

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

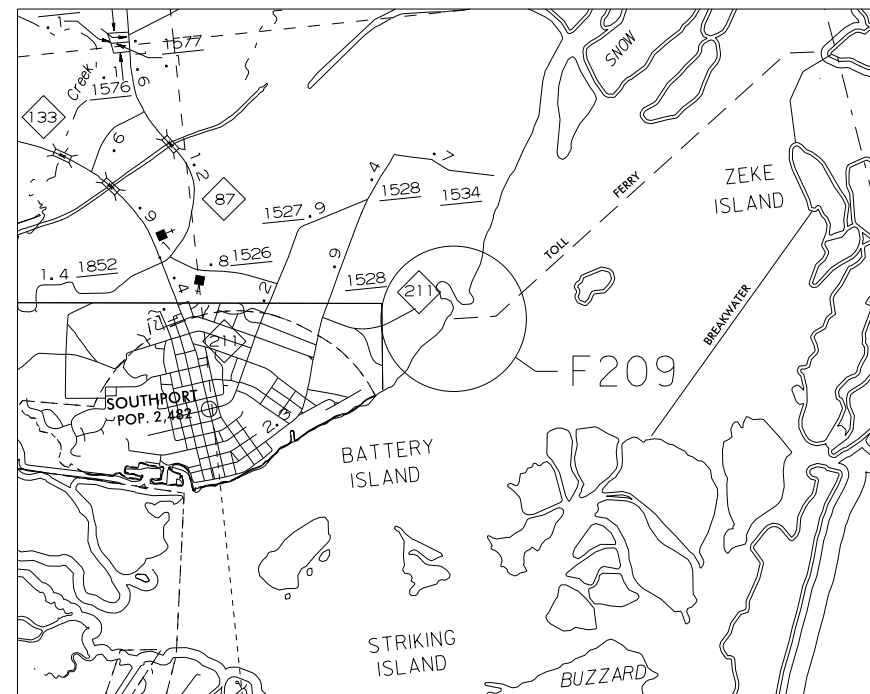


LOCATION: BRUNSWICK COUNTY

UTILITY PIER AT BRIDGE #090209 ON NC HWY 211 (FERRY ROAD SE)

TYPE OF WORK: BRIDGE PRESERVATION - UTILITY PIER DEMOLITION AND RECONSTRUCTION

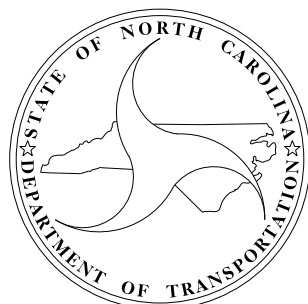
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF16616.2170011	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
DF16616.2170011	-	P.E.	
DF16616.2170011	-	CONST.	



VICINITY MAP - BRUNSWICK CO.

PROJECT: DF16616.2170011

PROJECT: DA00495



DESIGN DATA

BRUNSWICK COUNTY
#209 ADT 2014 = N/A

PROJECT LENGTH

BRUNSWICK COUNTY
- #209 = 0.02 MILE

Prepared In the Office of:
DIVISION OF HIGHWAYS
STRUCTURES MANAGEMENT UNIT
1000 BIRCH RIDGE DR.
RALEIGH, N.C. 27610

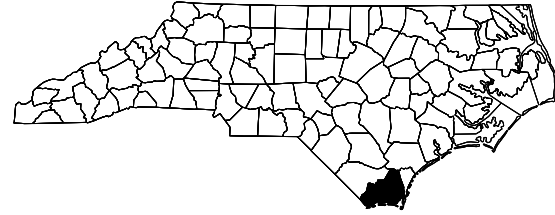
2018 STANDARD SPECIFICATIONS

LETTING DATE : MARCH 3, 2021

TIMOTHY M. SHERRILL, P.E.
PROJECT ENGINEER

TIMOTHY M. SHERRILL, P.E.
PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



BRUNSWICK COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF16616.2170011	1A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
DF16616.2170011	-	P.E.	
DF16616.2170011	-	CONST.	

