON THESE PLANS SHALL BE REQUIRED UNLESS DENOTED AS "OPTIONAL". CONSTRUCTION JOINTS SHALL NOT BE PERMITTED EXCEPT AS SHOWN ON THE PLANS OR WHERE WRITTEN APPROVAL HAS BEEN PREVIOUSLY OBTAINED FOR SUCH WORK.

THE CONTRACTOR SHALL INSTALL NEW, PERMANENT SLOPE PROTECTION AT THE NEW ABUTMENTS IN ACCORDANCE WITH THE DETAILS SHOWN ON THE SLOPE PROTECTION SHEETS. EXISTING SLOPE PROTECTION OUTSIDE THESE LIMITS WHICH IS DAMAGED OR DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO ITS PRE-CONSTRUCTION CONDITION.

FOR MEASUREMENT AND PAYMENT FOR LUMP SUM DESIGN/BUILD CONTRACT, SEE SPECIAL PROVISIONS.

FOR REMOVAL OF EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE OF RAIL AND MARINE TRAFFIC, SEE SPECIAL PROVISIONS.

FOR WORK IN, OVER OR ADJACENT TO NAVIGABLE WATERS, SEE SPECIAL PROVISIONS.

FOR SECURING OF VESSELS, SEE SPECIAL PROVISIONS.

FOR PORTLAND CEMENT, SEE SPECIAL PROVISIONS.

FOR FINE AND COARSE AGGREGATE, SEE SPECIAL PROVISIONS.

FOR 36" PRESTRESSED CONCRETE T-BEAMS, SEE SPECIAL PROVISIONS.

FOR CALCIUM NITRITE CORROSION INHIBITOR, SEE SPECIAL PROVISIONS.

FOR PRECAST CONCRETE UNITS (NON-PRESTRESSED), SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

FOR ANCHORING ASSEMBLIES, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

FOR ADHESIVELY ANCHORED DOWELS, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE CYLINDER PILE SLEEVES, SEE SPECIAL PROVISIONS.

FOR STEEL PIPE PILES, SEE SPECIAL PROVISIONS.

FOR INSTALLATION OF CYLINDER PILE SLEEVES, SEE SPECIAL PROVISIONS.

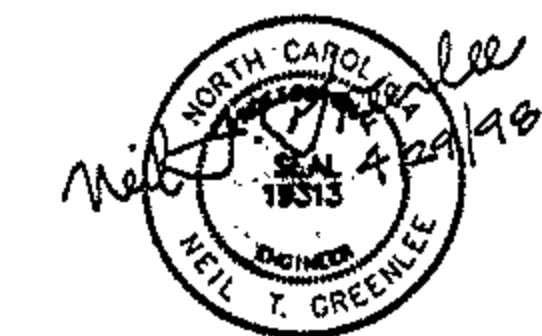
FOR INSTALLATION OF STEEL PIPE PILES, SEE SPECIAL PROVISIONS.

FOR BACKFILL BEHIND ABUTMENTS, SEE SPECIAL PROVISIONS.

FOR RAILROAD BALLAST, SEE SPECIAL PROVISIONS.

FOR RAILROAD TRACKWORK, SEE SPECIAL PROVISIONS.

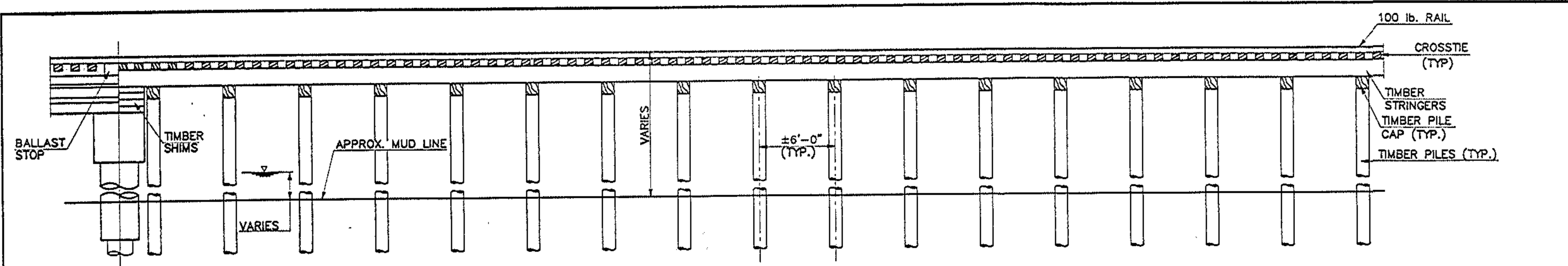
PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
 MILE POST EC94.90
 SHEET 6 OF 7



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOUNDATION LAYOUT
 &
 GENERAL NOTES

HNTE HNTE NORTH CAROLINA, P.C.
 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY: J. BAYNE DATE: 1/98
 CHECKED BY: N. GREENLEE DATE: 3/98 DWG. NO. 6

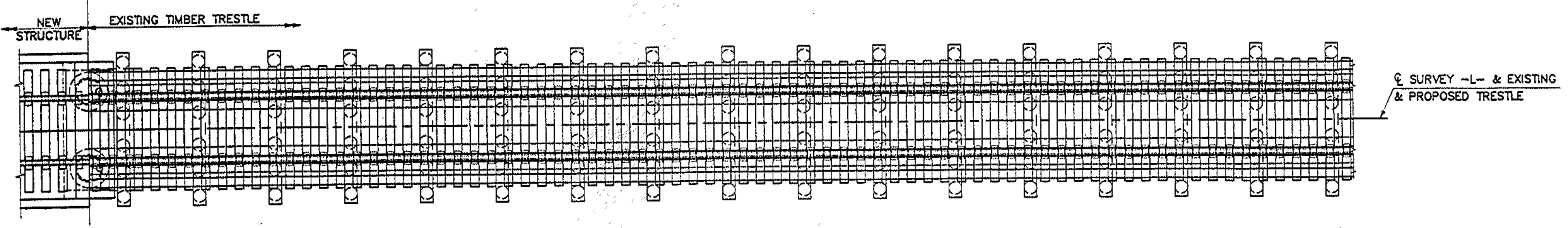
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NO.	BY	DATE	NO.	BY	DATE	
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2			4			



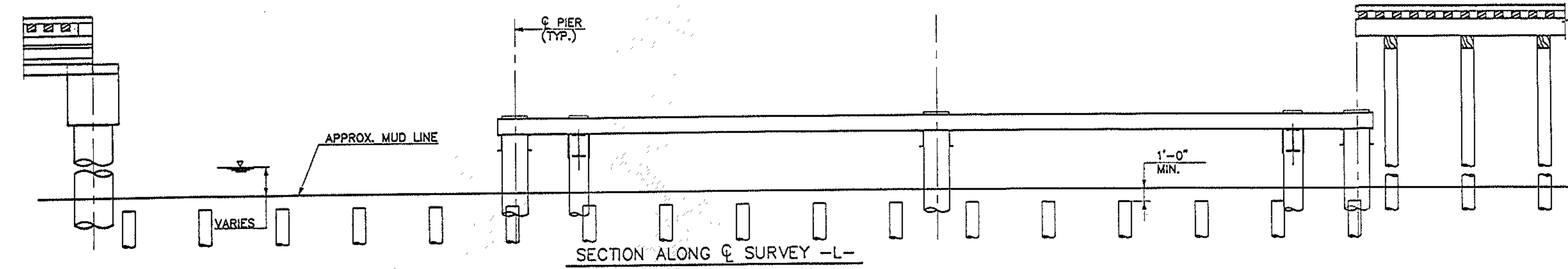
SECTION ALONG Q SURVEY -L-

EXISTING TIMBER TRESTLE AS SHOWN CONSISTING OF:

- 14"x14"x12'-0" TIMBER PILE CAPS
- 8"x16" TIMBER STRINGERS
- 7"x8" TIES AT 24" CTRS
- 100 lb. RAIL



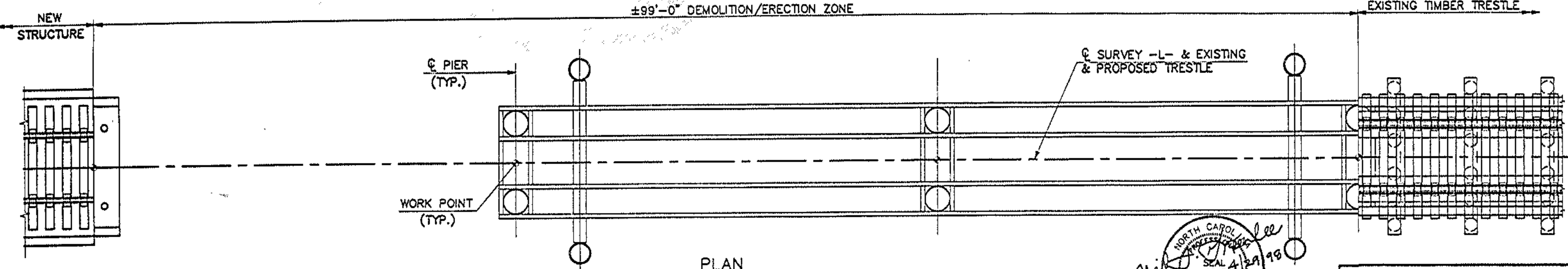
PLAN
EXISTING STRUCTURE



SECTION ALONG Q SURVEY -L-

CONSTRUCTION SEQUENCE - STAGE 1
REMOVE ±99 FEET OF TIMBER TRESTLE AS FOLLOWS:

1. REMOVE RAIL, TIES AND HARDWARE IN "PANELIZED" SECTIONS.
2. REMOVE TIMBER STRINGERS, SHIMS AND PILE CAPS AND BEGIN CONSTRUCTION OF TEMPORARY GRADE RAISE FOR STAGE 5 RAIL RECONSTRUCTION.
3. REMOVE TIMBER PILES TO MINIMUM 1'-0" BELOW EXISTING MUD LINE. DISPOSE OF TIMBER PILES OFF SITE.
4. DRIVE SUPPORT PILES FOR PILE-DRIVING TEMPLATE.
5. SET PILE DRIVING TEMPLATE TO PROPER HORIZONTAL AND VERTICAL ALIGNMENT.
6. DRIVE PIPE PILES TO ELEVATIONS SHOWN ON THE PLANS. (SEE PIER SHEETS).



PLAN
STAGE 1

PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
 MILE POST EC94.90
 SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SEQUENCE OF CONSTRUCTION



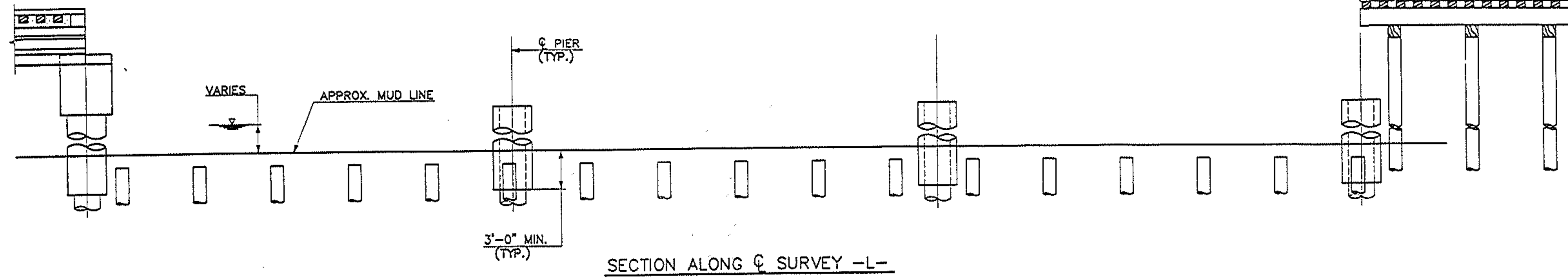
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 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY J. BAYNE DATE 1/98
 CHECKED BY N. GREENLEE DATE 3/98 DWG. NO. 8

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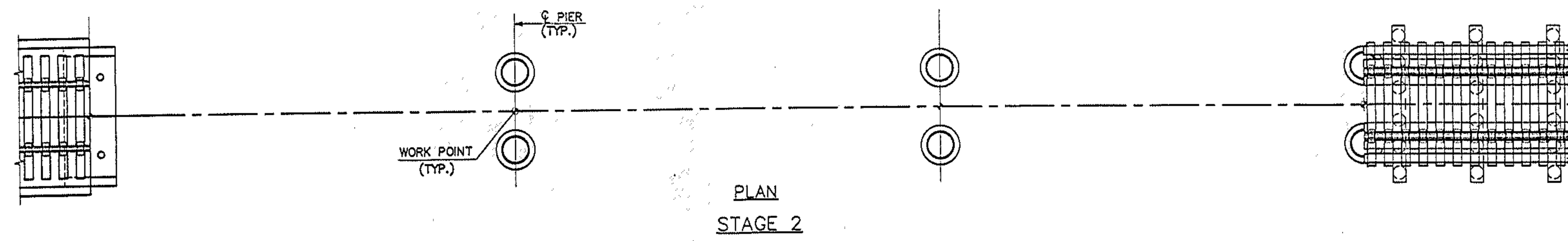
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CONSTRUCTION SEQUENCE - STAGE 2

1. REMOVE PILE DRIVING TEMPLATE.
2. PLACE CYLINDER PILE SLEEVES AROUND THE PIPE PILES TO ELEVATIONS SHOWN ON THE PLANS. (SEE PIER SHEETS).
3. PUMP WATER FROM INSIDE OF PIPE PILES.
4. FILL ANNULAR SPACE BETWEEN CYLINDER PILE SLEEVES AND PIPE PILES WITH GROUT. (SEE PIER SHEETS).



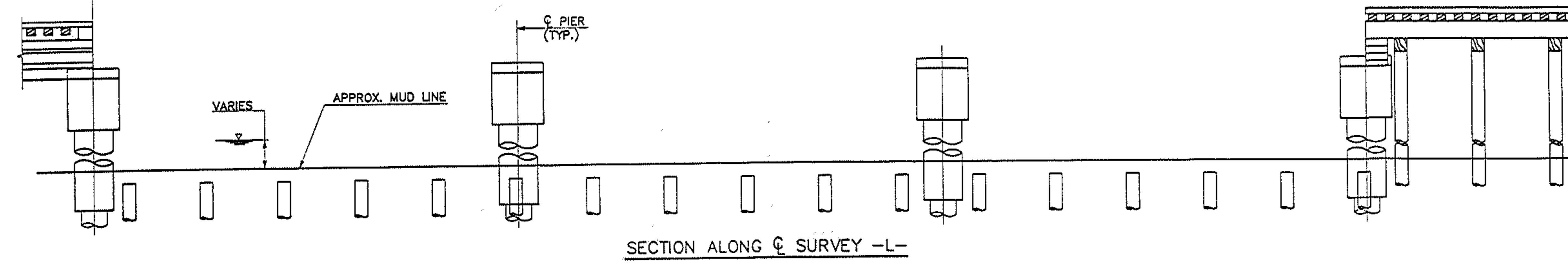
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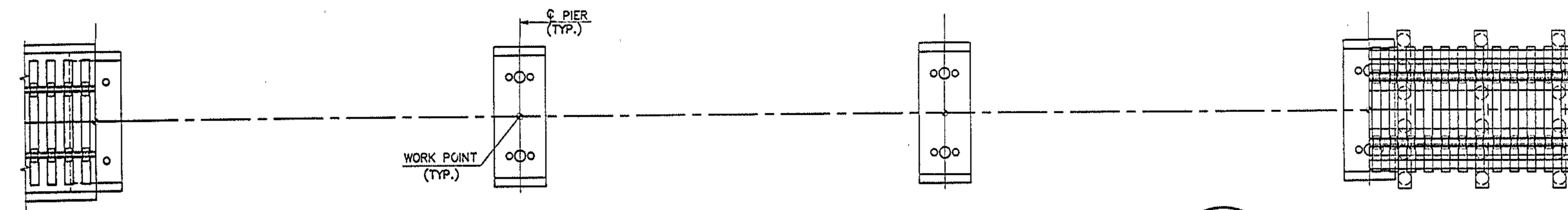
PLAN STAGE 2

CONSTRUCTION SEQUENCE - STAGE 3

1. PLACE PRECAST PIER CAP ON PILES.
2. FILL PILE PLUGS AND TAPERED HOLES WITH CLASS AA CONCRETE AS SHOWN ON THE PLANS. (SEE PIER SHEETS).
3. COMPLETE CONSTRUCTION OF TEMPORARY GRADE RAISE.



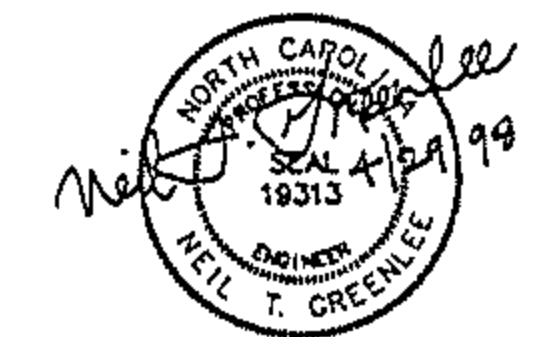
SECTION ALONG C SURVEY -L-



PLAN STAGE 3

PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
 MILE POST EC94.90
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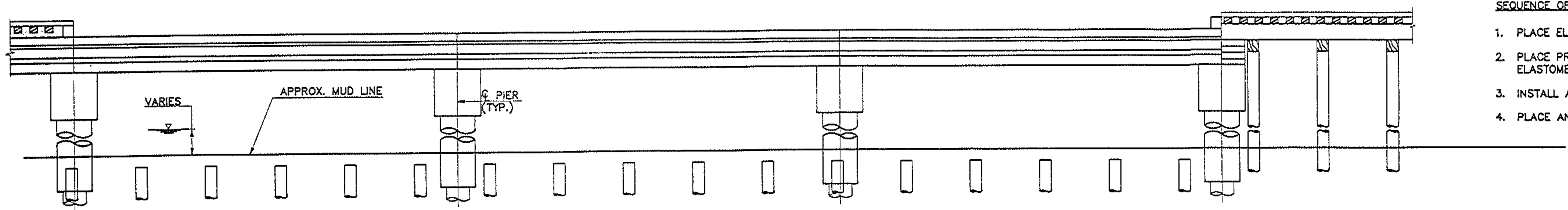
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SEQUENCE OF CONSTRUCTION



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 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609
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 CHECKED BY: N. GREENLEE DATE: 3/98
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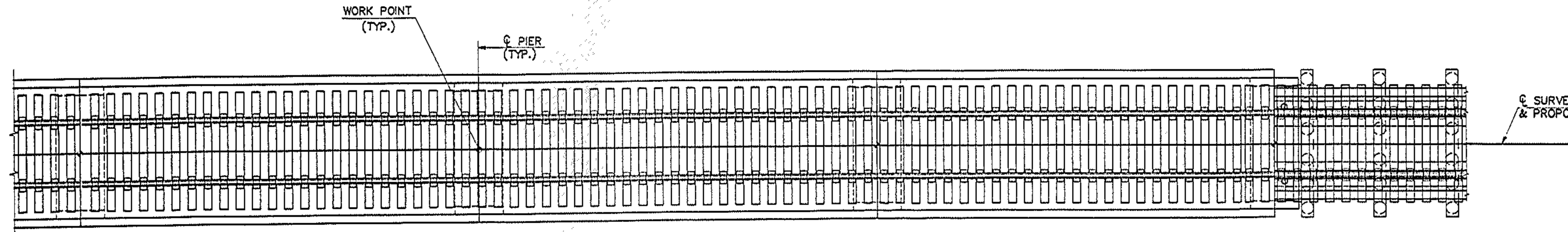
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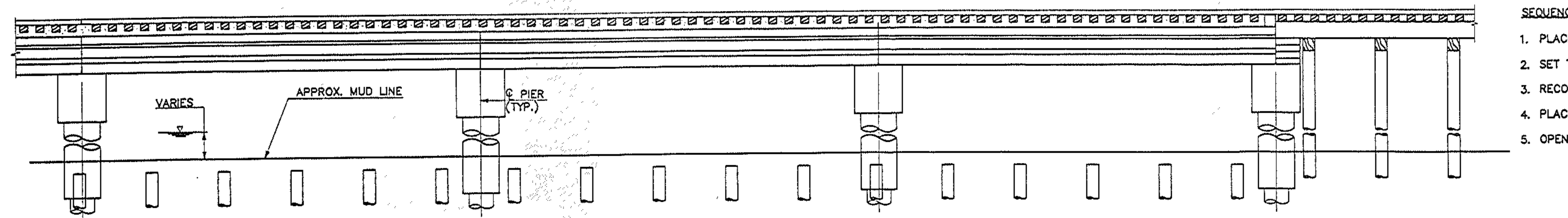


SECTION ALONG Q SURVEY -L-

- SEQUENCE OF CONSTRUCTION - STAGE 4
1. PLACE ELASTOMERIC BEARINGS ON PIER CAPS.
 2. PLACE PRESTRESSED CONCRETE T-BEAMS ON ELASTOMERIC BEARINGS.
 3. INSTALL ANCHORING ASSEMBLIES.
 4. PLACE AND SECURE TEMPORARY BALLAST STOP.