LOCATION: BRUNSWICK COUNTY

UTILITY PIER AT BRIDGE #090209 ON NC HWY 211 (FERRY ROAD SE)

TYPE OF WORK: BRIDGE PRESERVATION - DEMOLITION AND RECONSTRUCTION

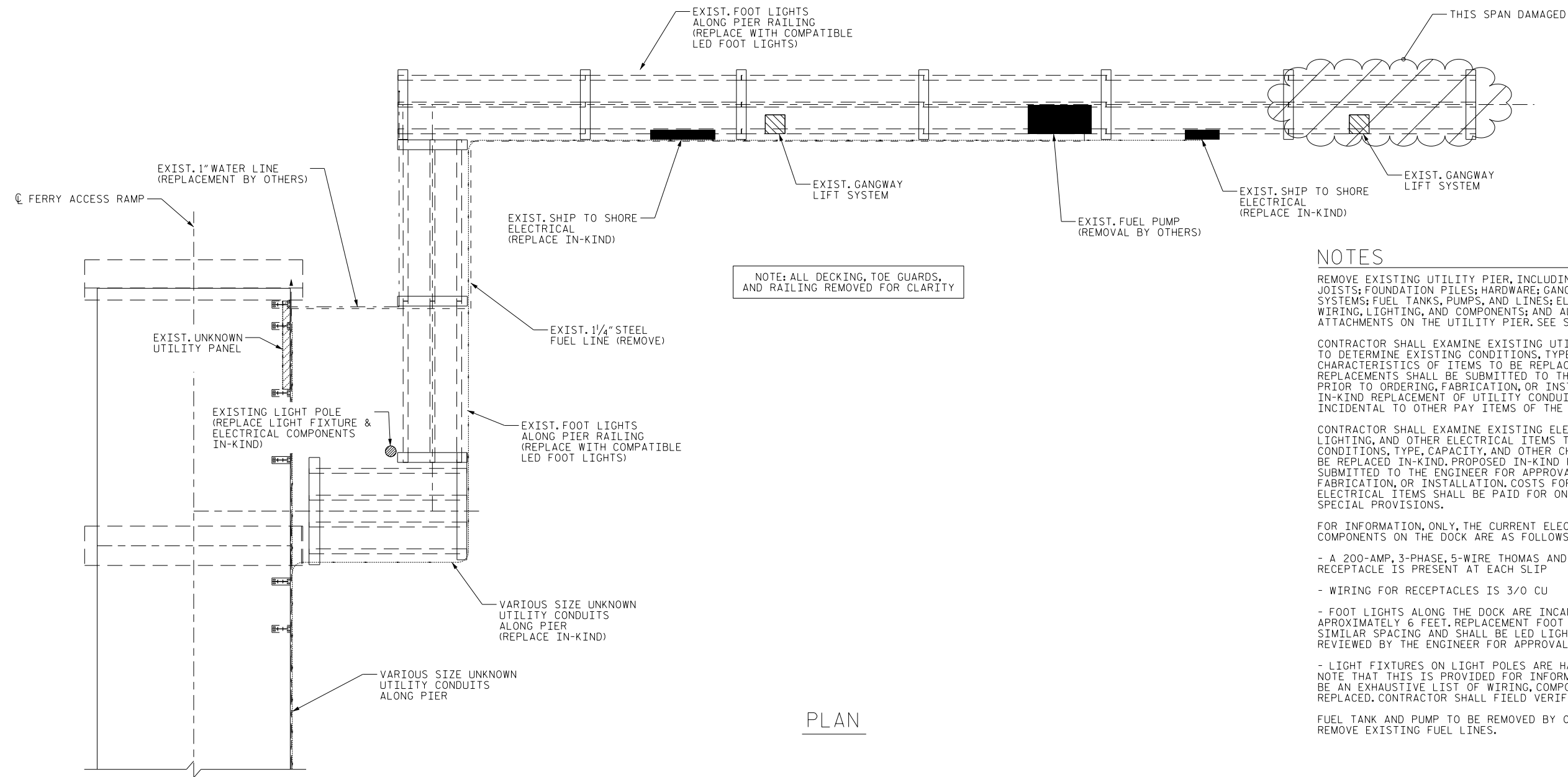
INDEX OF SHEETS

1
1A
S-01 THRU S-11
S-12
SN

TITLE SHEET
INDEX OF SHEETS
STRUCTURAL PLANS - UTILITY PIER AT BRIDGE NO. 090209
TOTAL BILL OF MATERIAL
STANDARD NOTES

PROJECT: DF16616.2170011

PROJECT: DA00495



NOTE: ALL DECKING, TOE GUARDS, AND RAILING REMOVED FOR CLARITY

NOTES

REMOVE EXISTING UTILITY PIER, INCLUDING DECKING; RAILS; POSTS; JOISTS; FOUNDATION PILES; HARDWARE; GANGWAYS AND ASSOCIATED LIFT SYSTEMS; FUEL TANKS, PUMPS, AND LINES; ELECTRICAL AND ASSOCIATED WIRING, LIGHTING, AND COMPONENTS; AND ALL OTHER COMPONENTS AND ATTACHMENTS ON THE UTILITY PIER. SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL EXAMINE EXISTING UTILITY CONDUITS, TO DETERMINE EXISTING CONDITIONS, TYPE, CAPACITY, AND OTHER CHARACTERISTICS OF ITEMS TO BE REPLACED IN-KIND. PROPOSED IN-KIND REPLACEMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING, FABRICATION, OR INSTALLATION. COSTS FOR THE IN-KIND REPLACEMENT OF UTILITY CONDUITS SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS OF THE PROJECT.

CONTRACTOR SHALL EXAMINE EXISTING ELECTRICAL WIRING, COMPONENTS, LIGHTING, AND OTHER ELECTRICAL ITEMS TO DETERMINE EXISTING CONDITIONS, TYPE, CAPACITY, AND OTHER CHARACTERISTICS OF ITEMS TO BE REPLACED IN-KIND. PROPOSED IN-KIND REPLACEMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING, FABRICATION, OR INSTALLATION. COSTS FOR THE IN-KIND REPLACEMENT OF ELECTRICAL ITEMS SHALL BE PAID FOR ON A LUMP SUM BASIS. SEE SPECIAL PROVISIONS.

FOR INFORMATION, ONLY, THE CURRENT ELECTRICAL WIRING AND COMPONENTS ON THE DOCK ARE AS FOLLOWS:

- A 200-AMP, 3-PHASE, 5-WIRE THOMAS AND BETTS GFCI DUPLEX RECEPTACLE IS PRESENT AT EACH SLIP

- WIRING FOR RECEPTACLES IS 3/0 CU

- FOOT LIGHTS ALONG THE DOCK ARE INCANDESCENT AND SPACED AT APPROXIMATELY 6 FEET. REPLACEMENT FOOT LIGHTS SHALL BE AT A SIMILAR SPACING AND SHALL BE LED LIGHTING TO BE SUBMITTED AND REVIEWED BY THE ENGINEER FOR APPROVAL

- LIGHT FIXTURES ON LIGHT POLES ARE HARRIS 300 LED, CONDUIT BASED NOTE THAT THIS IS PROVIDED FOR INFORMATION, ONLY, AND MIGHT NOT BE AN EXHAUSTIVE LIST OF WIRING, COMPONENTS, AND FIXTURES TO BE REPLACED. CONTRACTOR SHALL FIELD VERIFY.

FUEL TANK AND PUMP TO BE REMOVED BY OTHERS. CONTRACTOR SHALL REMOVE EXISTING FUEL LINES.