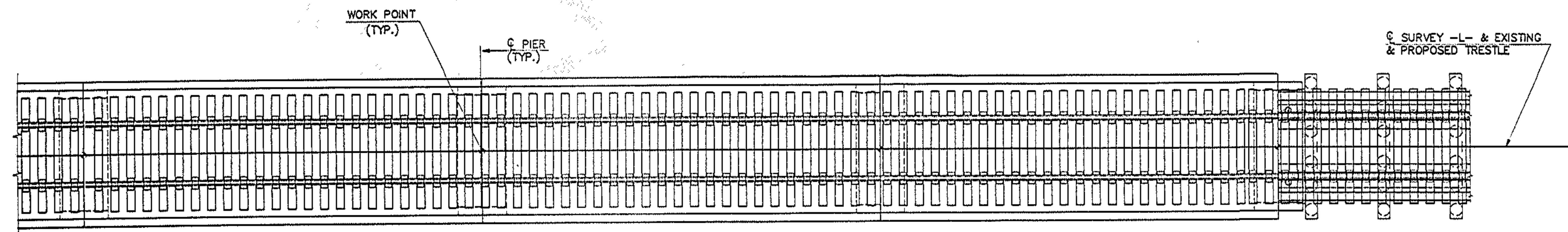


PLAN
STAGE 4



SECTION ALONG Q SURVEY -L-

- SEQUENCE OF CONSTRUCTION - STAGE 5
1. PLACE 6" MIN. BALLAST IN PAN.
 2. SET TRACK IN BALLAST PAN AND ALIGN TO GRADE.
 3. RECONNECT RAILS WITH BOLTED RAIL SPLICES.
 4. PLACE 6" ADDITIONAL BALLAST AROUND TIES.
 5. OPEN BRIDGE TO TRAFFIC.



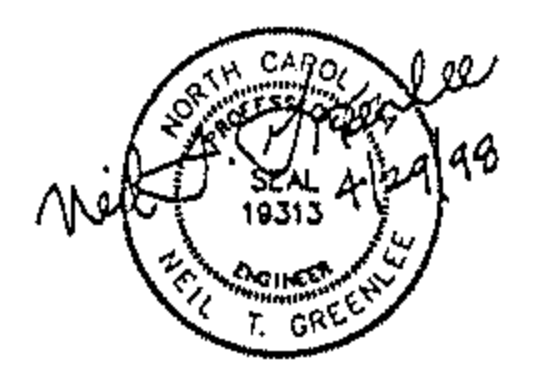
PLAN
STAGE 5

PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
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 SHEET 3 OF 3

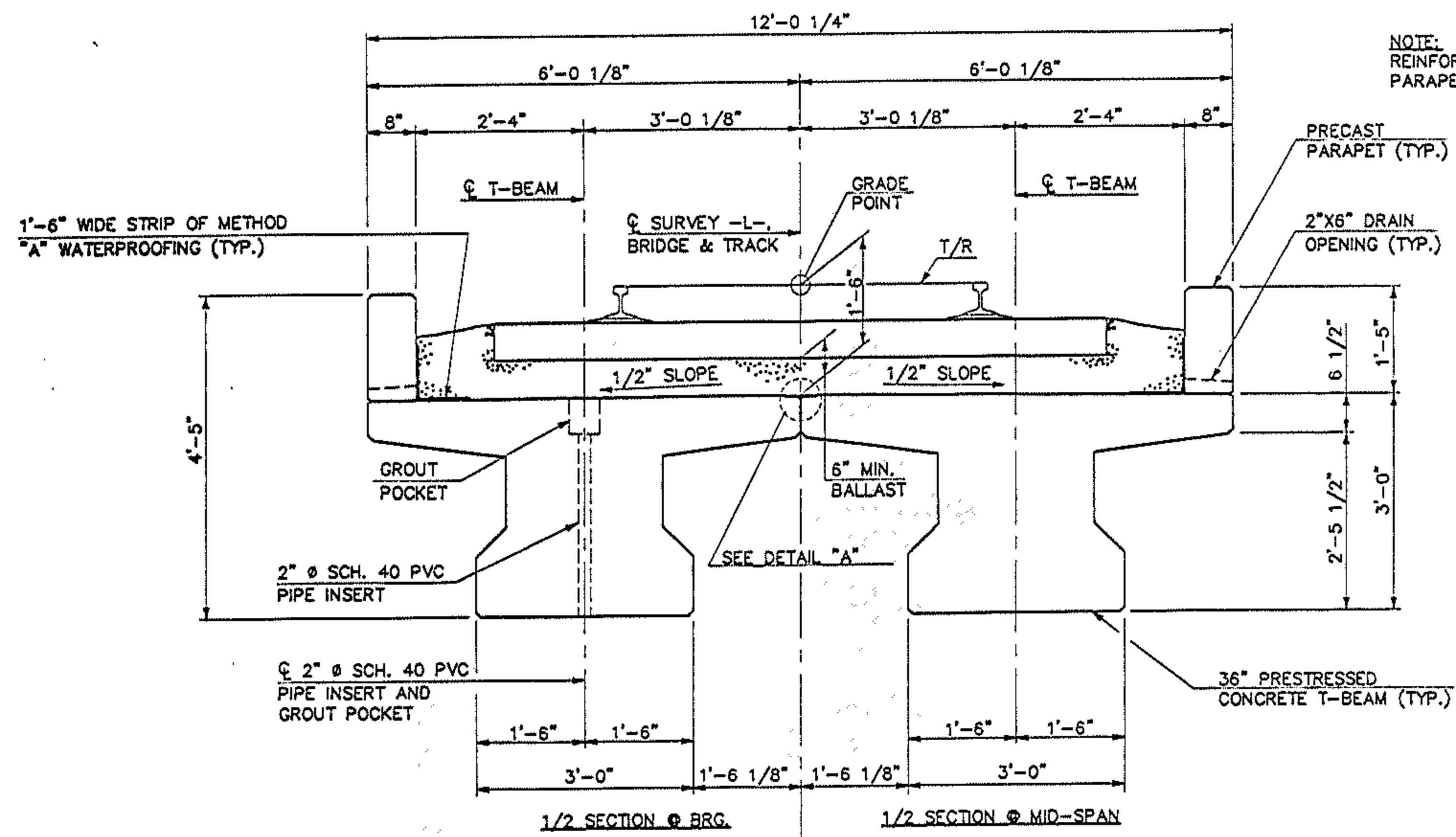
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SEQUENCE OF CONSTRUCTION

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS
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 18 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY J. BAYNE DATE 2/98
 CHECKED BY N. GREENLEE DATE 3/98 DWG. NO. 10



NAME: P:\3334\UNGS\14503.DWG DATE: MAY 5, 1998 TIME: 2:30 PM



NOTE:
 REINFORCING STEEL IN THE
 PARAPETS IS EPOXY COATED.

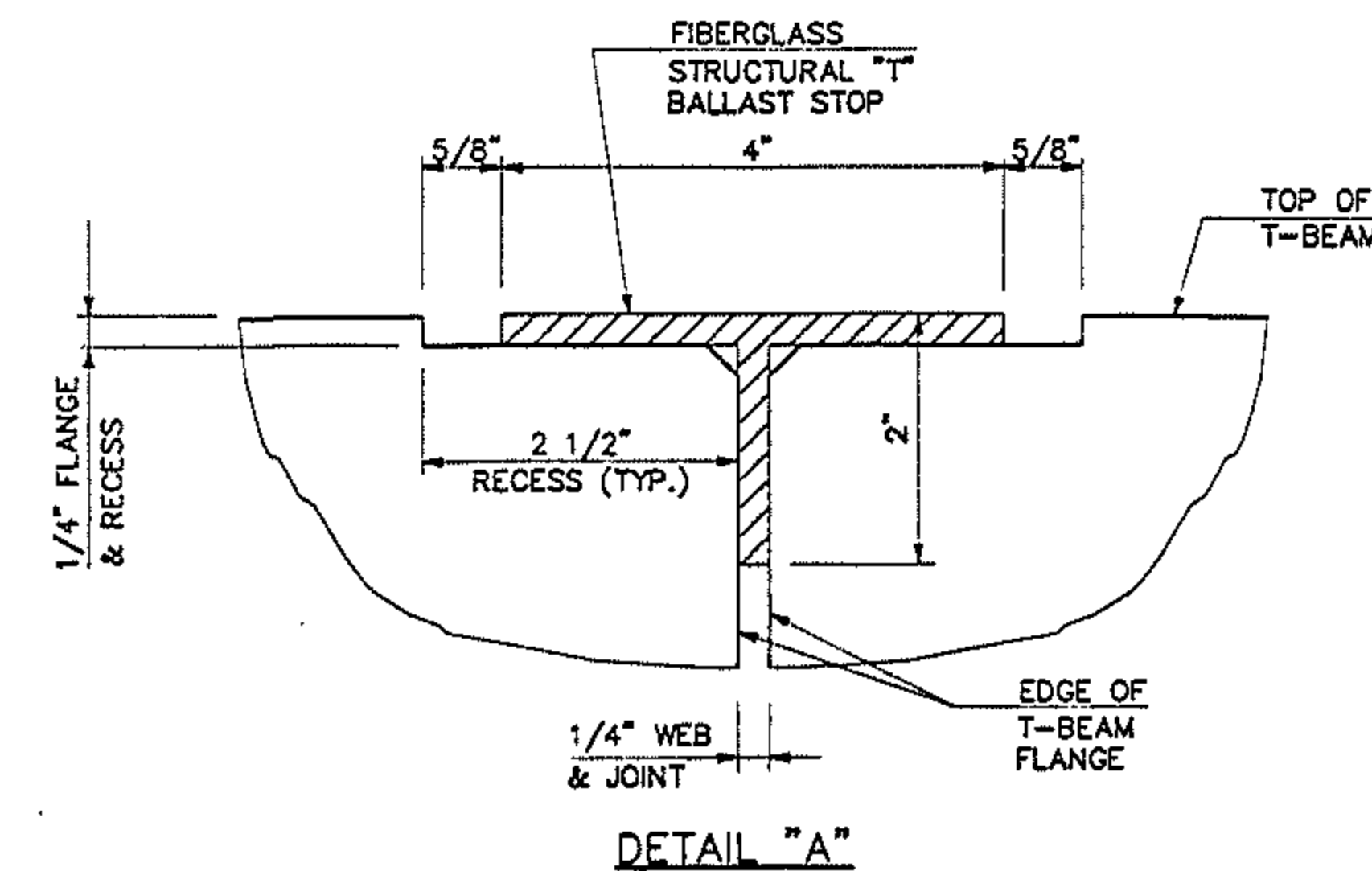
NOTES:

ALL HORIZONTAL DIMENSIONS ARE SHOWN
 NORMAL TO ϕ SURVEY -L-.

FOR T-BEAM DETAILS, SEE "36" PRESTRESSED
 CONCRETE T-BEAM" SHEET.

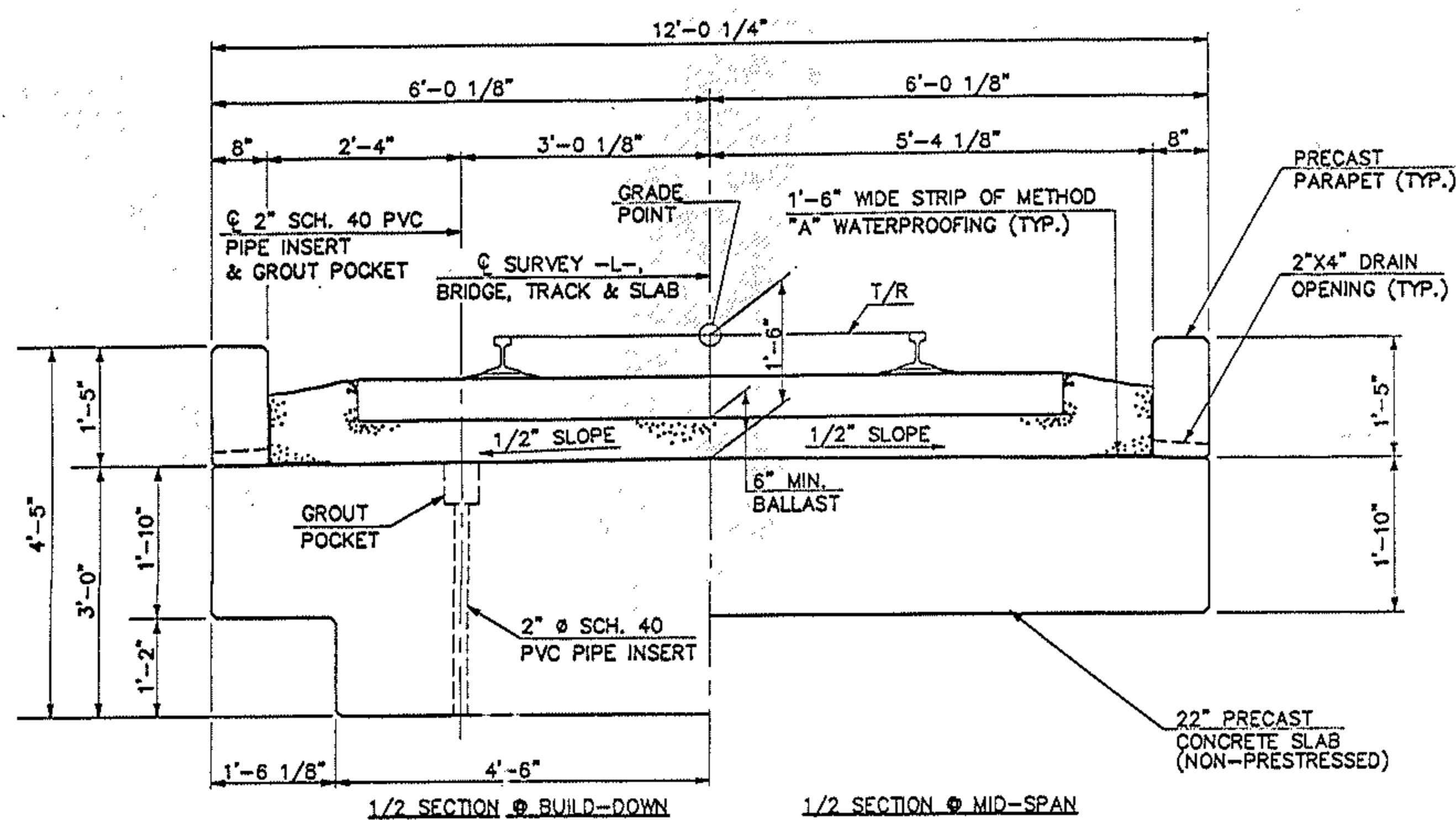
FOR SLAB DETAILS, SEE "22" PRECAST
 CONCRETE SLAB" SHEET.

FOR CONSTRUCTION SEQUENCE, SEE "SEQUENCE
 OF CONSTRUCTION" SHEET.



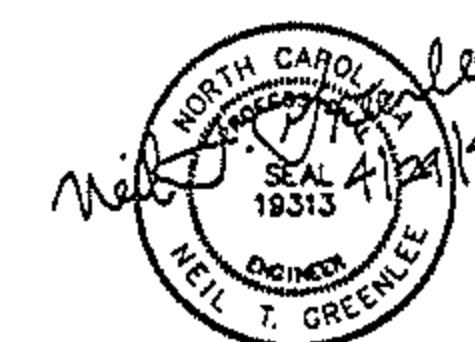
TYPICAL SECTION
 (SPANS 2 - 16, 19 - 71)

NOTE:
 ALL REINFORCING STEEL IN
 THE SLAB AND PARAPETS
 IS EPOXY COATED.



TYPICAL SECTION
 (SPANS 1, 17, 18, 72)

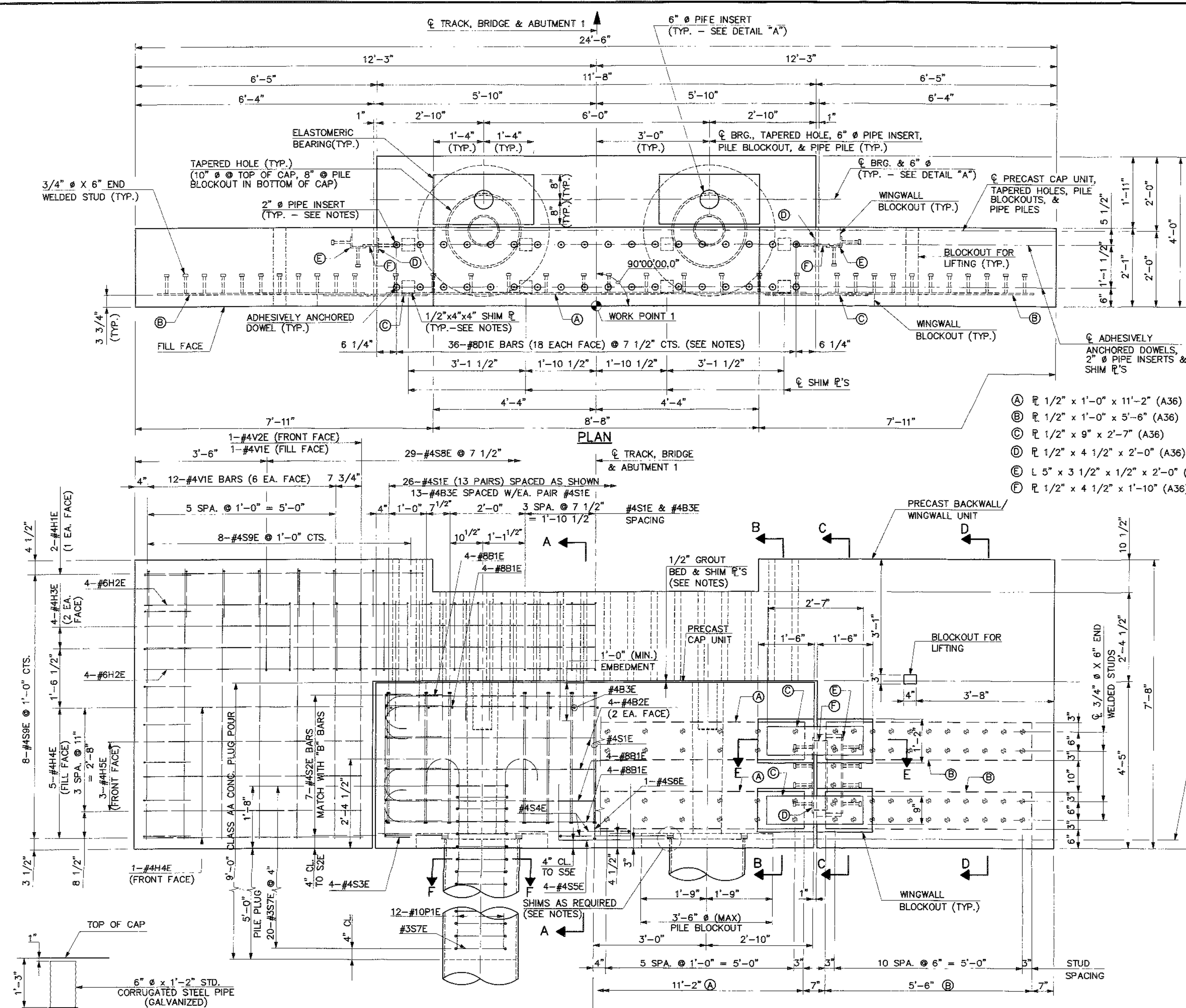
PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 TYPICAL SECTIONS

HNTB HNTB NORTH CAROLINA, P.C. 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609		REVISIONS				SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS
1	J. BAYNE	1/98	3			
2	N. GREENLEE	3/98	4			
DRAWN BY: J. BAYNE CHECKED BY: N. GREENLEE		DATE: 1/98 DATE: 3/98	DWG. NO. 11			

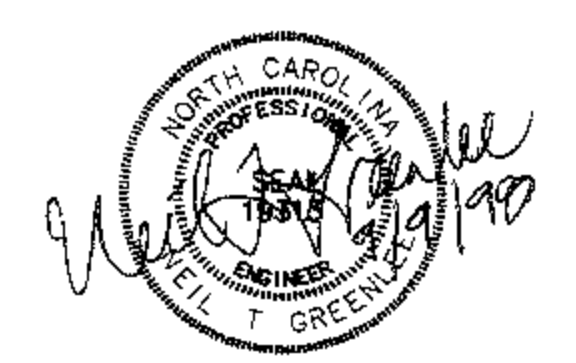
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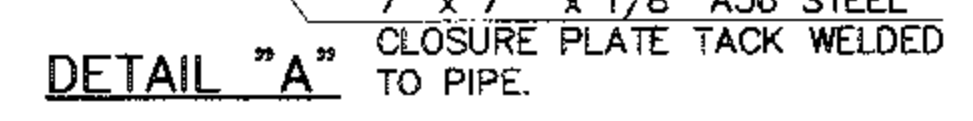
NOTES:
 FOR SECTIONS A-A, B-B, C-C, D-D, E-E AND F-F, SEE SHEET 2 OF 2.
 HOOKS ON "P" BARS IN PRECAST CAP UNIT MAY BE ORIENTED AS NECESSARY FOR PLACING REINFORCING STEEL.
 EMBEDDED STRUCTURAL STEEL ANCHOR PLATES AND ANGLES SHALL CONFORM TO ASTM A36 AND SHALL BE FABRICATED AND INSTALLED IN THE PRECAST UNITS AS SHOWN ON THE PLANS.
 REINFORCING IN PRECAST UNITS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO CLEAR STUDS ON EMBEDDED ANCHOR PLATES AND ANGLES.
 CONCRETE IN EACH PILE PLUG SHALL BE CONTINUOUSLY PLACED UNTIL THE PLUG, PILE BLOCKOUT, AND TAPERED HOLE ARE COMPLETELY FILLED WITH CONCRETE. DURING THIS OPERATION, THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE FRESH CONCRETE AGAINST TIDAL WATER INTRUSION. SUCH PROTECTIVE MEASURES SHALL REMAIN IN PLACE FOR AT LEAST 24 HOURS AFTER PLACEMENT OF THE CONCRETE.
 SHIMS SHALL BE A36 STEEL PLATES OR HARDENED STEEL WASHERS. MINIMUM 4 EQUALLY SPACED SHIM POINTS PER PILE AND 9 SQ. IN. OF PRECAST CAP BEARING AREA PER SHIM POINT. SEE SHIM DETAIL SHEET 2 OF 2.
 ADHESIVELY ANCHORED DOWELS SHALL BE #8 EPOXY COATED BARS AS SHOWN ON THE PLANS AND CONFORMING TO ASTM A615 GRADE 60 AND SHALL BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM. THE YIELD LOAD FOR THE DOWELS IS 47.4 KIPS. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED. SEE SPECIAL PROVISION "ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS".
 GROUT SHALL BE NON-SHRINK, NON-METALLIC, PORTLAND CEMENT GROUT ATTAINING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,500 PSI AND SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
 FOR ANCHORING ASSEMBLIES AND ELASTOMERIC BEARINGS, SEE "SUPERSTRUCTURE DETAILS" SHEET.
 FOR PRECAST CAP UNIT AND PRECAST BACKWALL/WINGWALL UNIT, SEE SPECIAL PROVISION "PRECAST CONCRETE UNITS (NON-PRESTRESSED)".
 FOR STEEL PIPE PILES, SEE SPECIAL PROVISIONS.
 FOR INSTALLATION OF STEEL PIPE PILES, SEE SPECIAL PROVISION "COMPOSITE PILE INSTALLATION".
 FOR ANCHORING ASSEMBLIES, SEE SPECIAL PROVISIONS.
 FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