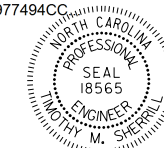
PLAN

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
 BRIDGE NO. 090209

DocuSigned by:

Timothy M. Sherrill

AD50B1D977494CC



1/8/2021

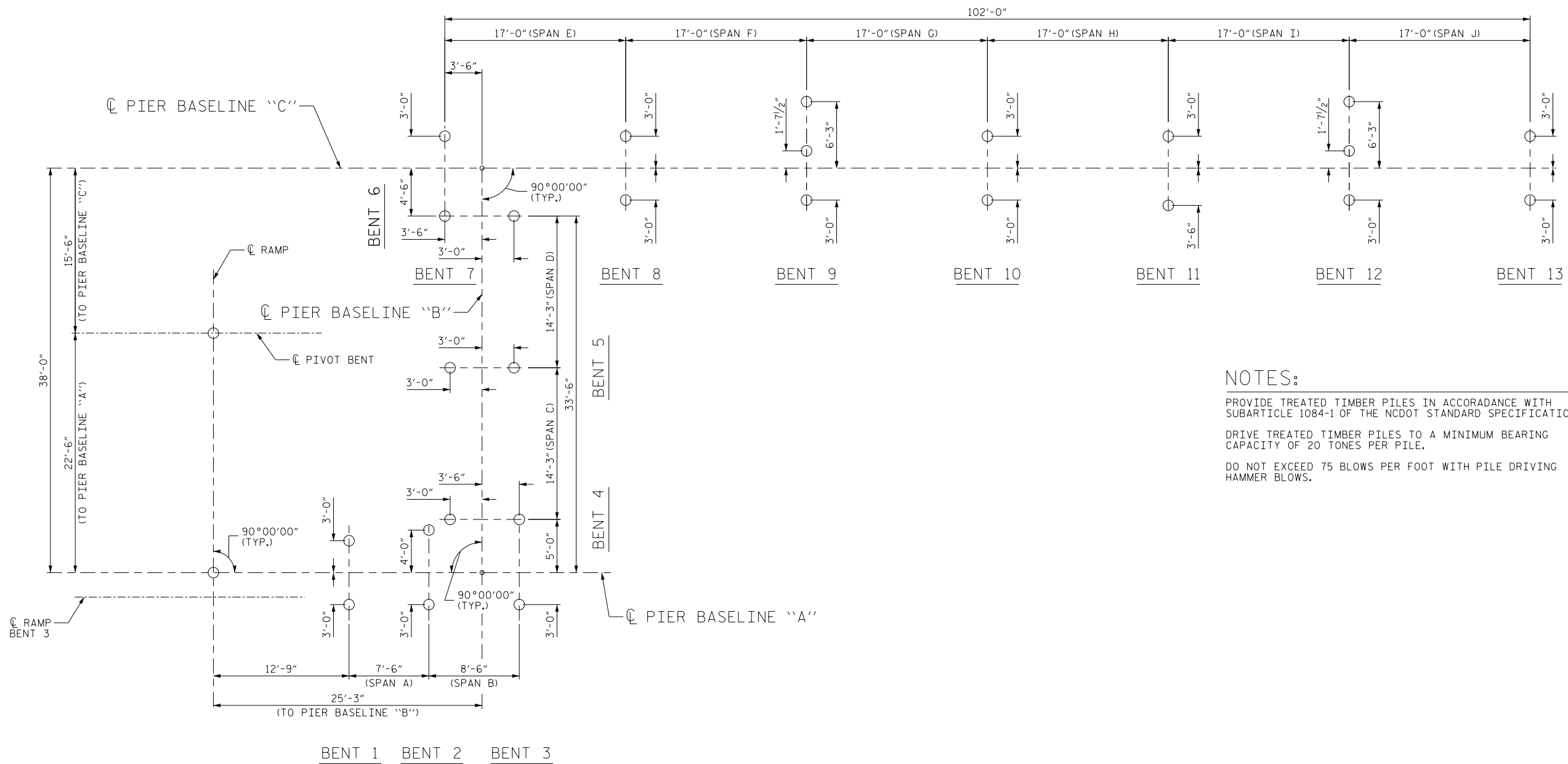
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

EXISTING UTILITY
 PIER FOR
 SOUTHPORT
 FERRY BASIN

DRAWN BY : R.L. PUTEK DATE : 10/2020
 CHECKED BY : T.M. SHERRILL DATE : 10/2020

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-01
2			4			TOTAL SHEETS 12



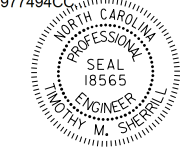
NOTES:

- PROVIDE TREATED TIMBER PILES IN ACCORDANCE WITH SUBARTICLE 1084-1 OF THE NCDOT STANDARD SPECIFICATIONS.
- DRIVE TREATED TIMBER PILES TO A MINIMUM BEARING CAPACITY OF 20 TONES PER PILE.
- DO NOT EXCEED 75 BLOWS PER FOOT WITH PILE DRIVING HAMMER BLOWS.