- SEQUENCE OF CONSTRUCTION:**
- EXCAVATE ABUTMENT AREA AND DRIVE PIPE PILES.
 - PLACE PRECAST CAP UNIT ON PIPE PILES AND POUR CONCRETE PLUG.
 - PLACE PRECAST BACKWALL/WINGWALL UNIT ON PRECAST CAP UNIT AND INSTALL ADHESIVELY ANCHORED DOWELS AND WELDED STEEL ANCHOR PLATES. THE CONTRACTOR MAY: 1) PREDRILL HOLES FOR DOWELS IN THE PRECAST CAP UNIT PRIOR TO PLACING THE UNIT, OR 2) DRILL HOLES IN THE PRECAST CAP UNIT AFTER PLACING BOTH UNITS USING THE 2" DIA. GROUT TUBES AS DRILL GUIDES.
 - PLACE GROUT IN BLOCKOUTS, GROUT TUBES AND SPACE BETWEEN PRECAST UNITS. FORMS USED FOR GROUTING SHALL BE FLUSH WITH THE VERTICAL FACES OF THE PRECAST UNITS AND SHALL REMAIN IN PLACE FOR AT LEAST 12 HOURS AFTER GROUT IS PLACED. DAMAGE TO THE PRECAST UNITS RESULTING FROM FORM ATTACHMENT AND/OR REMOVAL SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
 - BACKFILL AS REQUIRED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND PLACE SLOPE PROTECTION IN ACCORDANCE WITH DETAILS SHOWN ON "SLOPE PROTECTION @ ABUTMENT 1" SHEET.
 - PLACE ELASTOMERIC BEARINGS AND 22" PRECAST CONCRETE SLAB UNIT AS SHOWN ON THE PLANS.
 - INSTALL ANCHORING ASSEMBLIES AS SHOWN ON THE PLANS.
 - PLACE BALLAST AND TRACK (i.e. TIES, RAIL AND ASSOCIATED HARDWARE) ON THE SLAB AND ALIGN TRACK TO GRADE.

PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
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 SHEET 1 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 ABUTMENT 1



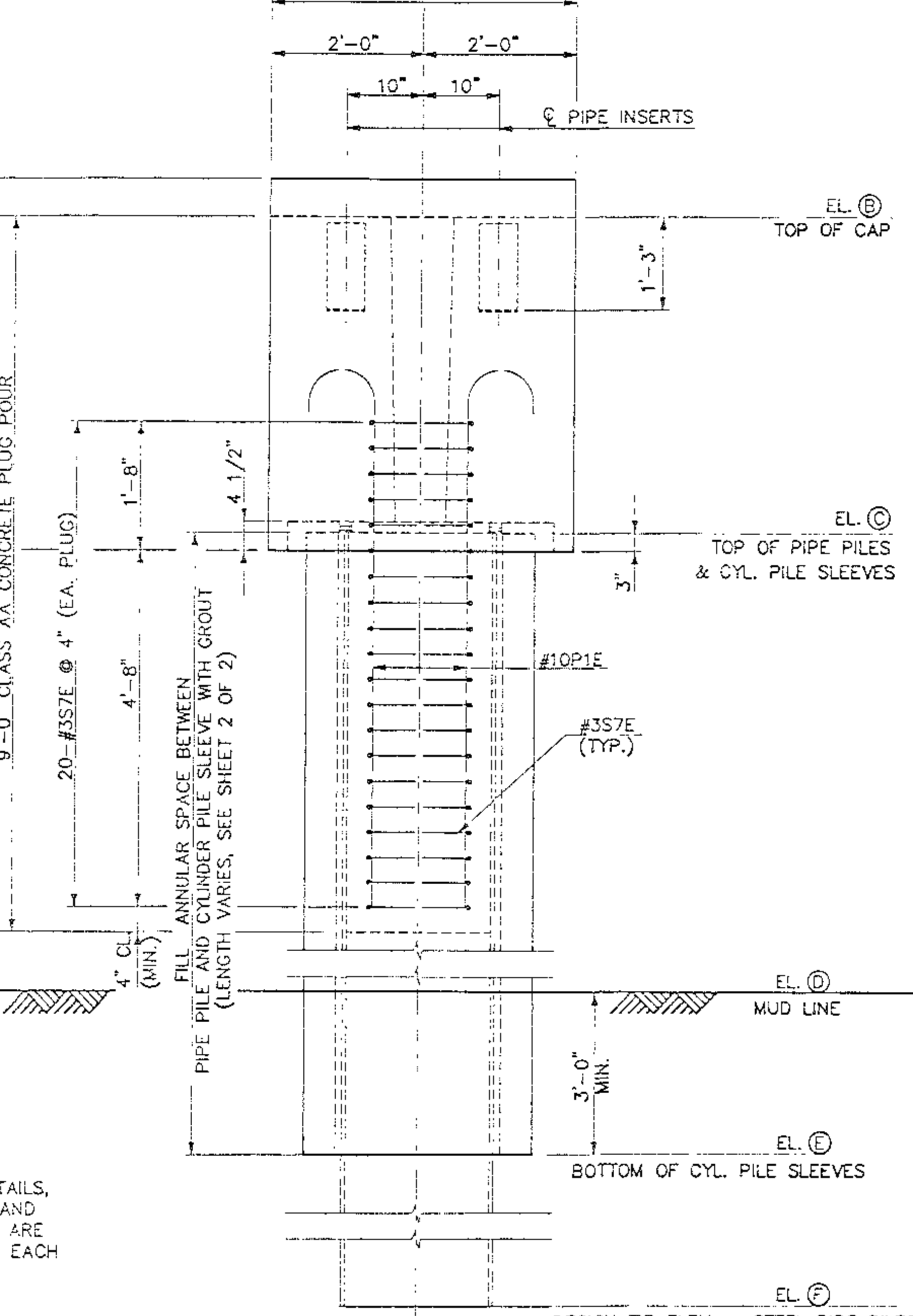
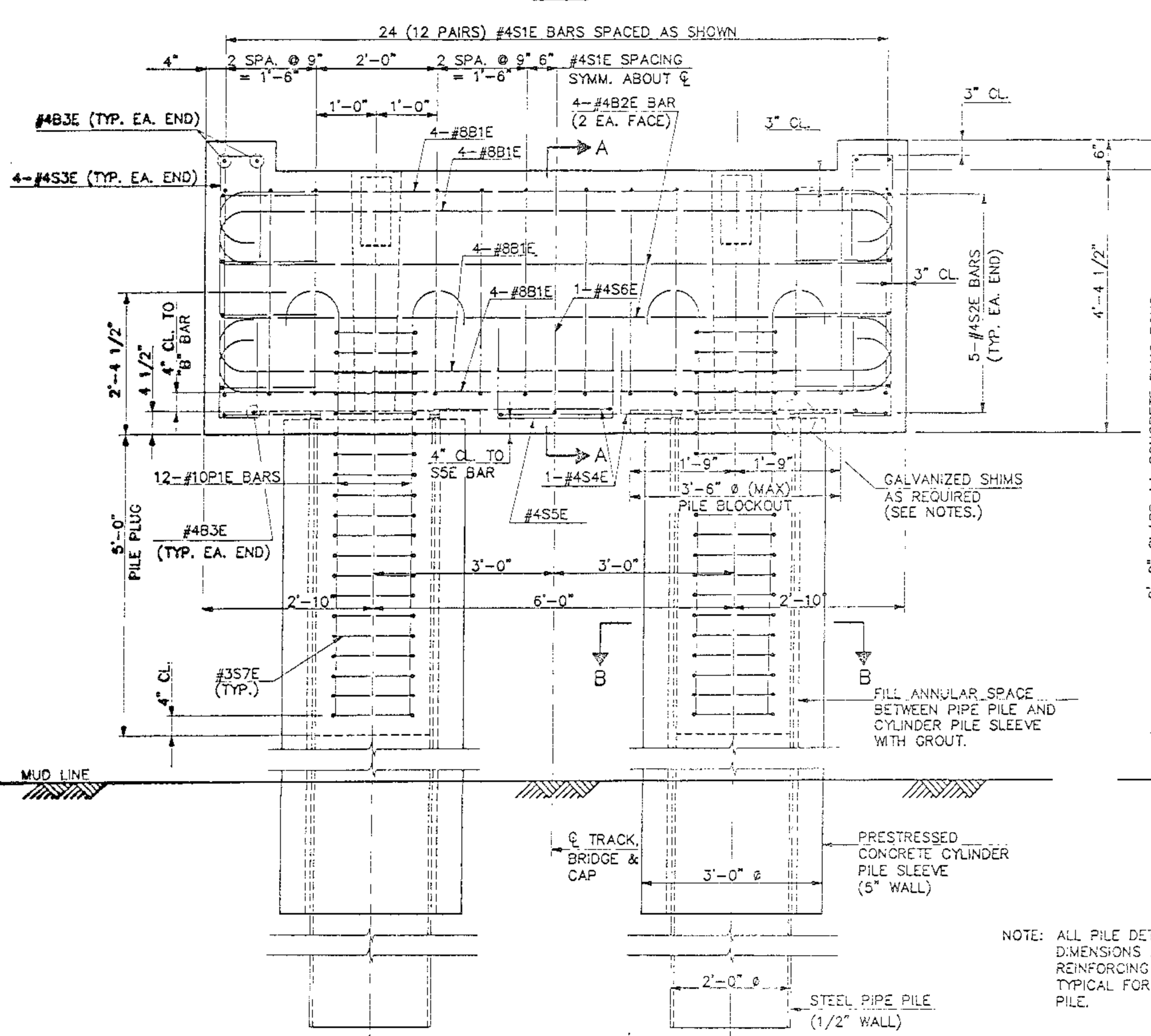
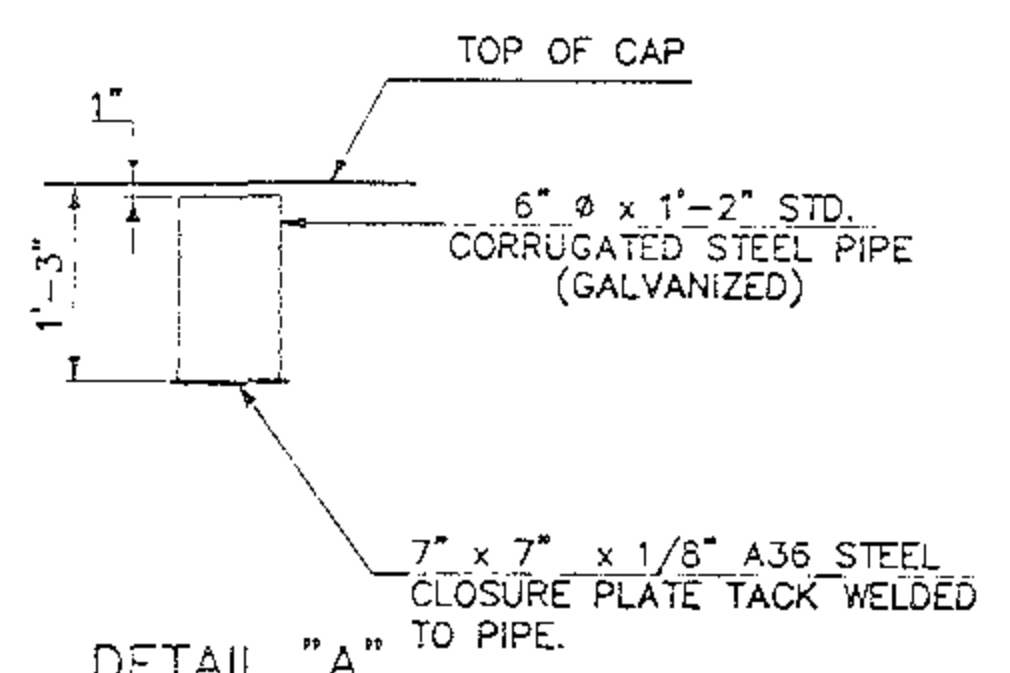
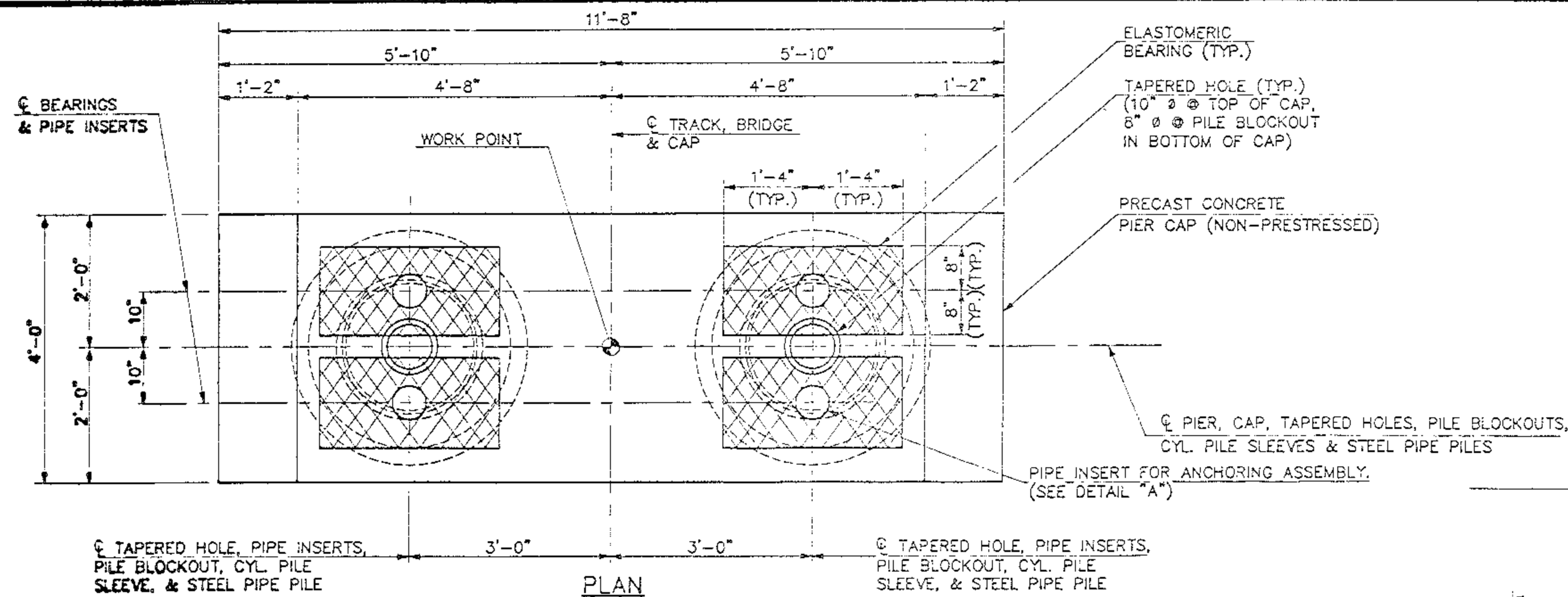
ELEVATION @ FILL FACE
 (SYMMETRIC ABOUT CL ABUTMENT 1)

NOTE: MINIMUM CLEAR COVER TO ALL REINFORCING IS 3" UNLESS NOTED.

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 18 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY: M. WRIGHT DATE: 7/98
 CHECKED BY: N. GREENLEE DATE: 7/98
 DWG. NO. 15

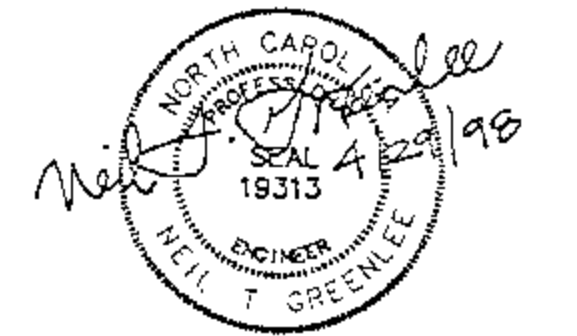
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS
2			4			

DISTRIBUTION No. 5



NOTE: ALL PILE DETAILS, DIMENSIONS AND REINFORCING ARE TYPICAL FOR EACH PILE.

- NOTES:**
- FOR ADDITIONAL INFORMATION RELATED TO ANCHORING ASSEMBLIES, SEE "SUPERSTRUCTURE DETAILS" SHEET.
 - HOOKS ON "P" BARS MAY BE ORIENTED AS NECESSARY FOR PLACING REINFORCING STEEL
 - FOR SECTIONS A-A, B-B AND TYPICAL END VIEW, SEE SHEET 2 OF 2.
 - FOR CYLINDER PILE SLEEVE DETAILS, SEE "PRESTRESSED CONCRETE CYLINDER PILE SLEEVE" SHEET.
 - SHIMS SHALL BE A36 STEEL PLATES OR HARDENED STEEL WASHERS GALVANIZED PER THE STANDARD SPECIFICATIONS. MINIMUM 4 EQUALLY SPACED SHIM POINTS PER PILE AND 9 SQ. IN. OF BEARING AREA PER SHIM POINT. SEE SHIM DETAIL ON SHEET 2 OF 2.
 - GROUT IN ANNULAR SPACE BETWEEN CYLINDER PILE SLEEVES AND PIPE PILES SHALL BE NON-SHRINK, NON-METALLIC, PORTLAND CEMENT GROUT CAPABLE OF ATTAINING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 7,000 PSI AND SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
 - CONCRETE IN EACH PILE PLUG SHALL BE CONTINUOUSLY PLACED UNTIL THE PLUG, PILE BLOCKOUT, AND TAPERED HOLE ARE COMPLETELY FILLED WITH CONCRETE. PRIOR TO THIS OPERATION, THE CONTRACTOR SHALL SEAL THE PILE BLOCKOUT FORMS AGAINST POTENTIAL WATER INTRUSION DURING HIGH TIDE. FORMS SHALL REMAIN IN PLACE FOR AT LEAST 24 HOURS AFTER PLACEMENT OF THE CONCRETE. IMMEDIATELY AFTER FORM REMOVAL, THE BLOCKOUT CONCRETE SHALL BE INSPECTED AND ANY POCKETS, DEPRESSIONS, HONEYCOMBS OR OTHER DEFECTS PRESENT SHALL BE PATCHED WITH GROUT AS APPROVED BY THE ENGINEER.
 - FOR SEQUENCE OF CONSTRUCTION, SEE "SEQUENCE OF CONSTRUCTION" SHEETS.
 - FOR PRECAST CONCRETE PIER CAP, SEE SPECIAL PROVISION "PRECAST CONCRETE UNITS (NON-PRESTRESSED)".
 - FOR ANCHORING ASSEMBLIES, SEE SPECIAL PROVISIONS.
 - FOR PRESTRESSED CONCRETE CYLINDER PILE SLEEVES, SEE SPECIAL PROVISIONS.
 - FOR INSTALLATION OF CYLINDER PILE SLEEVES, SEE SPECIAL PROVISIONS.
 - FOR STEEL PIPE PILES, SEE SPECIAL PROVISIONS.
 - FOR INSTALLATION OF STEEL PIPE PILES, SEE SPECIAL PROVISIONS.
 - FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.



PROJECT No. P-3100
 CARTERET COUNTY
 STATION: POT 10+00.00 -L-
 MILE POST EC94.90
 SHEET 1 OF 2

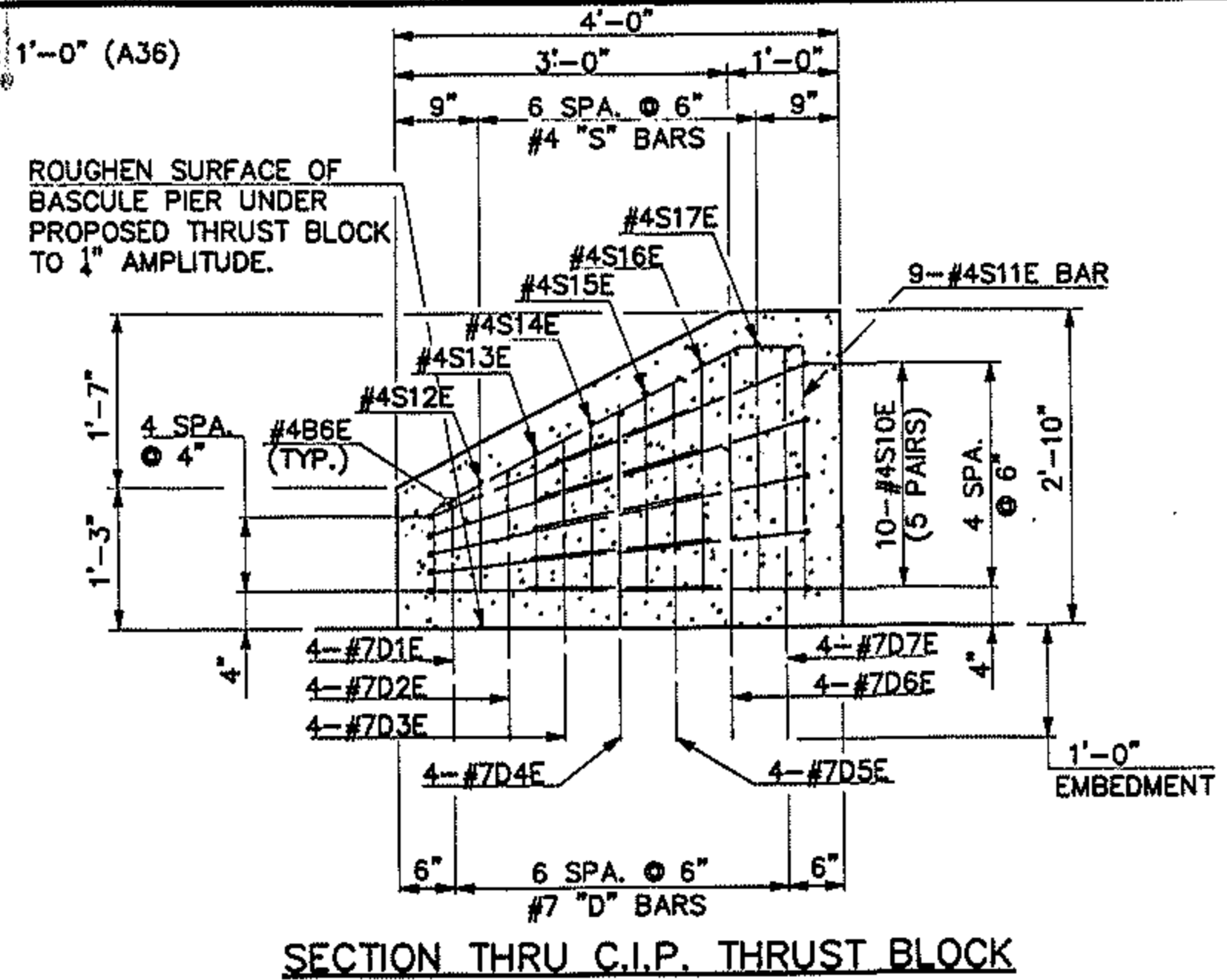
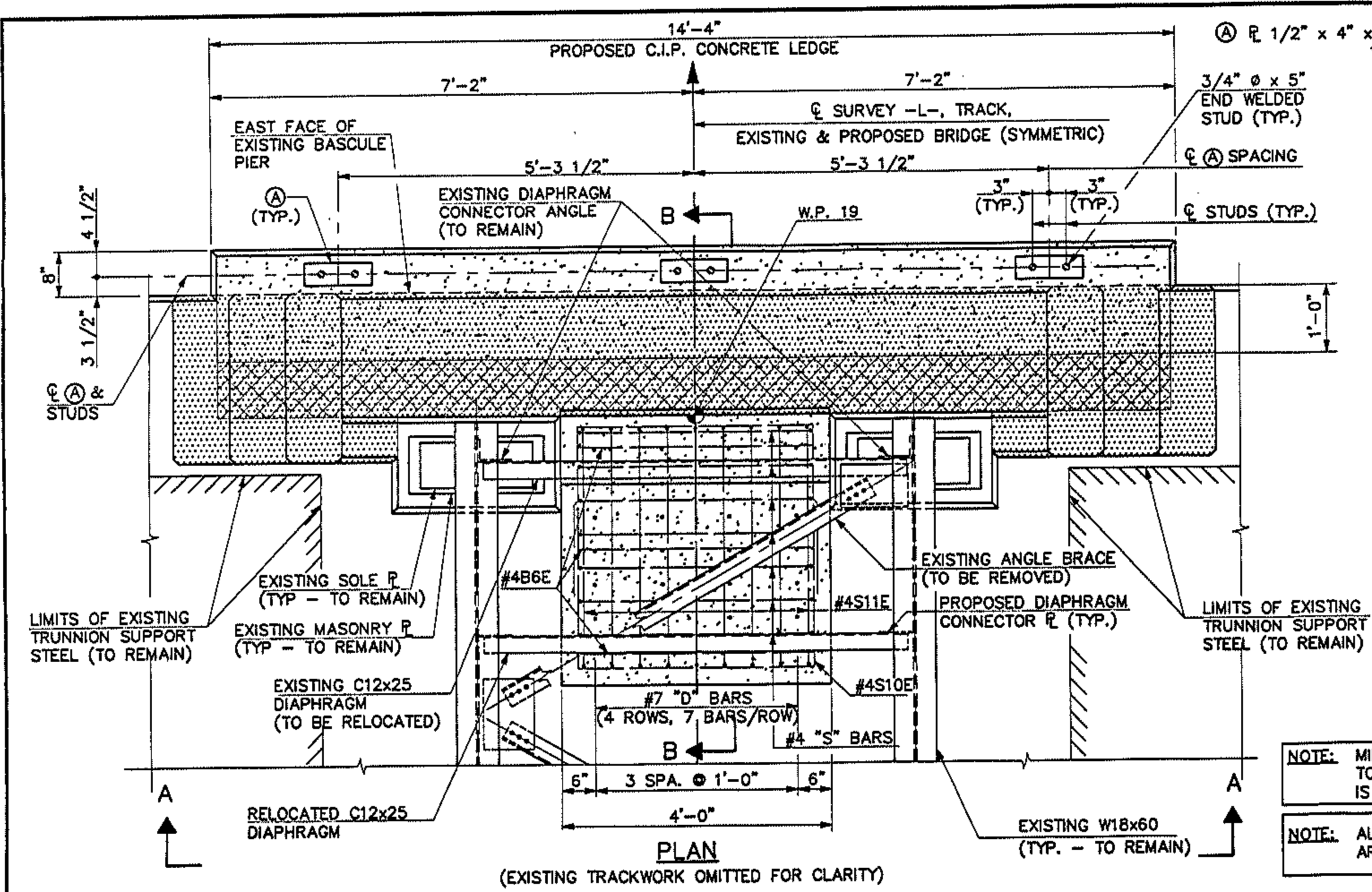
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 PIERS 1 - 70

REVISIONS		SHEET NO.
NO.	DATE	
1	1/98	TOTAL SHEETS
2	2/98	

HTB NORTH CAROLINA, P.C.
 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DATE 1/98
 DATE 2/98
 DWG. NO. 17

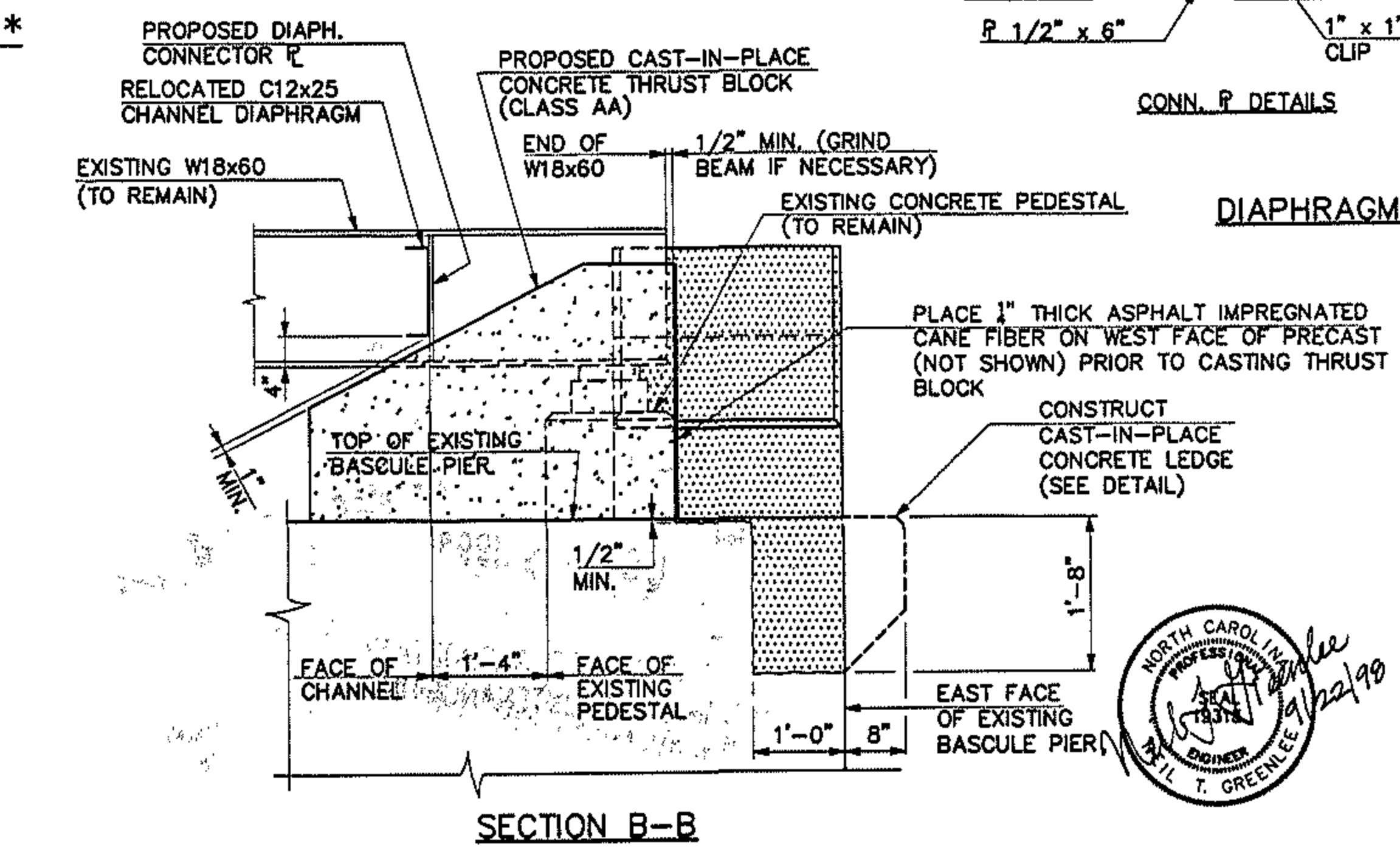
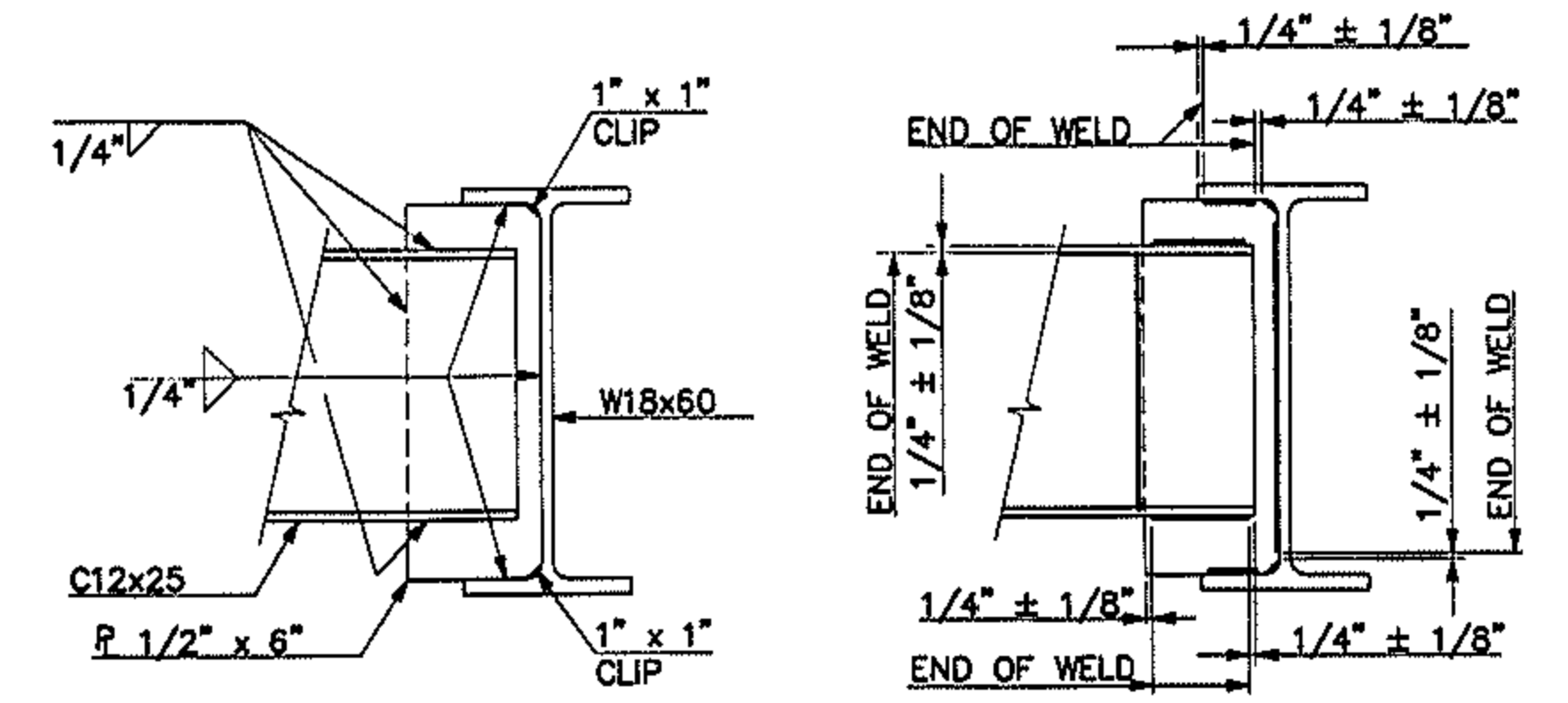
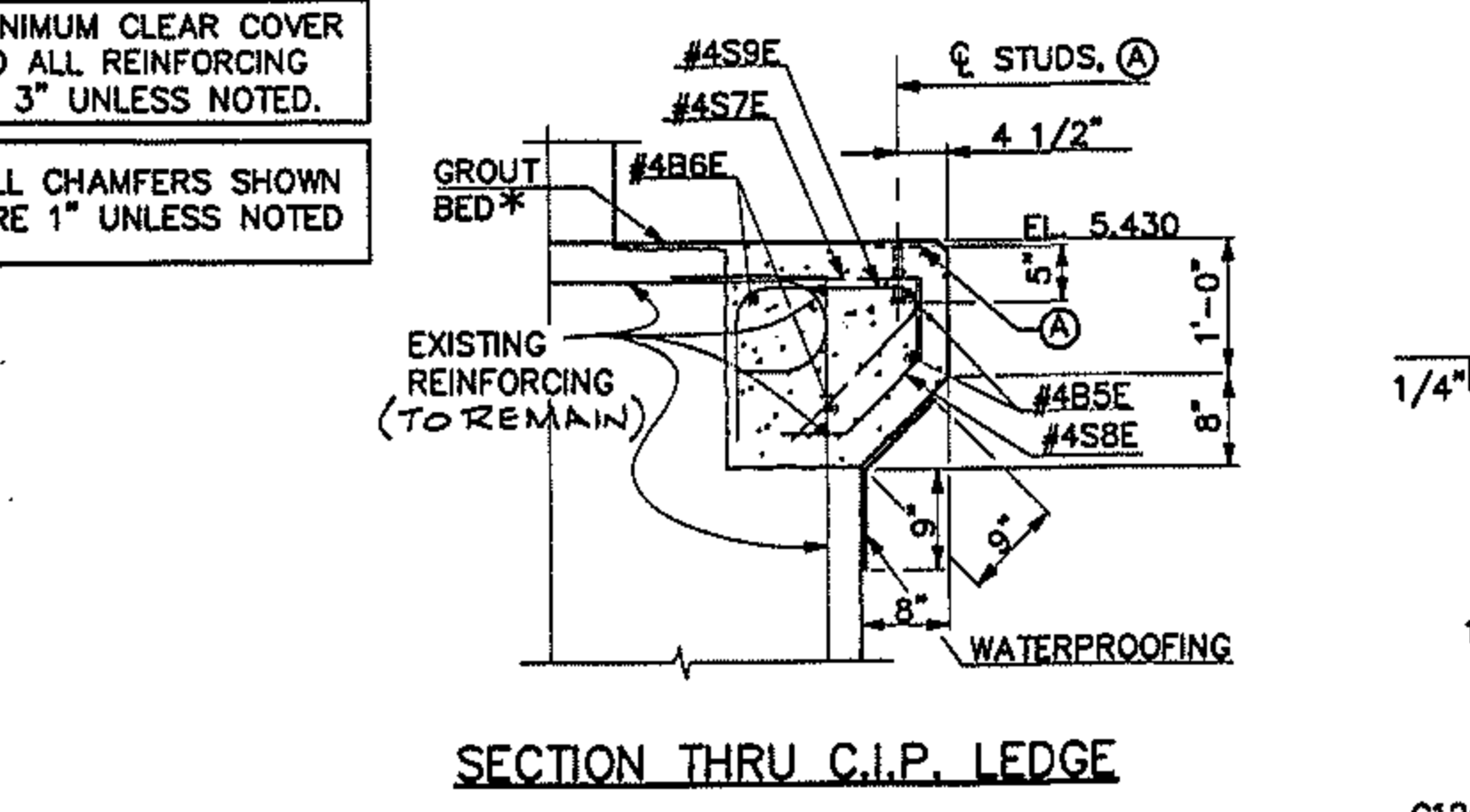
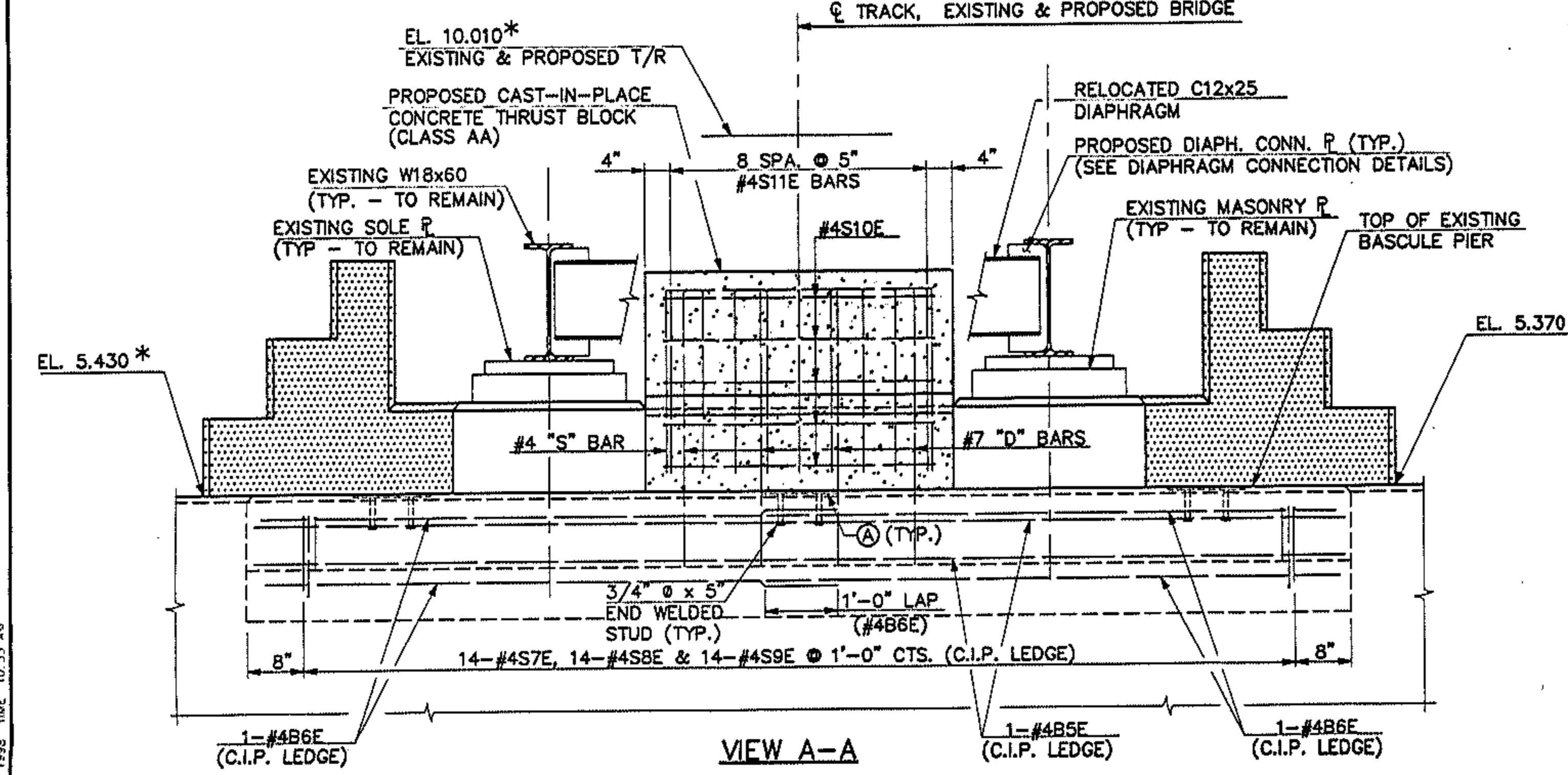
MAKE P. 12/98 (10/98) SUBMITTAL DOWNS. DATE MAY 12, 1997. TIME 9:58 AM