PLAN

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
 BRIDGE NO. 090209

DocuSigned by:
Timothy M. Sherrill
 AD50B1D977494CC



1/8/2021

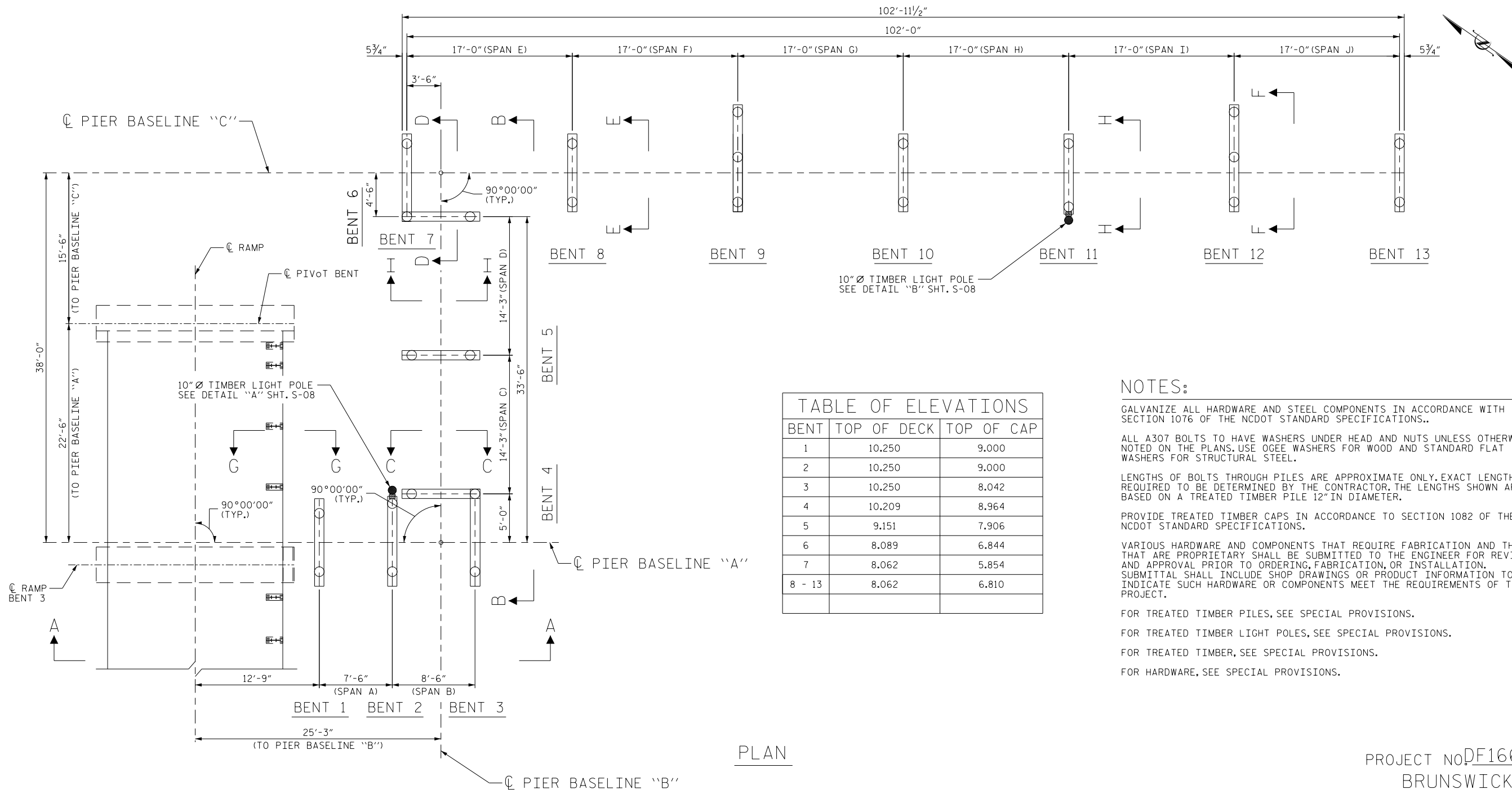
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PILE LAYOUT

DRAWN BY : R.L. PUTTEK DATE : 09/2020
 CHECKED BY : T.M. SHERRILL DATE : 10/2020

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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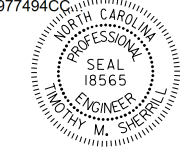
BENT	TOP OF DECK	TOP OF CAP
1	10.250	9.000
2	10.250	9.000
3	10.250	8.042
4	10.209	8.964
5	9.151	7.906
6	8.089	6.844
7	8.062	5.854
8 - 13	8.062	6.810

NOTES:

- GALVANIZE ALL HARDWARE AND STEEL COMPONENTS IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS..
- ALL A307 BOLTS TO HAVE WASHERS UNDER HEAD AND NUTS UNLESS OTHERWISE NOTED ON THE PLANS. USE Ogee WASHERS FOR WOOD AND STANDARD FLAT WASHERS FOR STRUCTURAL STEEL.
- LENGTHS OF BOLTS THROUGH PILES ARE APPROXIMATE ONLY. EXACT LENGTHS REQUIRED TO BE DETERMINED BY THE CONTRACTOR. THE LENGTHS SHOWN ARE BASED ON A TREATED TIMBER PILE 12" IN DIAMETER.
- PROVIDE TREATED TIMBER CAPS IN ACCORDANCE TO SECTION 1082 OF THE NCDOT STANDARD SPECIFICATIONS.
- VARIOUS HARDWARE AND COMPONENTS THAT REQUIRE FABRICATION AND THOSE THAT ARE PROPRIETARY SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING, FABRICATION, OR INSTALLATION. SUBMITTAL SHALL INCLUDE SHOP DRAWINGS OR PRODUCT INFORMATION TO INDICATE SUCH HARDWARE OR COMPONENTS MEET THE REQUIREMENTS OF THE PROJECT.
- FOR TREATED TIMBER PILES, SEE SPECIAL PROVISIONS.
- FOR TREATED TIMBER LIGHT POLES, SEE SPECIAL PROVISIONS.
- FOR TREATED TIMBER, SEE SPECIAL PROVISIONS.
- FOR HARDWARE, SEE SPECIAL PROVISIONS.