- SEQUENCE OF CONSTRUCTION:**
- REMOVE EXISTING BASCULE PIER CONCRETE AS SHOWN.
 - CONSTRUCT CAST-IN-PLACE CONCRETE LEDGE AND PLACE GROUT BED AS SHOWN. CONCRETE IN THE LEDGE MUST ATTAIN A STRENGTH OF AT LEAST 3000 PSI AND GROUT MUST CURE FOR AT LEAST 12 HOURS BEFORE PROCEEDING TO STEP 5.
 - DRILL HOLES FOR ADHESIVELY ANCHORED ANCHOR BOLTS AT WEST FACE ANCHORAGES AND ATTACH STEEL ANGLES TO TOP OF BASCULE PIER AS SHOWN ON SHEETS 2 OF 3 AND 3 OF 3.
 - PLACE PRECAST BASCULE PIER SUPPORT UNIT ON TOP OF BASCULE PIER AND MAKE ALL WELDED CONNECTIONS AT WEST FACE AND EAST FACE ANCHORAGE BLOCKOUTS AS SHOWN ON SHEET 3 OF 3.
 - PLACE FORMS OVER ANCHORAGE BLOCKOUTS AND FILL BLOCKOUTS AND GROUT TUBES WITH GROUT. BLOCKOUT FORMS SHALL BE FLUSH WITH THE VERTICAL FACES OF THE PRECAST UNIT AND SHALL REMAIN IN PLACE FOR AT LEAST 12 HOURS AFTER GROUT IS PLACED. DAMAGE TO THE PRECAST UNIT OR THE EXISTING BASCULE PIER RESULTING FROM BLOCKOUT FORM ATTACHMENT AND/OR REMOVAL SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
 - PLACE ELASTOMERIC BEARINGS AND 22" PRECAST CONCRETE SLAB UNIT AS SHOWN ON THE PLANS.
 - INSTALL ANCHORING ASSEMBLIES AS SHOWN ON THE PLANS.
 - PLACE BALLAST AND TRACK (I.e. TIES, RAIL AND ASSOCIATED HARDWARE) ON THE SLAB. ALIGN TRACK TO GRADE, AND OPEN BRIDGE TO SCHEDULED RAIL TRAFFIC.
- NOTE: STEPS 9 - 16 MAY BE PERFORMED IMMEDIATELY AFTER COMPLETION OF STEPS 1 - 5, SCHEDULED RAIL TRAFFIC PERMITTING. OTHERWISE, STEPS 9 - 16 MUST BE COMPLETED WITHIN 3 MONTHS AFTER COMPLETION OF STEPS 1 - 8 ABOVE.
- REMOVE FIXED RAILS AND TIMBERS FROM EXISTING W18x60'S AS NECESSARY TO ACCESS THRUST BLOCK WORK AREA.
 - REMOVE EXISTING C12x25 DIAPHRAGM LEAVING DIAPHRAGM CONNECTOR ANGLES IN PLACE.
 - REMOVE & DISCARD EXISTING STEEL ANGLE BRACE AS SHOWN.
 - WELD NEW DIAPHRAGM CONNECTOR PLATES TO EXISTING W18x60'S AT NEW DIAPHRAGM LOCATION AS SHOWN.
 - CONSTRUCT CAST-IN-PLACE THRUST BLOCK AS SHOWN. CONCRETE IN THRUST BLOCK MUST ATTAIN A STRENGTH OF AT LEAST 3000 PSI BEFORE PERFORMING STEP 16.
 - WELD EXISTING C12x25 DIAPHRAGM FROM STEP 10 TO CONNECTOR PLATES INSTALLED IN STEP 12.
 - REPLACE FIXED RAILS AND TIMBERS FROM STEP 9.
 - OPEN BRIDGE TO SCHEDULED RAIL TRAFFIC.



NOTE: MINIMUM CLEAR COVER TO ALL REINFORCING IS 3" UNLESS NOTED.

NOTE: ALL CHAMFERS SHOWN ARE 1" UNLESS NOTED.



*ELEVATIONS SHOWN ARE BASED ON SURVEY OF EXISTING CONDITIONS. CONCRETE SHALL BE REMOVED AS SHOWN TO 1" BELOW TOP OF EXISTING BASCULE PIER. AFTER CONCRETE REMOVAL AND C.I.P. LEDGE CONSTRUCTION ARE COMPLETE, CONTRACTOR SHALL PLACE GROUT BED TO EL. 5.430 WITHIN LIMITS SHOWN. CONCRETE REMOVAL AREAS OUTSIDE OF GROUT BED LIMITS SHALL BE GROUTED FLUSH WITH ADJACENT, UNDISTURBED CONCRETE AT THE TOP OF EXISTING BASCULE PIER. FOR GROUT DATA, SEE NOTES ON SHEET 2 OF 3.

- LEGEND**
- PROPOSED GROUT BED
 - EXISTING CONCRETE TO BE REMOVED
 - PROPOSED C.I.P. CONCRETE (CLASS AA)

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 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY: J. BAYNE DATE: 8/98
 CHECKED BY: N. GREENLEE DATE: 8/98 DWG. NO. 23

PROJECT No. P-3100
 CARTERET COUNTY
 STATION: POT 10+00.00 -L-
 MILE POST EC94.90
 SHEET 1 OF 3

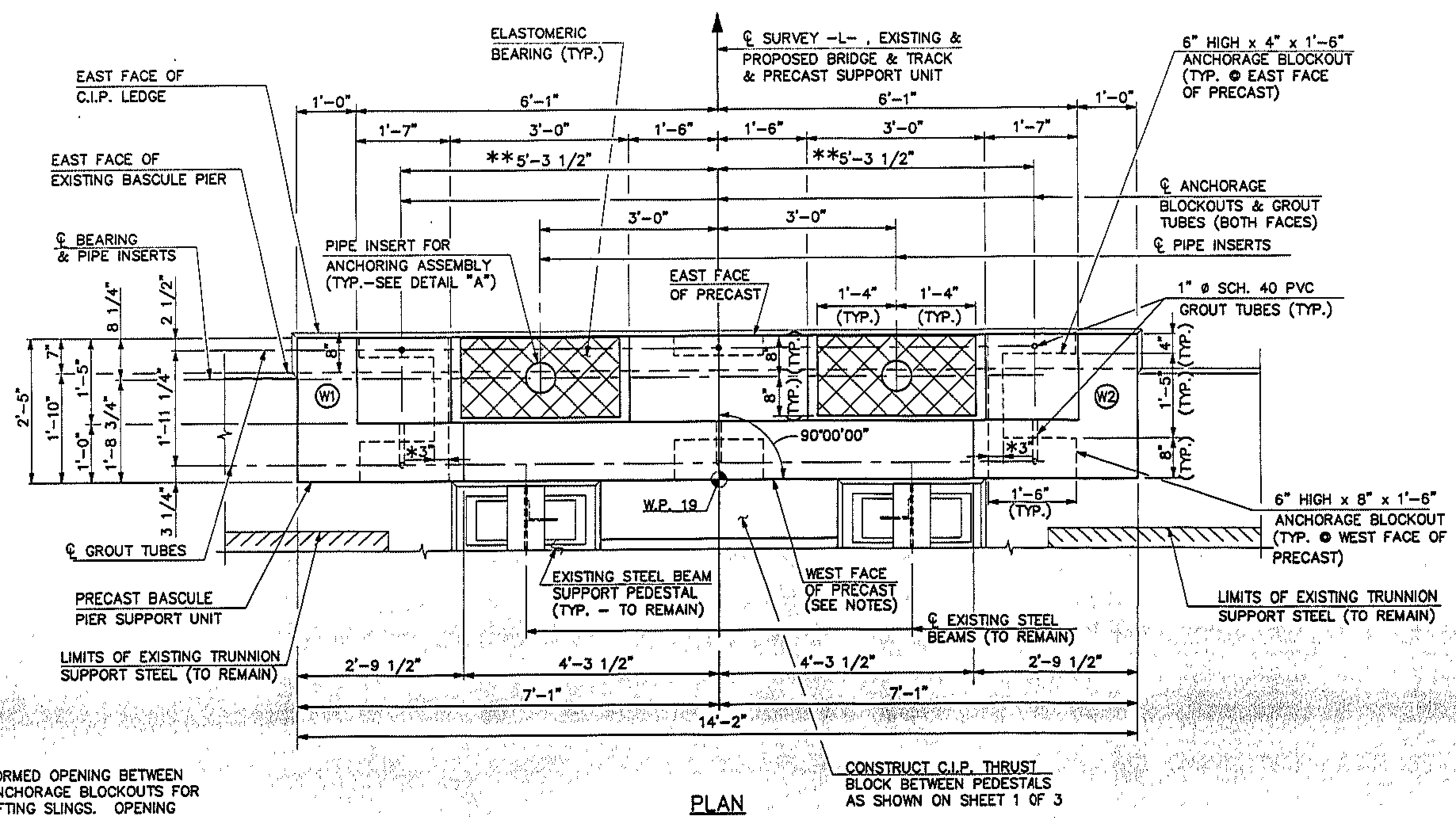
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BASCULE PIER DETAILS

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

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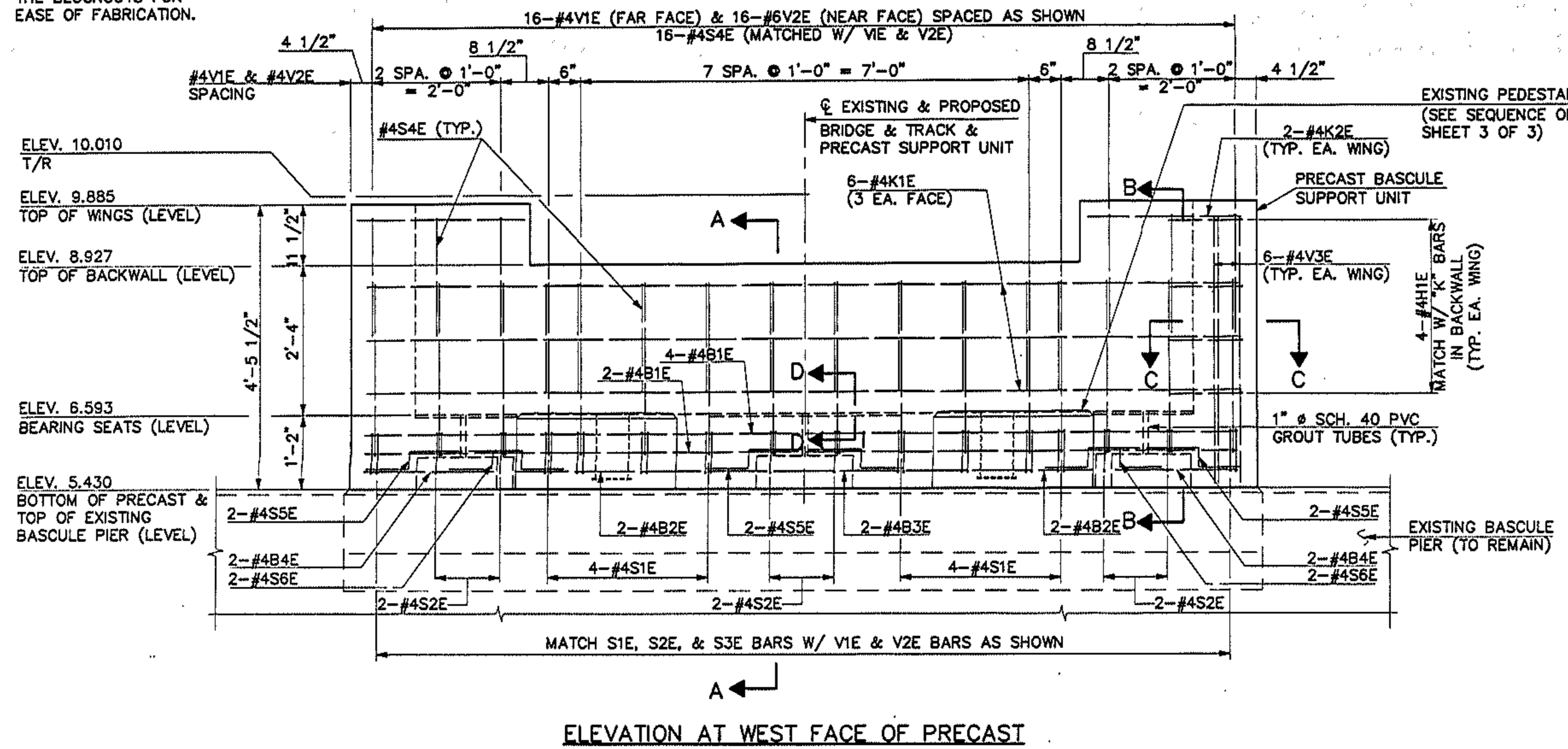


DATE: SEP 22, 1998 TIME: 10:51 AM



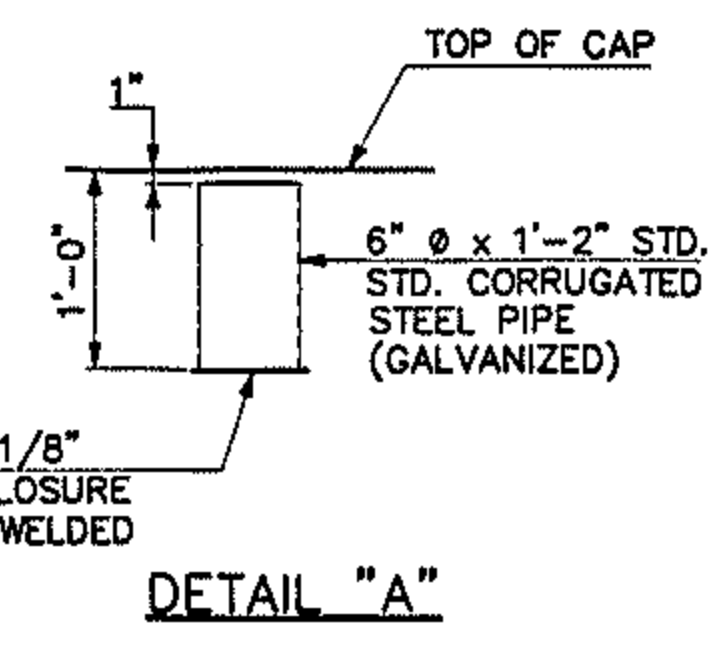
* FORMED OPENING BETWEEN ANCHORAGE BLOCKOUTS FOR LIFTING SLINGS. OPENING TO BE FULL HEIGHT OF BLOCKOUTS.

** GROUT TUBE LOCATIONS MAY BE ADJUSTED WITHIN THE BLOCKOUTS FOR EASE OF FABRICATION.



NOTES:

- FOR ADDITIONAL INFORMATION RELATED TO ANCHORING ASSEMBLIES AND ELASTOMERIC BEARINGS, SEE "SUPERSTRUCTURE DETAILS" SHEET.
- FOR SEQUENCE OF CONSTRUCTION AND LIMITS OF CONCRETE REMOVAL, SEE SHEET 1 OF 3.
- FOR SECTIONS A-A, B-B, C-C, AND D-D, SEE SHEET 3 OF 3.
- FOR DETAILS OF ANCHORAGE BLOCKOUTS, SEE SHEET 3 OF 3.
- ALL STRUCTURAL STEEL PLATES AND ANGLES SHALL CONFORM TO ASTM A36.
- AFTER INSTALLATION OF RELOCATED DIAPHRAGM IS COMPLETE, ALL EXPOSED SURFACES OF CONNECTOR PLATES, DIAPHRAGM, AND EXISTING W18x60 BEAMS SHALL BE COATED WITH COAL TAR EPOXY PAINT PER THE STANDARD SPECIFICATIONS.
- 1/4" THICK ASPHALT IMPREGNATED CANE FIBER SHALL BE PLACED ON WEST FACE OF PRECAST UNIT FOR FULL HEIGHT AND WIDTH OF C.I.P. THRUST BLOCK. THRUST BLOCK SHALL BE CAST AGAINST PRECAST UNIT WITH CANE FIBER ACTING AS PERMANENT BOND BREAKER.
- ANCHOR BOLTS SHALL BE THREADED, 1" DIAMETER RODS CONFORMING TO ASTM A36 AND SHALL BE INSTALLED TO THE EMBEDMENT DEPTHS SHOWN ON THE PLANS USING AN ADHESIVE ANCHORING SYSTEM. THE YIELD LOAD FOR THE ANCHOR BOLTS IS 21.8KIPS. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.
- GROUT SHALL BE NON-SHRINK, NON-METALLIC, PORTLAND CEMENT GROUT ATTAINING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,500 PSI AND SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
- FOR PRECAST BASCULE PIER SUPPORT UNIT, SEE SPECIAL PROVISION "PRECAST CONCRETE UNITS (NON-PRESTRESSED)".
- FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS.
- FOR ANCHORING ASSEMBLIES, SEE SPECIAL PROVISIONS.
- FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.



PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
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 SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BASCULE PIER DETAILS



HNTB HNTB NORTH CAROLINA, P.C.
 18 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY: J. BAYNE DATE: 8/98
 CHECKED BY: N. GREENLEE DATE: 8/98 DWG. NO. 24

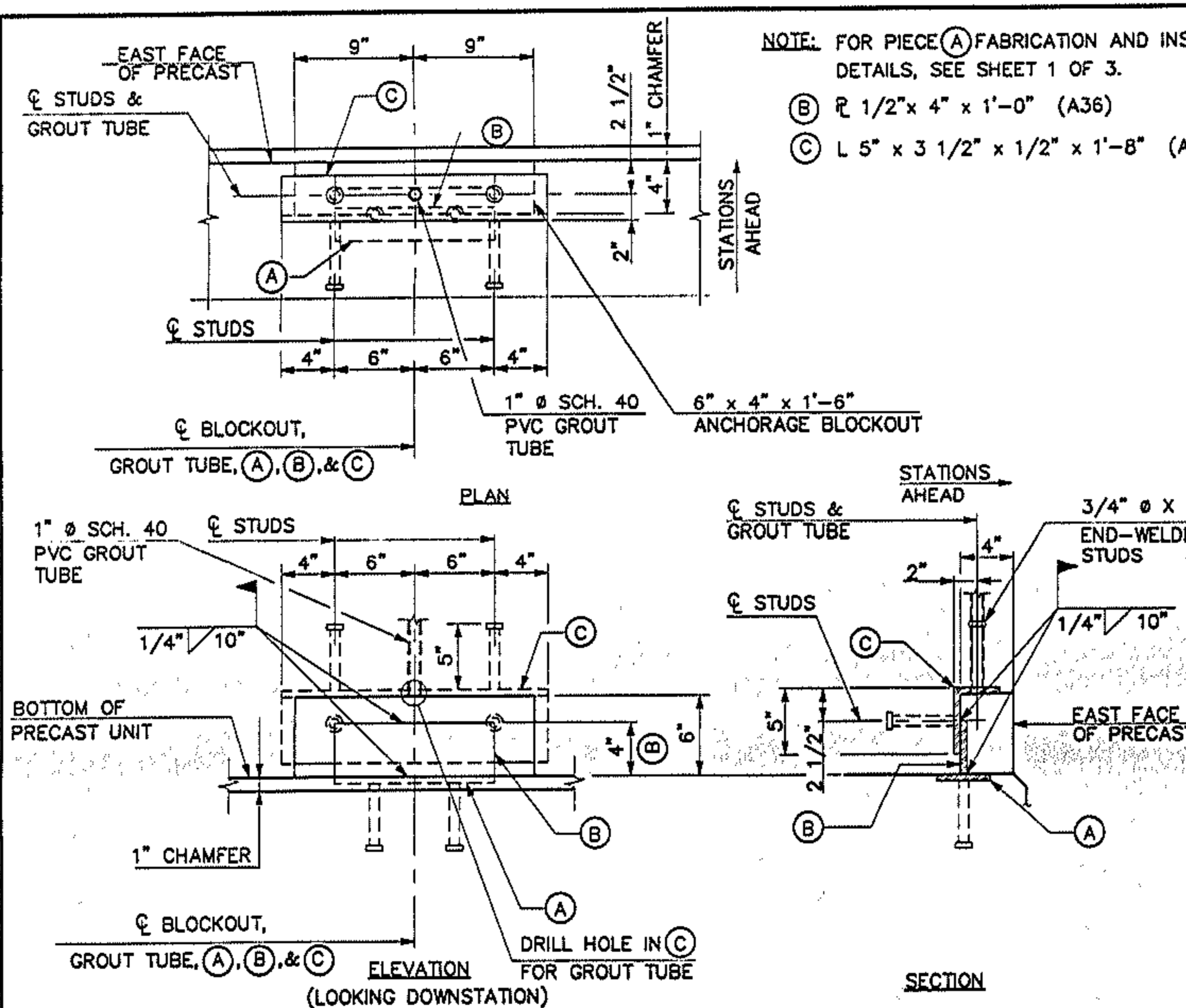
REVISIONS				SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