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
 BRIDGE NO. 090209

DocuSigned by:
Timothy M. Sherrill
 AD50B1D977494CC



1/8/2021

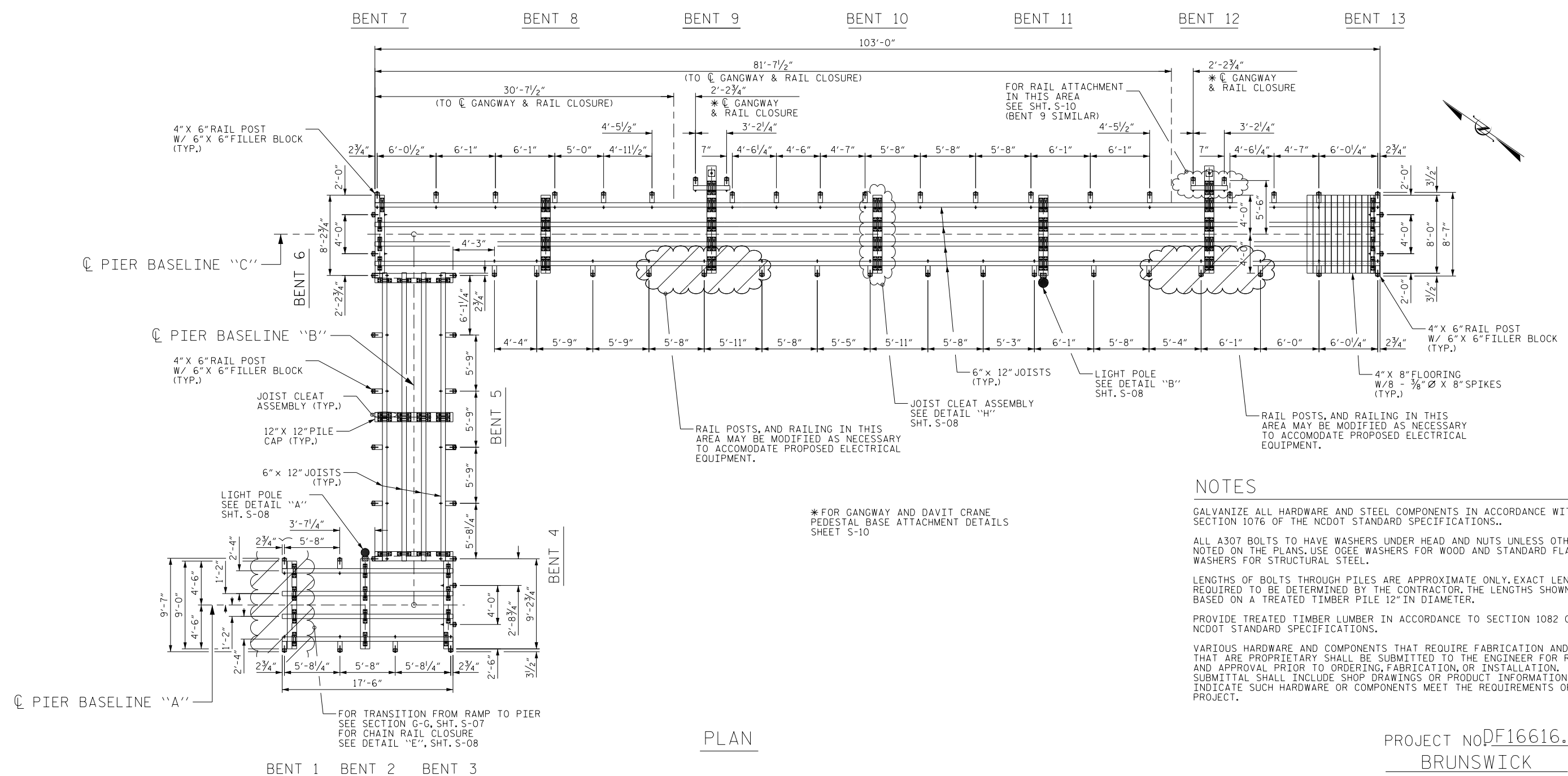
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE CAPS

DRAWN BY : R.L. PUTEK DATE : 10/2020
 CHECKED BY : T.M. SHERRILL DATE : 10/2020

NO.	REVISIONS			NO.	REVISIONS			SHEET NO.
	BY:	DATE:			BY:	DATE:		
1				3			S-03	
2				4			TOTAL SHEETS	
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 SIGNATURES COMPLETED



PLAN

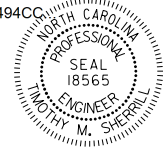
NOTES

- GALVANIZE ALL HARDWARE AND STEEL COMPONENTS IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS..
- ALL A307 BOLTS TO HAVE WASHERS UNDER HEAD AND NUTS UNLESS OTHERWISE NOTED ON THE PLANS. USE Ogee WASHERS FOR WOOD AND STANDARD FLAT WASHERS FOR STRUCTURAL STEEL.
- LENGTHS OF BOLTS THROUGH PILES ARE APPROXIMATE ONLY. EXACT LENGTHS REQUIRED TO BE DETERMINED BY THE CONTRACTOR. THE LENGTHS SHOWN ARE BASED ON A TREATED TIMBER PILE 12" IN DIAMETER.
- PROVIDE TREATED TIMBER LUMBER IN ACCORDANCE TO SECTION 1082 OF THE NCDOT STANDARD SPECIFICATIONS.
- VARIOUS HARDWARE AND COMPONENTS THAT REQUIRE FABRICATION AND THOSE THAT ARE PROPRIETARY SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING, FABRICATION, OR INSTALLATION. SUBMITTAL SHALL INCLUDE SHOP DRAWINGS OR PRODUCT INFORMATION TO INDICATE SUCH HARDWARE OR COMPONENTS MEET THE REQUIREMENTS OF THE PROJECT.