TOTAL SHEETS

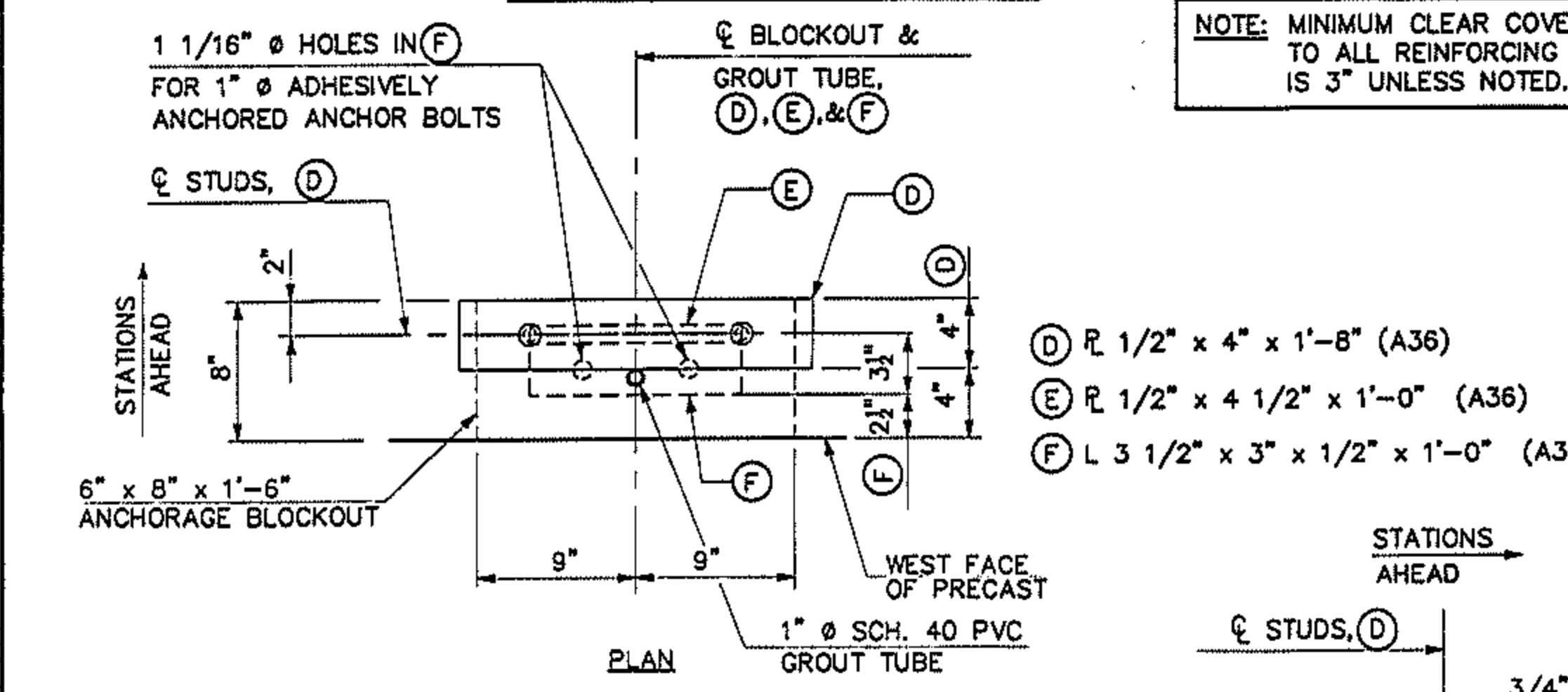
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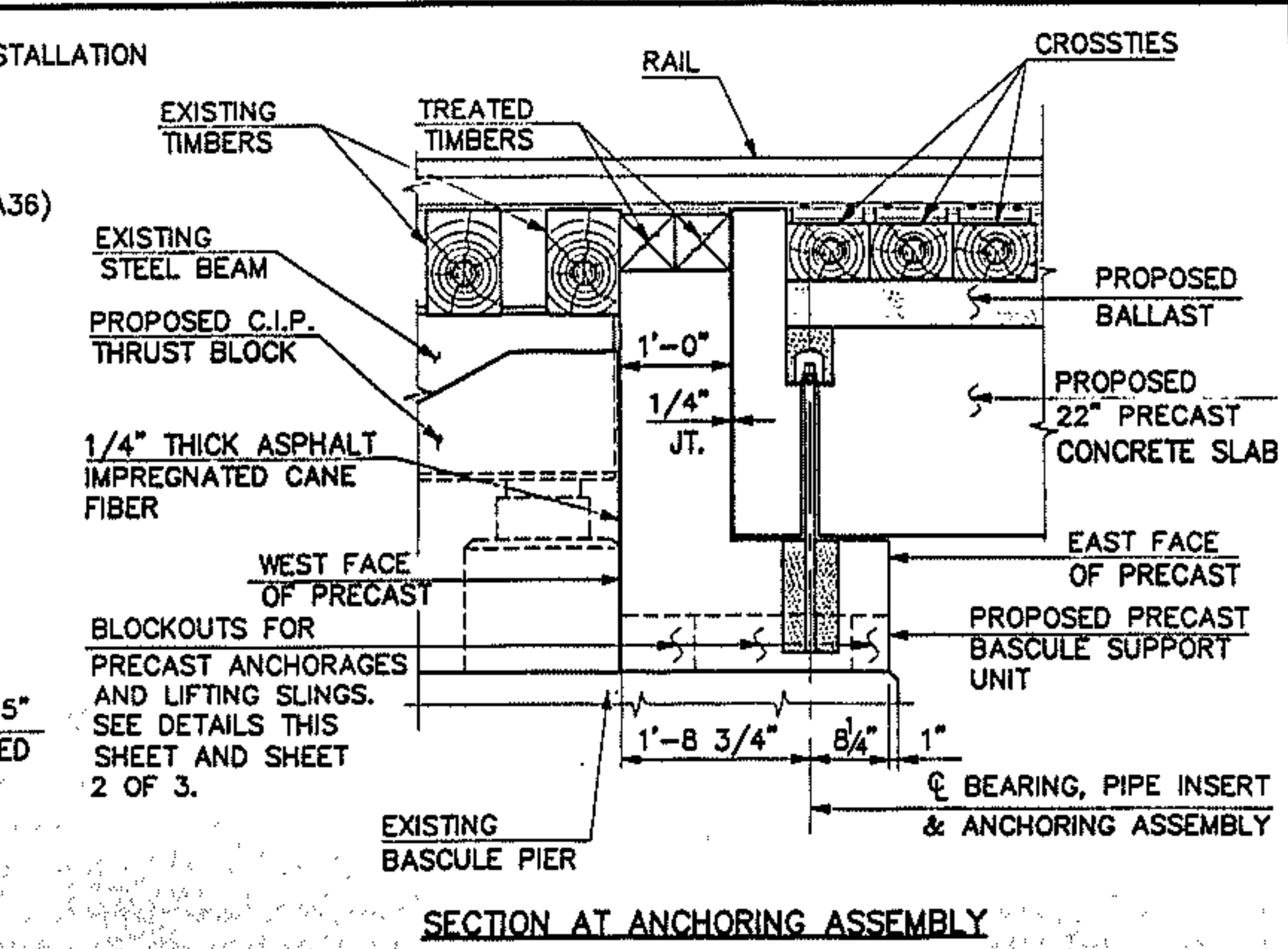
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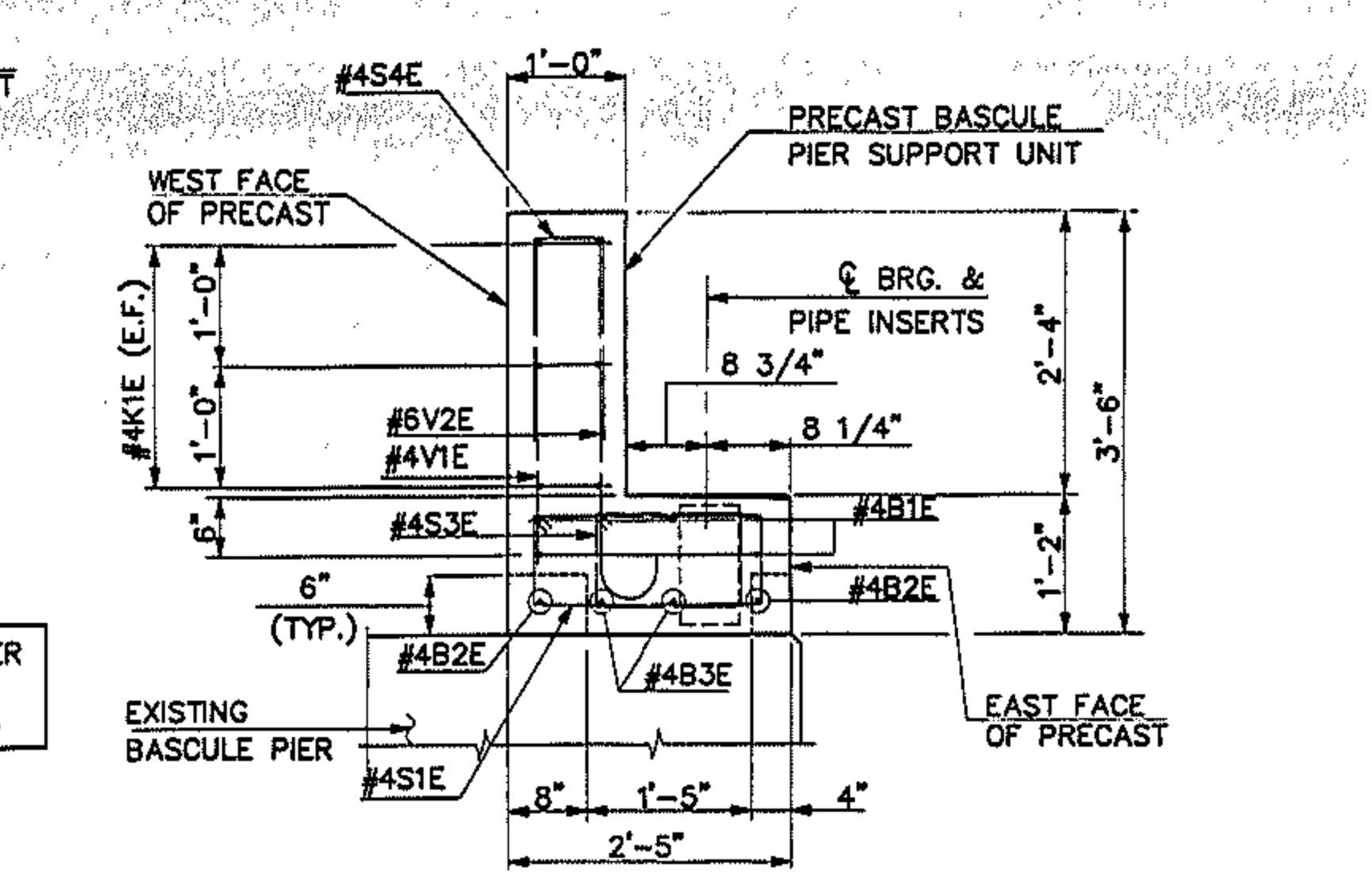
DETAILS OF ANCHORAGES @ EAST FACE OF BASCULE PIER SUPPORT



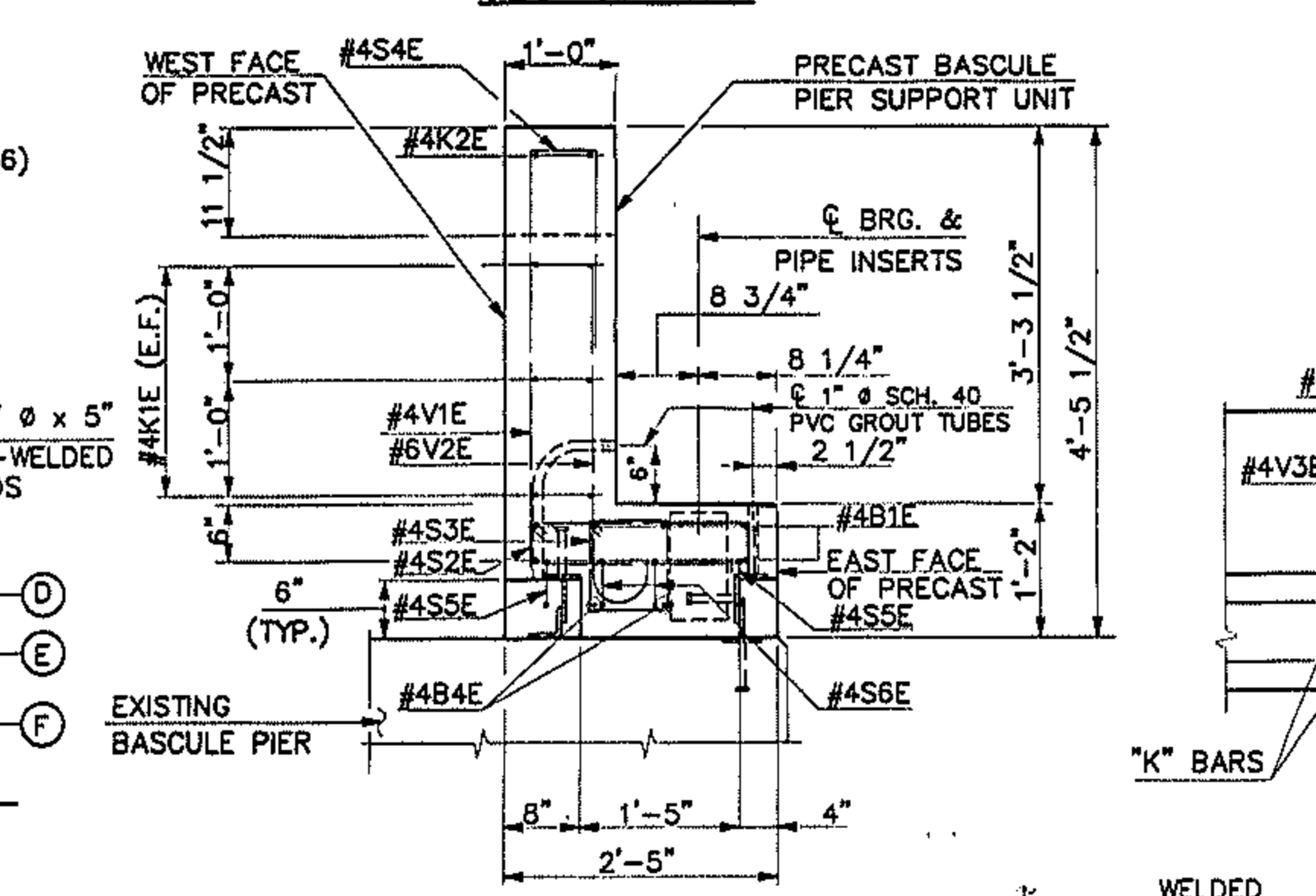
DETAILS OF ANCHORAGES @ WEST FACE OF BASCULE PIER SUPPORT



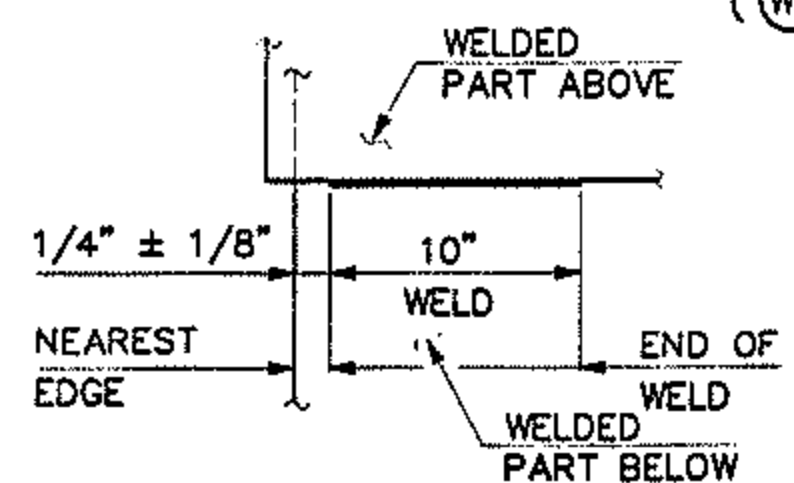
SECTION AT ANCHORING ASSEMBLY



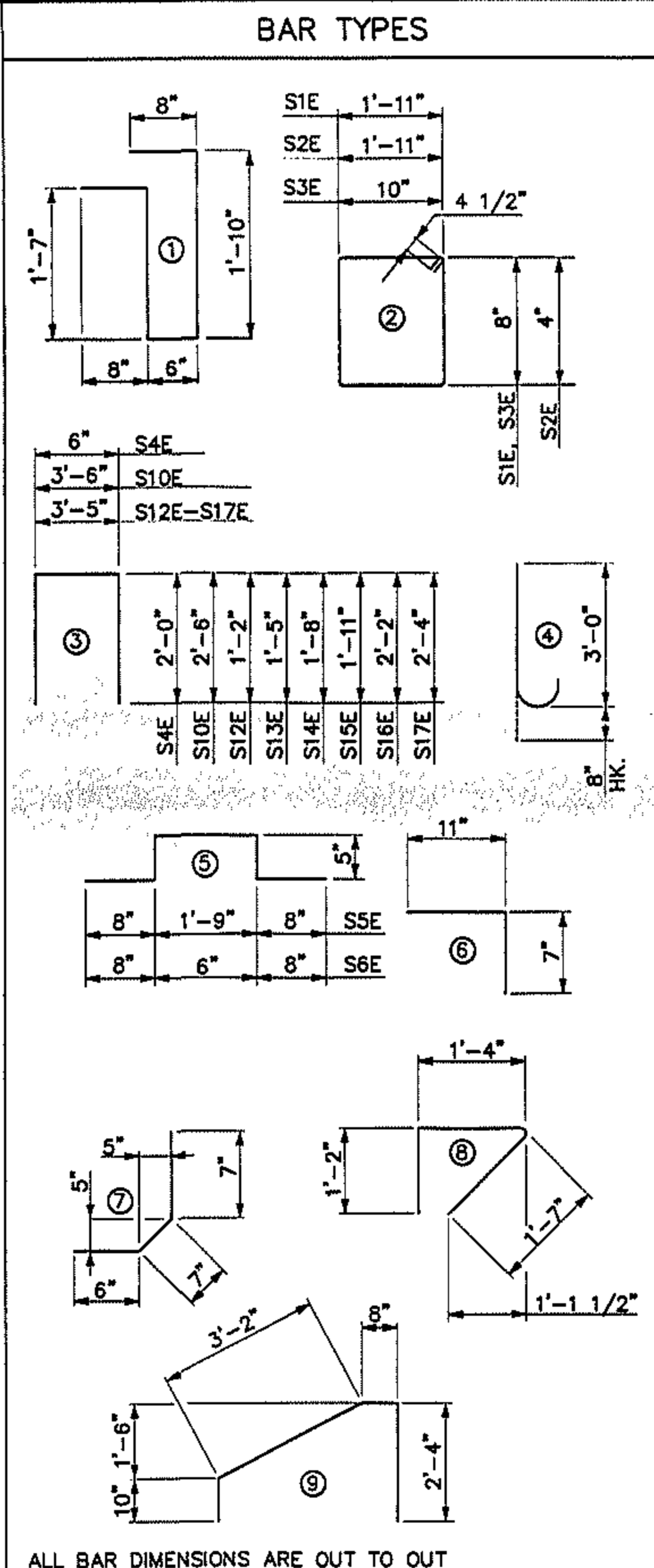
SECTION A-A



SECTION B-B



WELD TERMINATION DETAIL



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR BASCULE PIER					
MARK	NO.	SIZE	TYPE	LENGTH	WEIGHT (LBS.)
B1E	6	#4	STR.	13'-8"	55
B2E	4	#4	STR.	3'-7"	10
B3E	2	#4	STR.	8'-11"	12
B4E	4	#4	STR.	2'-1"	6
B5E	2	#4	STR.	13'-10"	18
B6E	4	#4	STR.	7'-5"	20
D1E	4	#7	STR.	2'-3"	18
D2E	4	#7	STR.	2'-6"	20
D3E	4	#7	STR.	2'-9"	22
D4E	4	#7	STR.	3'-0"	25
D5E	4	#7	STR.	3'-3"	27
D6E	4	#7	STR.	3'-6"	29
D7E	4	#7	STR.	3'-7"	29
H1E	8	#4	1	5'-3"	28
K1E	6	#4	STR.	13'-8"	55
K2E	4	#4	STR.	2'-3"	6
S1E	10	#4	2	5'-11"	40
S2E	6	#4	2	5'-3"	21
S3E	16	#4	2	3'-9"	40
S4E	16	#4	3	4'-6"	48
S5E	6	#4	5	3'-11"	16
S6E	4	#4	5	2'-8"	7
S7E	14	#4	6	1'-6"	14
S8E	14	#4	7	1'-8"	16
S9E	14	#4	8	4'-1"	38
S10E	10	#4	3	8'-6"	57
S11E	9	#4	9	7'-0"	42
S12E	1	#4	3	5'-9"	4
S13E	1	#4	3	6'-3"	4
S14E	1	#4	3	6'-9"	5
S15E	1	#4	3	7'-3"	5
S16E	1	#4	3	7'-9"	5
S17E	1	#4	3	8'-1"	5
V1E	16	#4	STR.	2'-8"	29
V2E	16	#6	4	3'-8"	88
V3E	12	#4	STR.	3'-11"	31

QUANTITIES

ITEM	UNIT	QUANTITY
EPOXY COATED REINF. STEEL	LBS.	895
GROUT	C.F.	3.0
CLASS AA CONCRETE (PRECAST)	C.Y.	3.1
(CAST-IN-PLACE)	C.Y.	2.7
(TOTAL)	C.Y.	5.8

PROJECT No. P-3100
 CARTERET COUNTY
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 MILE POST EC94.90
 SHEET 3 OF 3

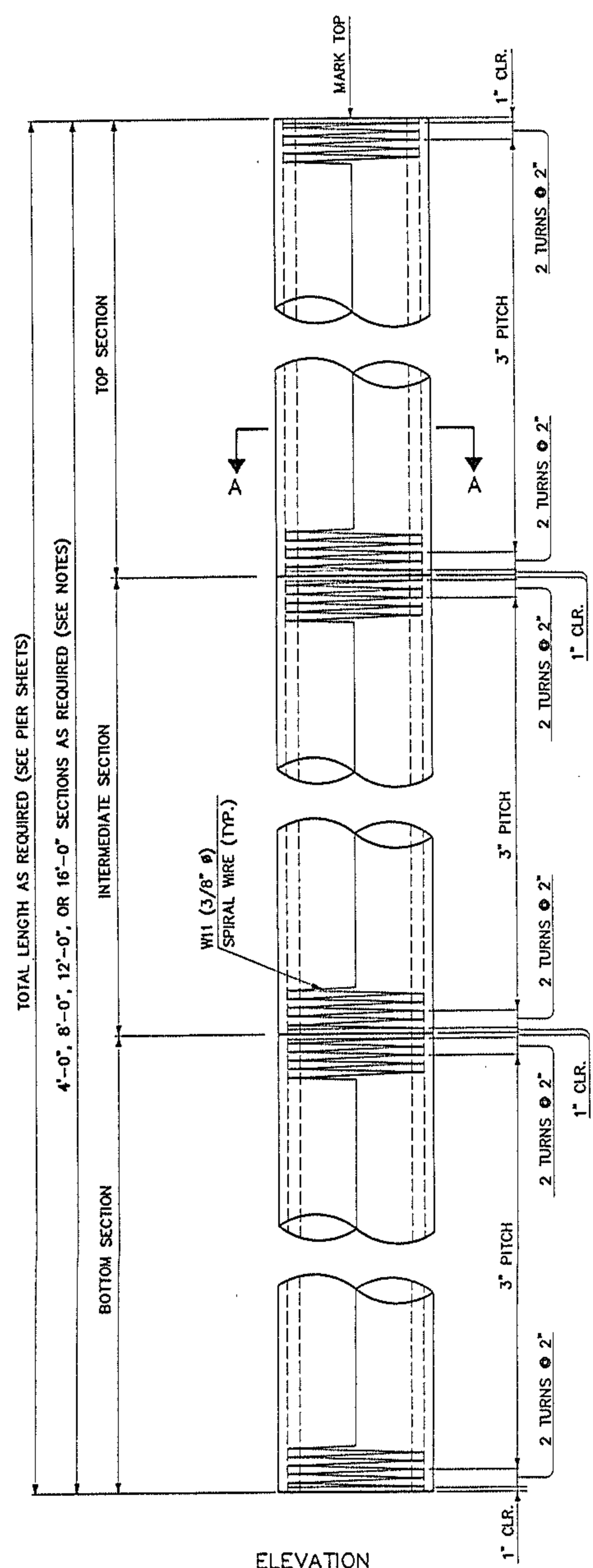


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 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY J. BAYNE DATE 8/98
 CHECKED BY N. GREENLEE DATE 8/98 DWG. NO. 25

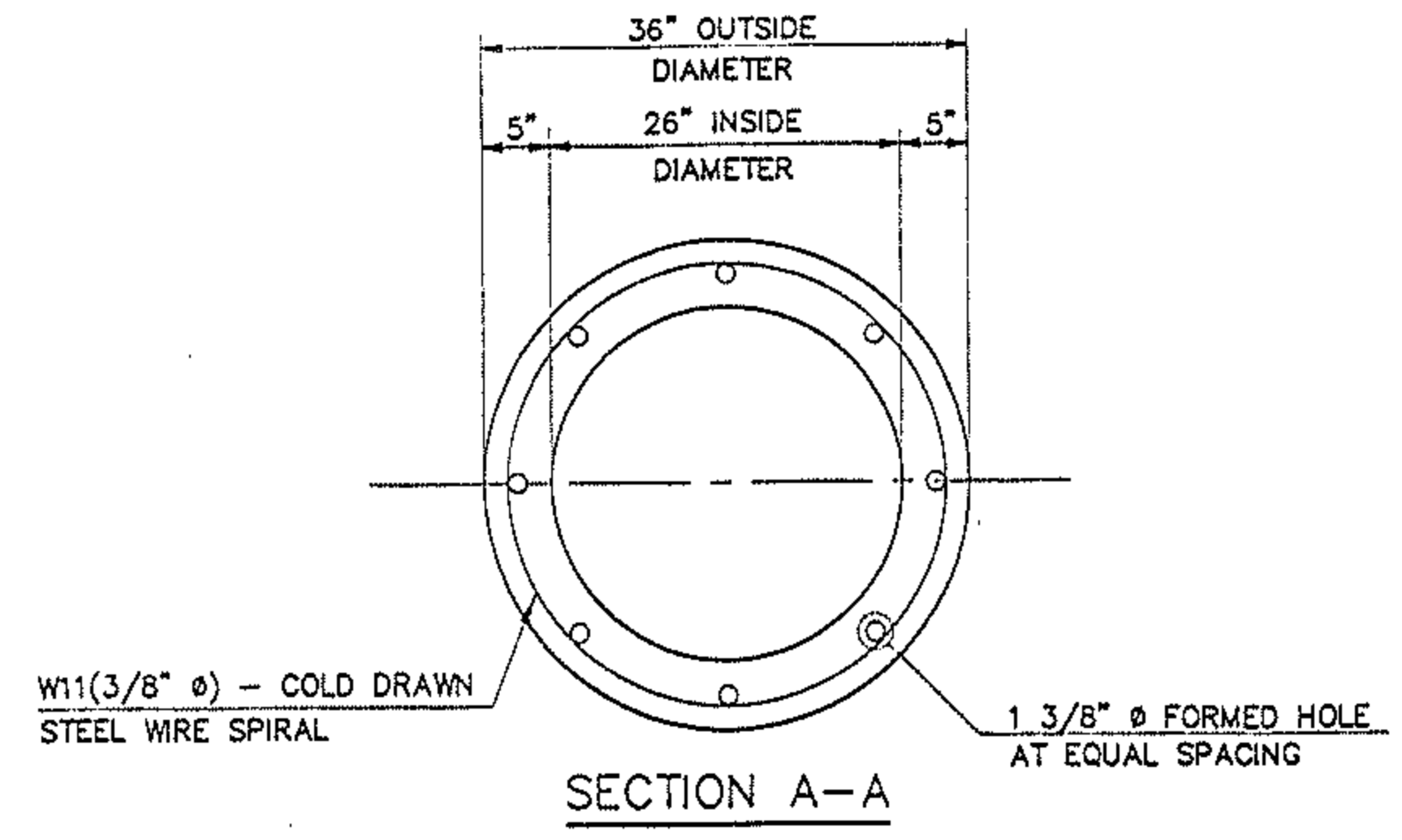
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DISTRIBUTION No. 6

NAME: P:\27834\DWG\53\31CPILE.DWG DATE: MAY 5, 1993 TIME: 5:10 PM

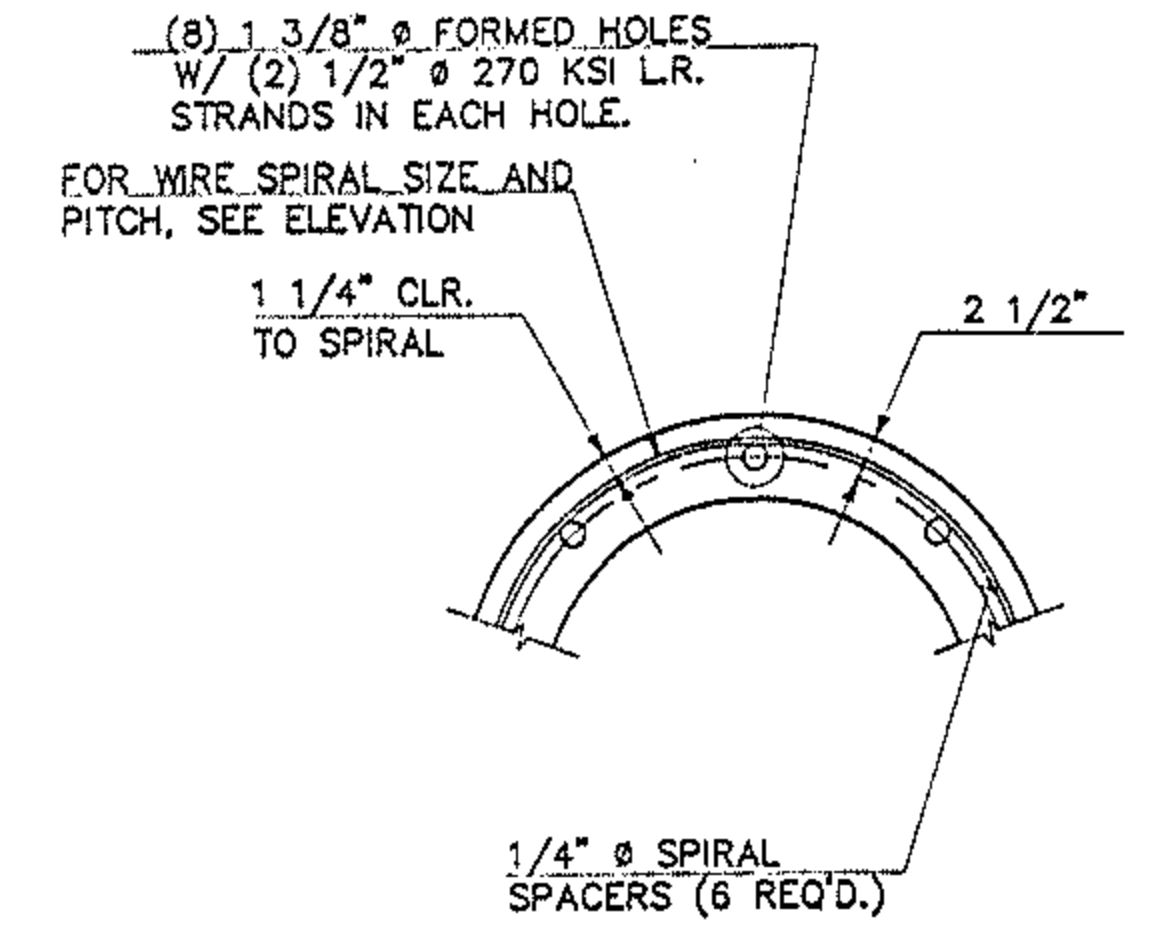


ELEVATION



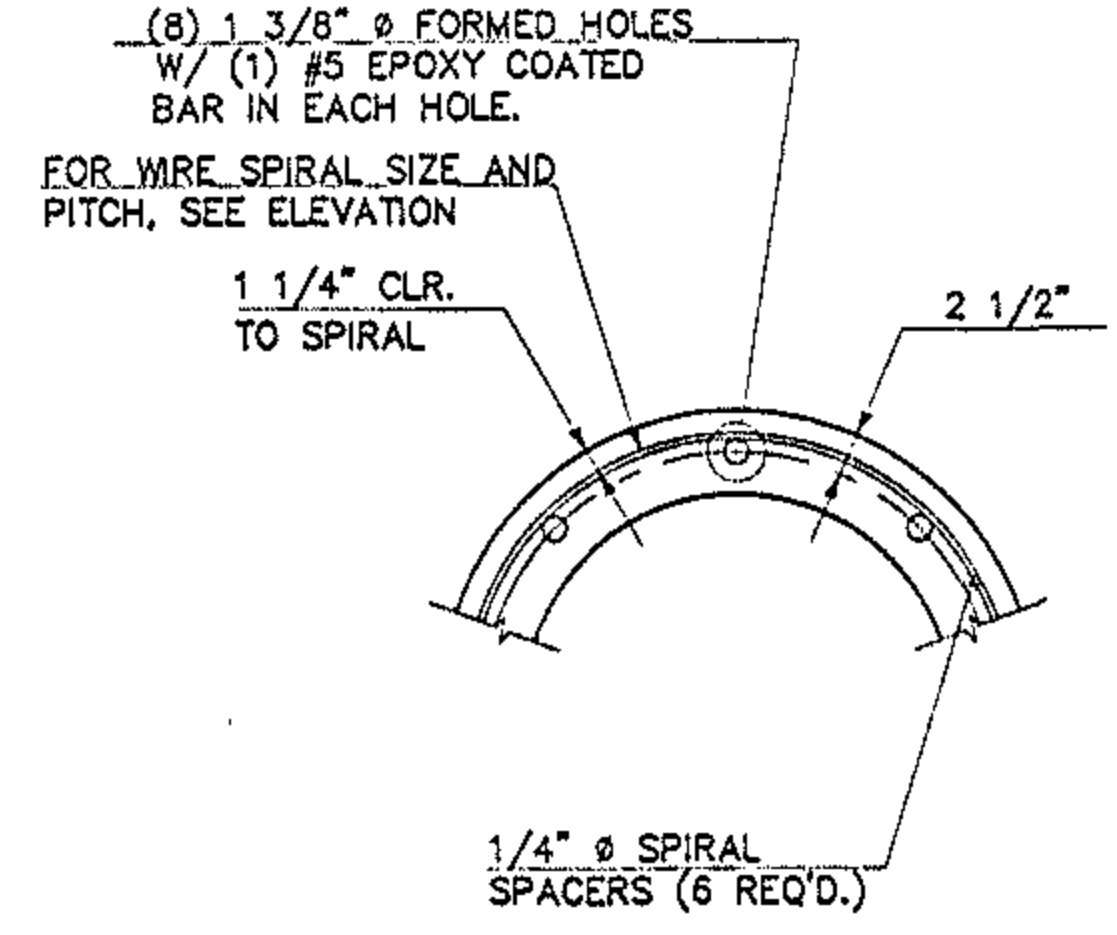
W11(3/8" ϕ) - COLD DRAWN STEEL WIRE SPIRAL
1 3/8" ϕ FORMED HOLE AT EQUAL SPACING

SECTION A-A



(8) 1 3/8" ϕ FORMED HOLES
W/ (2) 1/2" ϕ 270 KSI L.R. STRANDS IN EACH HOLE.
FOR WIRE SPIRAL SIZE AND PITCH, SEE ELEVATION

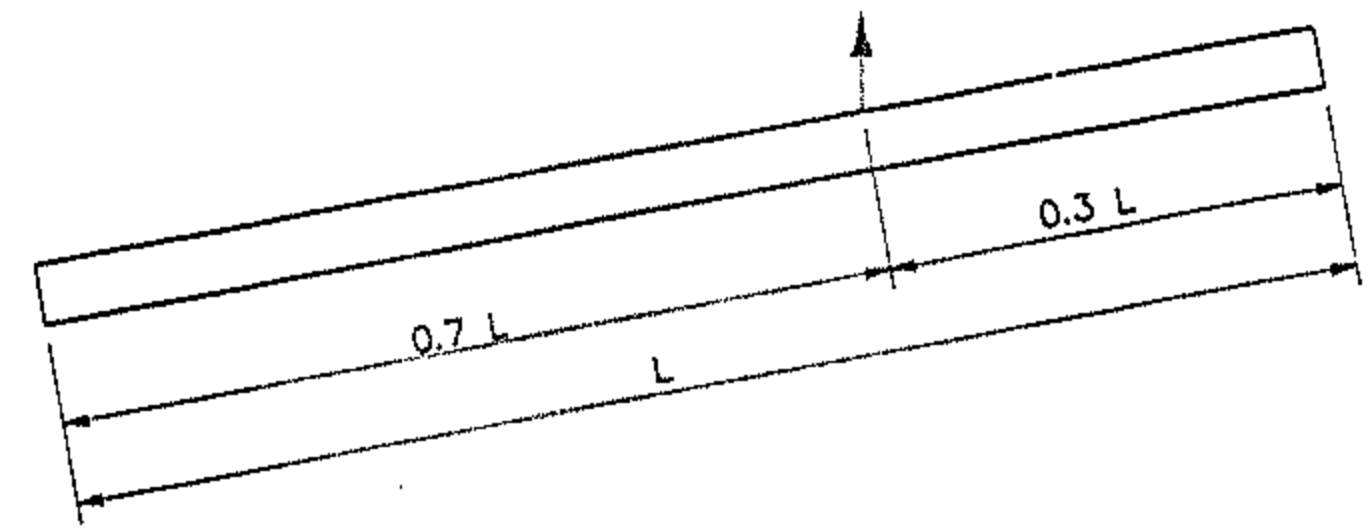
PIERS 5 - 63
(59 PIERS TOTAL)



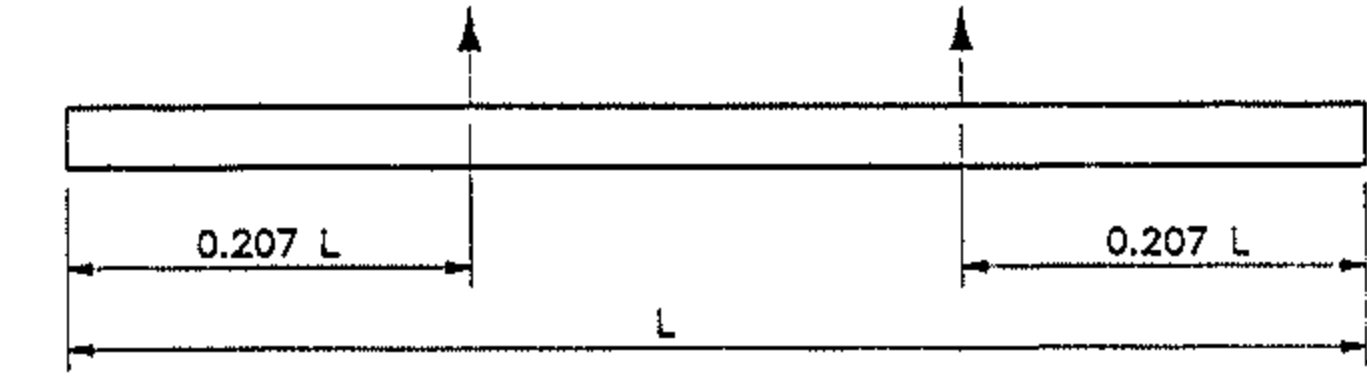
(8) 1 3/8" ϕ FORMED HOLES
W/ (1) #5 EPOXY COATED BAR IN EACH HOLE.
FOR WIRE SPIRAL SIZE AND PITCH, SEE ELEVATION

PIERS 1 - 4, 64 - 70
(11 PIERS TOTAL)

REINFORCING DETAILS



ONE POINT PICK-UP



TWO POINT PICK-UP

PILE PICK - UP DETAILS

PICK-UP NOTES

DEVICES FOR LIFTING THE PILES SHALL BE APPROVED BY THE ENGINEER.
ROTATION OF THE PILE IN THE SLING IS TO BE PREVENTED UNTIL THE PILE IS IN THE VERTICAL POSITION.
PICK-UP POINTS FOR ALL PILES TO BE CLEARLY MARKED ON PILES.
MAXIMUM LENGTHS FOR PICK-UP HAVE BEEN CALCULATED FOR BENDING STRESSES DUE TO THE WEIGHT OF THE PILE PLUS 50 PERCENT ALLOWABLE FOR IMPACT, WITH CONCRETE TENSILE STRESS LIMITED TO $6\sqrt{f'_c}$

NOTES:

PRESTRESSED CONCRETE CYLINDER PILE SLEEVES SHALL BE FABRICATED IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS SHEET AND WITH THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A CONCRETE MIX WITH A MINIMUM COMPRESSIVE STRENGTH (f'_c) OF 7,000 psi AT 28 DAYS PER THE SPECIAL PROVISIONS. THE INITIAL AVERAGE UNIT PRESTRESS PER TENDON SHALL BE 203 ksi.

PRESTRESSING STRAND DATA:

SIZE	GRADE	AREA	ULTIMATE STRENGTH	APPLIED PRESTRESSING
1/2" ϕ	270LR	.153 IN ²	41.3 KIPS/STRAND	31 KIPS/STRAND

PRESTRESSED CONCRETE CYLINDER PILE SLEEVES FOR PIERS 5 - 63 (59 PIERS TOTAL) SHALL BE POST-TENSIONED IN ACCORDANCE WITH THE SPECIAL PROVISIONS. FOR PIERS 1 - 4 AND 64 - 70 (11 PIERS TOTAL), SLEEVES SHALL CONTAIN ONLY MILD REINFORCING PER THE DETAILS SHOWN ON THIS SHEET AND THE SPECIAL PROVISIONS.

FABRICATION TOLERANCES AND DETENSIONING SEQUENCE OF THE PRESTRESSED CONCRETE PILE SHALL BE AS REQUIRED BY THE SPECIAL PROVISIONS.

THE W11 COLD-DRAWN STEEL WIRE SPIRAL REINFORCEMENT SHALL BE "AS COLD DRAWN" CONFORMING TO ASTM DESIGNATION A82. THE SPIRAL REINFORCING STEEL MAY BE WELDED TO THE LONGITUDINAL WIRES PROVIDED THE WELDING IS DONE BY CERTIFIED WELDERS OR APPROVED ELECTRIC RESISTANCE WELDING EQUIPMENT.

TOTAL LENGTH OF SLEEVES SHALL BE AS NOTED IN THE PLANS (SEE PIER SHEETS). INDIVIDUAL PILE SECTIONS IN 4'-0", 8'-0", 12'-0" AND 16'-0" LENGTHS SHALL BE JOINED TOGETHER IN ORDER TO ACHIEVE THE TOTAL LENGTHS SHOWN IN THE PLANS. TOTAL LENGTHS SHALL BE ACHIEVED USING AS FEW INDIVIDUAL PILE SECTIONS AS POSSIBLE.

ALL PILES SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR. SEE SPECIAL PROVISIONS.

THE WATER/CEMENT RATIO FOR PILES SHALL NOT EXCEED 0.40.

FOR PRESTRESSED CONCRETE CYLINDER PILE SLEEVES, SEE SPECIAL PROVISIONS.

PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PRESTRESSED CONCRETE
 CYLINDER PILE SLEEVE

HNTB HNTB NORTH CAROLINA, P.C.
 16 E. Rowan St., Suite 410, Raleigh, N.C. 27602
 DRAWN BY: J. BAYNE DATE: 1/98
 CHECKED BY: N. GREENLEE DATE: 3/98
 DWG. NO. 25

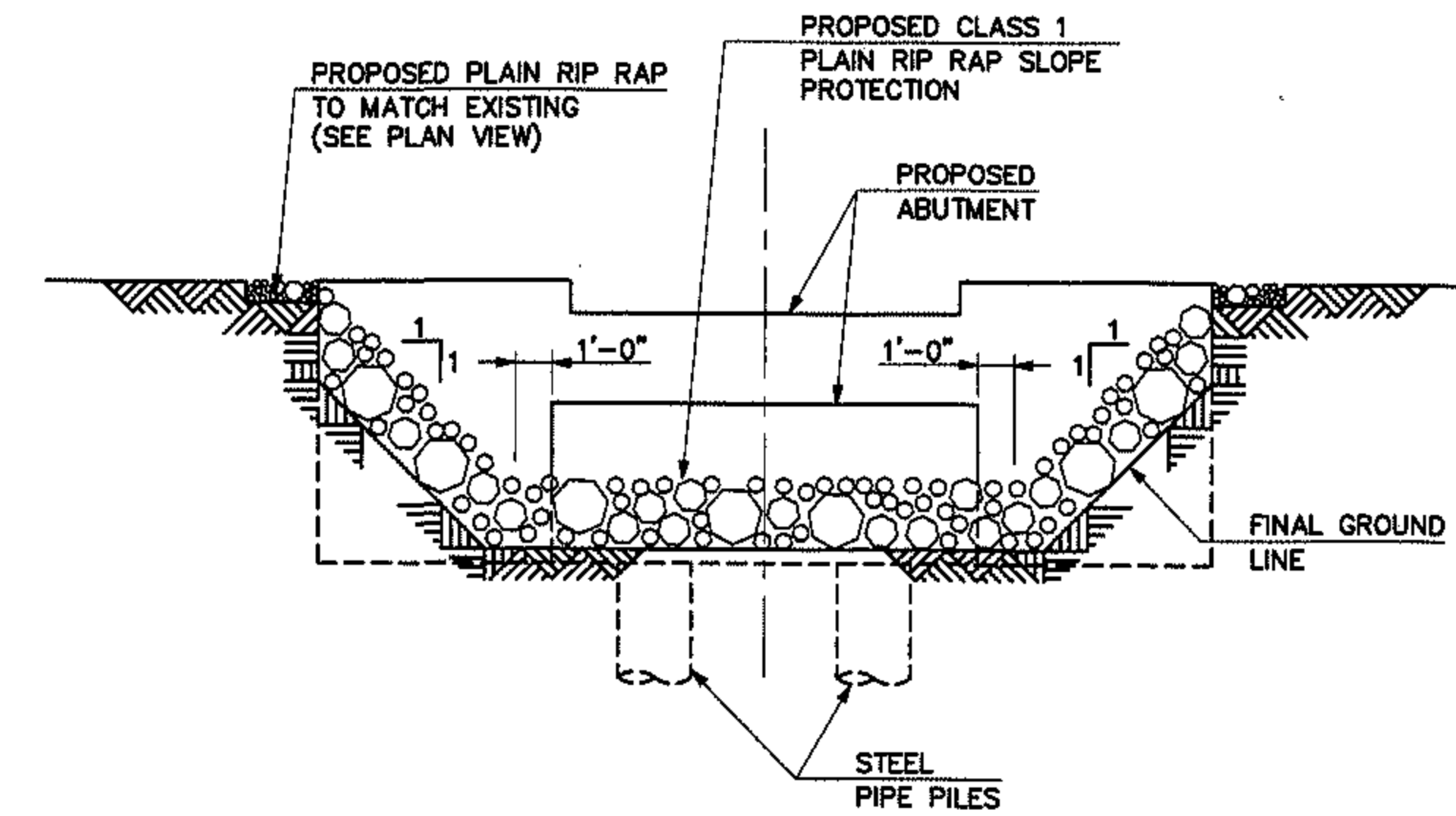
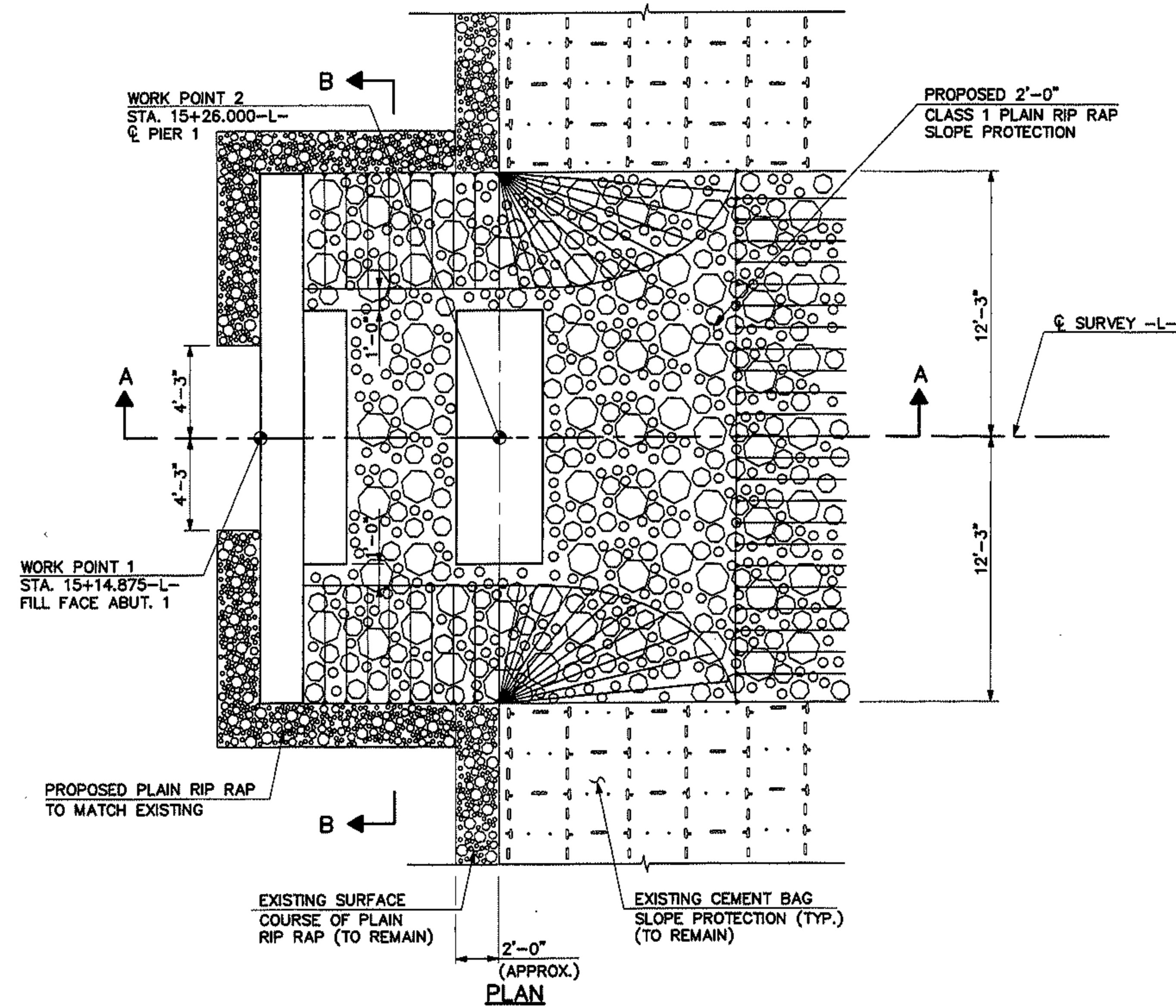
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NOTES:

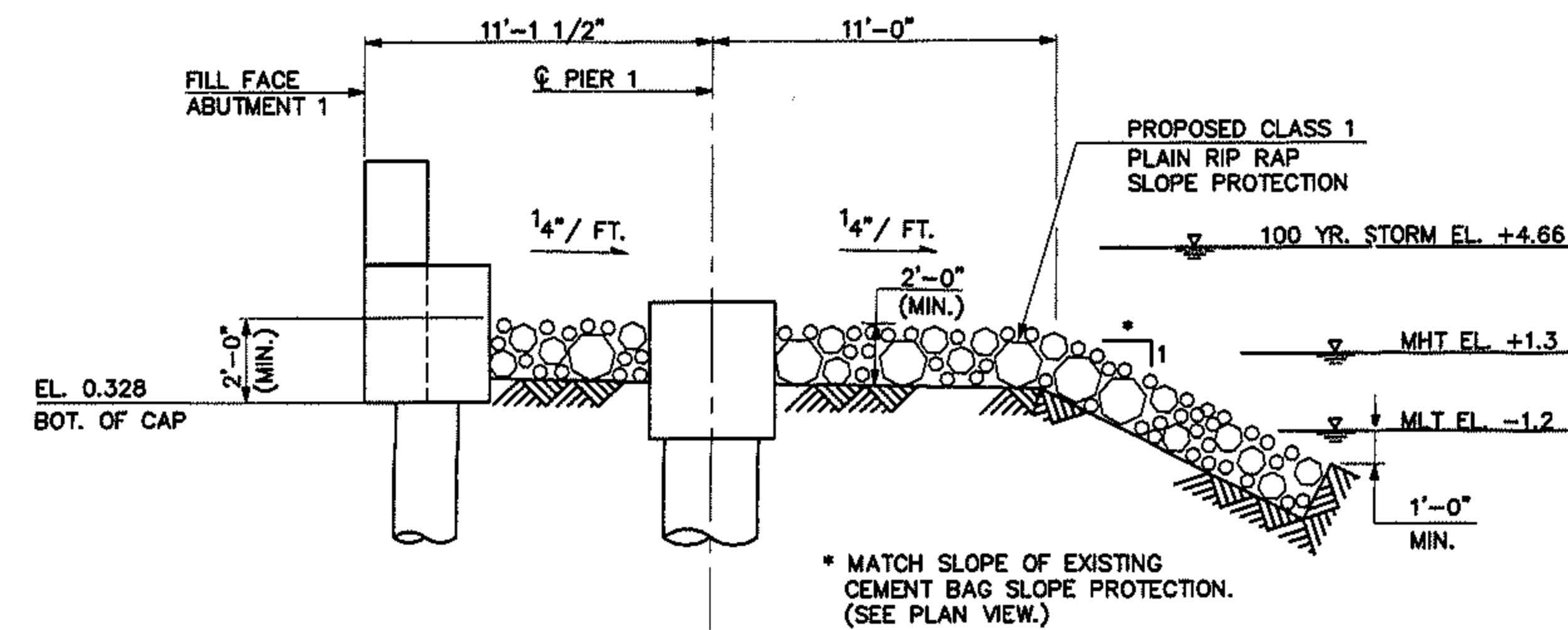
RIP RAP SHALL BE CLASS A OR CLASS 1 PLAIN AS SHOWN CONFORMING TO THE STANDARD SPECIFICATIONS.
 BACKFILL MATERIALS AND PROCEDURES SHALL CONFORM TO THE STANDARD SPECIFICATIONS.

EROSION CONTROL MEASURES SHALL BE AS SHOWN ON "EROSION CONTROL @ ABUTMENT 1" SHEET.

FOR SEQUENCE OF CONSTRUCTION AT ABUTMENT 1 AND PIER 1, SEE "ABUTMENT 1" (SHEET 1 OF 2) AND "SEQUENCE OF CONSTRUCTION" SHEETS.



SECTION B-B



SECTION A-A

PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 SLOPE PROTECTION
 @ ABUTMENT 1

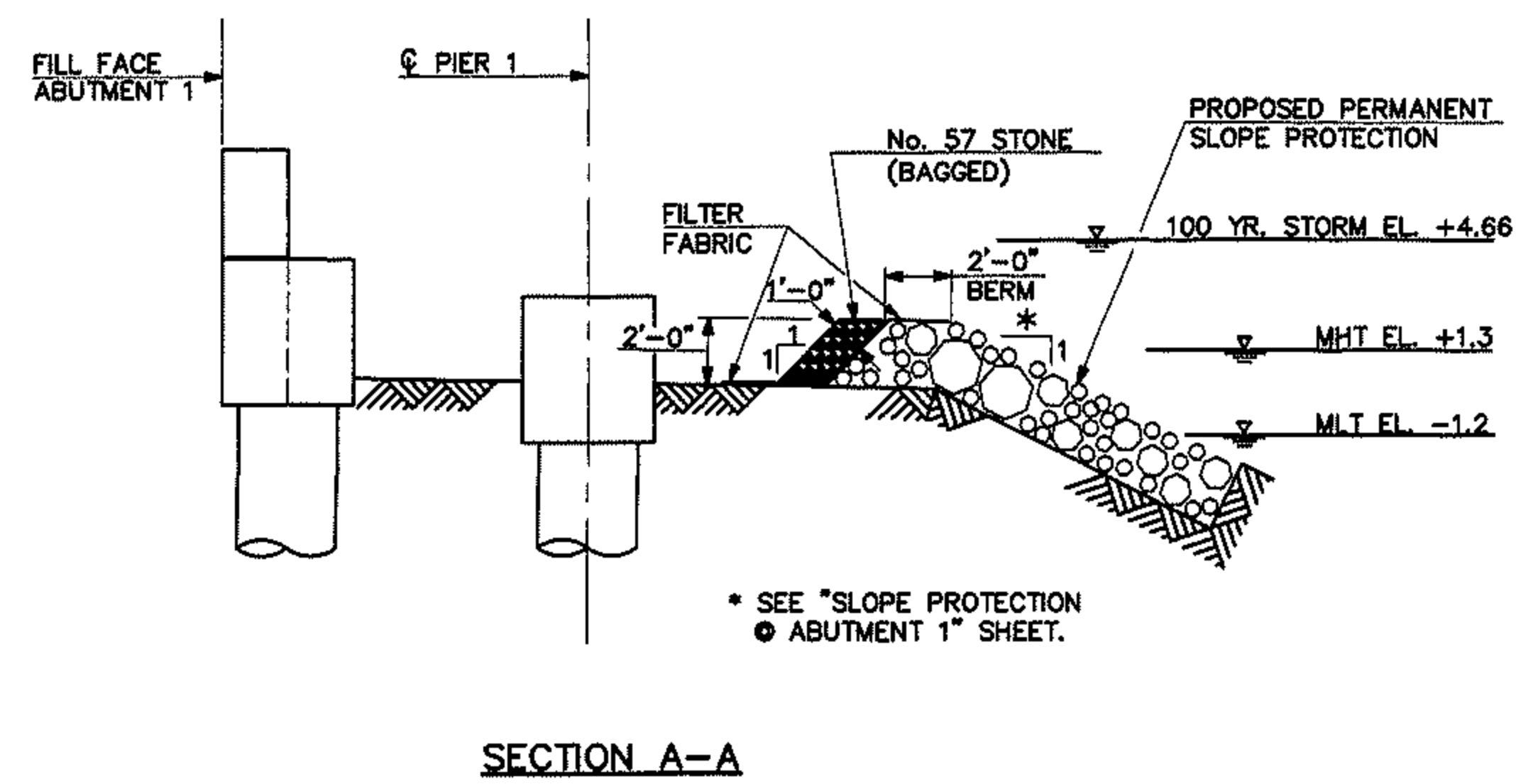
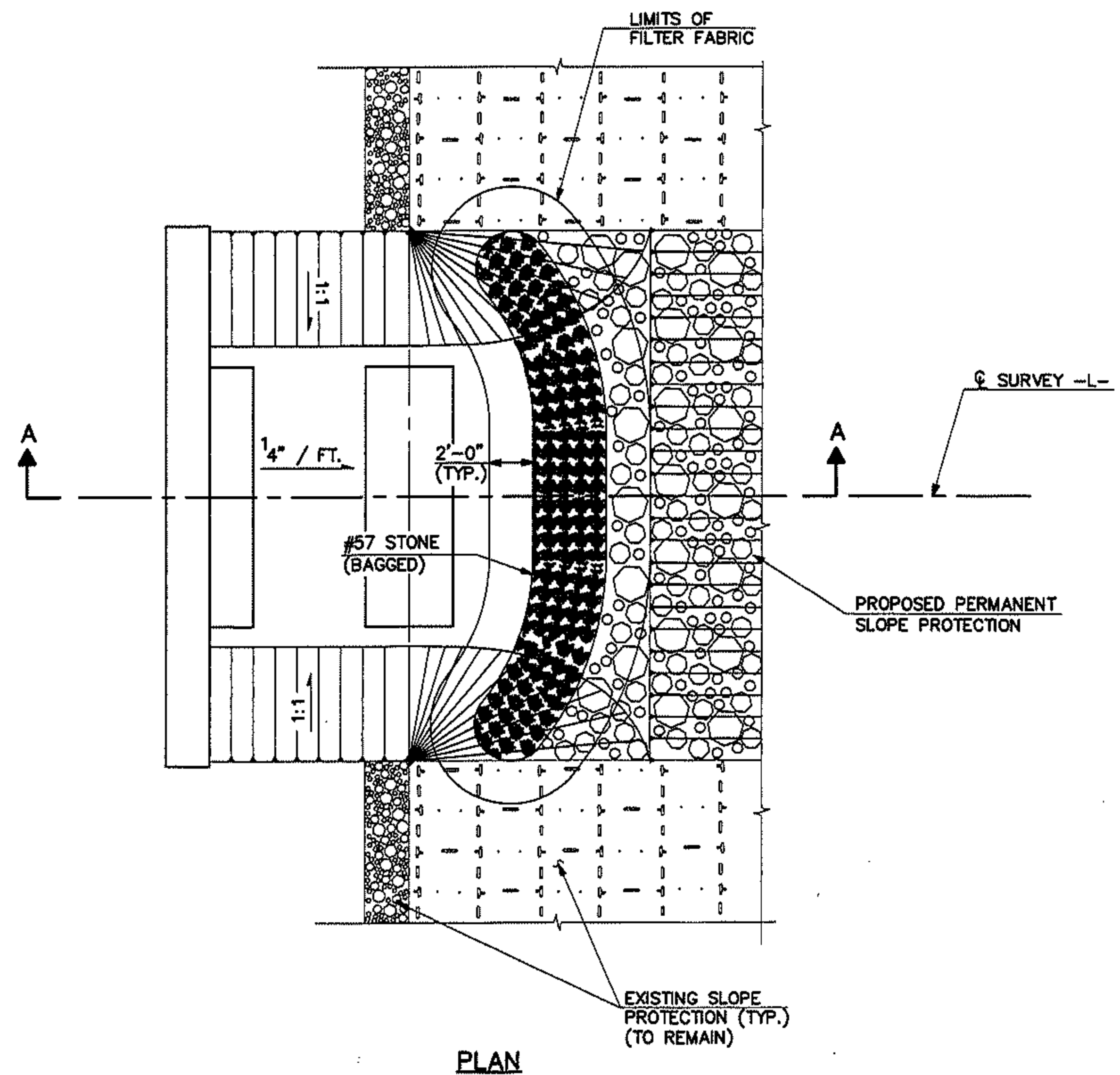
HNTB HNTB NORTH CAROLINA, P.C.
 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609

DRAWN BY M. WRIGHT DATE 7/98
 CHECKED BY N. GREENLEE DATE 7/98 DWG. NO. 29

REVISIONS						SHEET NO.
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1			3			
2			4			

DISTRIBUTION No. 5

NAME: P:\27834\DWG5\AS43ERCON.DWG DATE: SEP 09, 1998 TIME: 1:24 PM



NOTES

THE SEQUENCE OF CONSTRUCTION INVOLVES REMOVAL OF THE EXISTING RAILROAD TRESTLE AND SLOPE PROTECTION AT THE LOCATION SHOWN FOLLOWED BY IMMEDIATE CONSTRUCTION OF THE PROPOSED ABUTMENT, PIER AND PERMANENT SLOPE PROTECTION AT THE SAME LOCATION. THIS PROCEDURE WILL BE PERFORMED WITHIN A FOUR DAY PERIOD IN ORDER TO MAINTAIN SCHEDULED RAIL TRAFFIC. IF CONSTRUCTION OF THE PROPOSED ABUTMENT AND PIER CAN NOT BE COMPLETED IN A SINGLE FOUR DAY PERIOD AND THE ENGINEER BELIEVES EROSION CONTROL MEASURES ARE NECESSARY, THEN SUCH MEASURES SHALL BE IMPLEMENTED AS FOLLOWS:

1. PLACE PROPOSED PERMANENT SLOPE PROTECTION TO THE LIMITS SHOWN.
2. PLACE FILTER FABRIC AND NO. 57 STONE (BAGGED) AS SHOWN.

THE NO. 57 STONE MAY BE LEFT IN PLACE AS PART OF THE PROPOSED PERMANENT SLOPE PROTECTION AT THE DISCRETION OF THE ENGINEER.

FOR DETAILS OF PROPOSED PERMANENT SLOPE PROTECTION, SEE "SLOPE PROTECTION ABUTMENT 1" SHEET.

PROJECT No. P-3100
CARTERET COUNTY
 STATION: POT 10+00.00 -L-
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 EROSION CONTROL
 ABUTMENT 1

HNTB HNTB NORTH CAROLINA, P.C.
 16 E. Rowan St., Suite 410, Raleigh, N.C. 27609
 DRAWN BY: J. BAYNE DATE: 7/98
 CHECKED BY: N. GREENLEE DATE: 7/98
 DWG. NO. 30

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DISTRIBUTION No. 5