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
 BRIDGE NO. 090209

CORED SLAB APPROACH RAMP
 NOT SHOWN FOR CLARITY

DocuSigned by:
Timothy M. Sherrill
 AD50B1D977494CC



1/8/2021

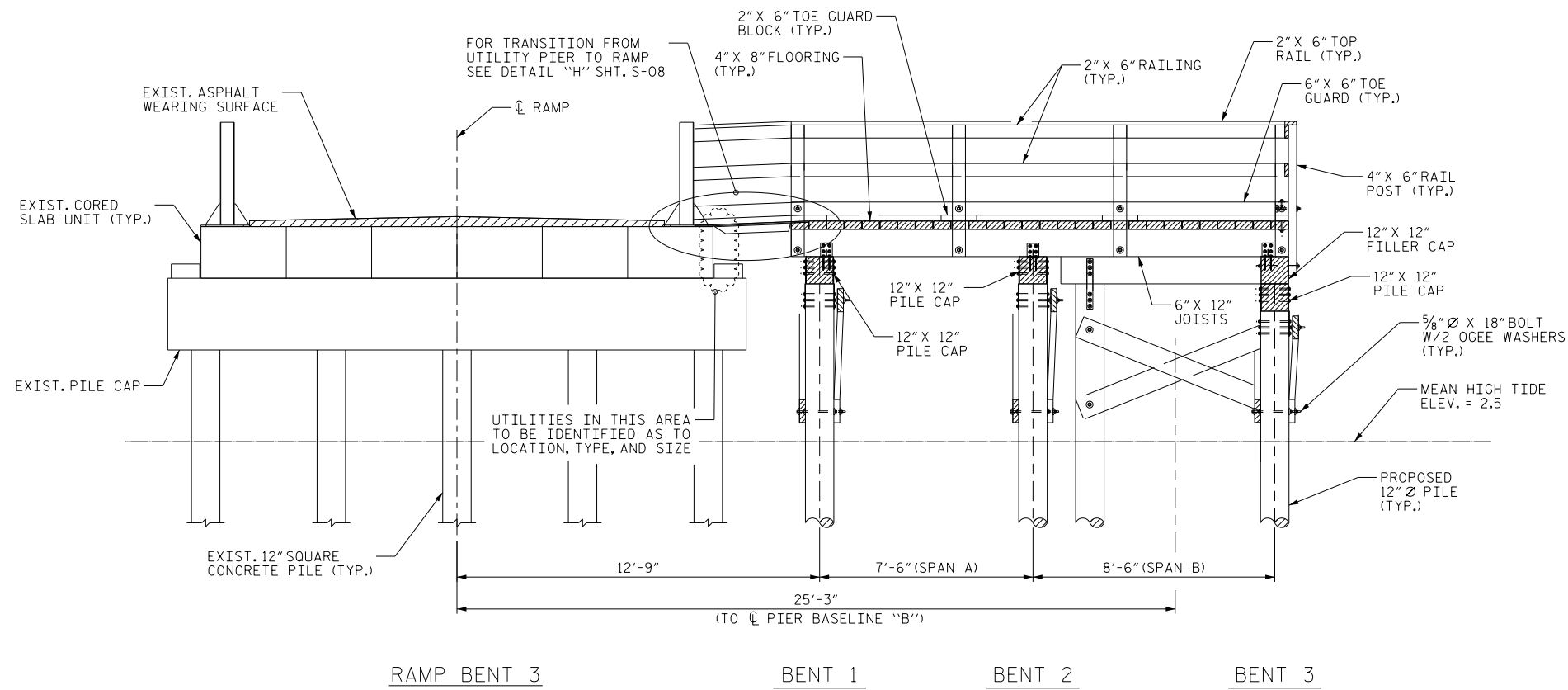
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 JOISTS AND FLOORING

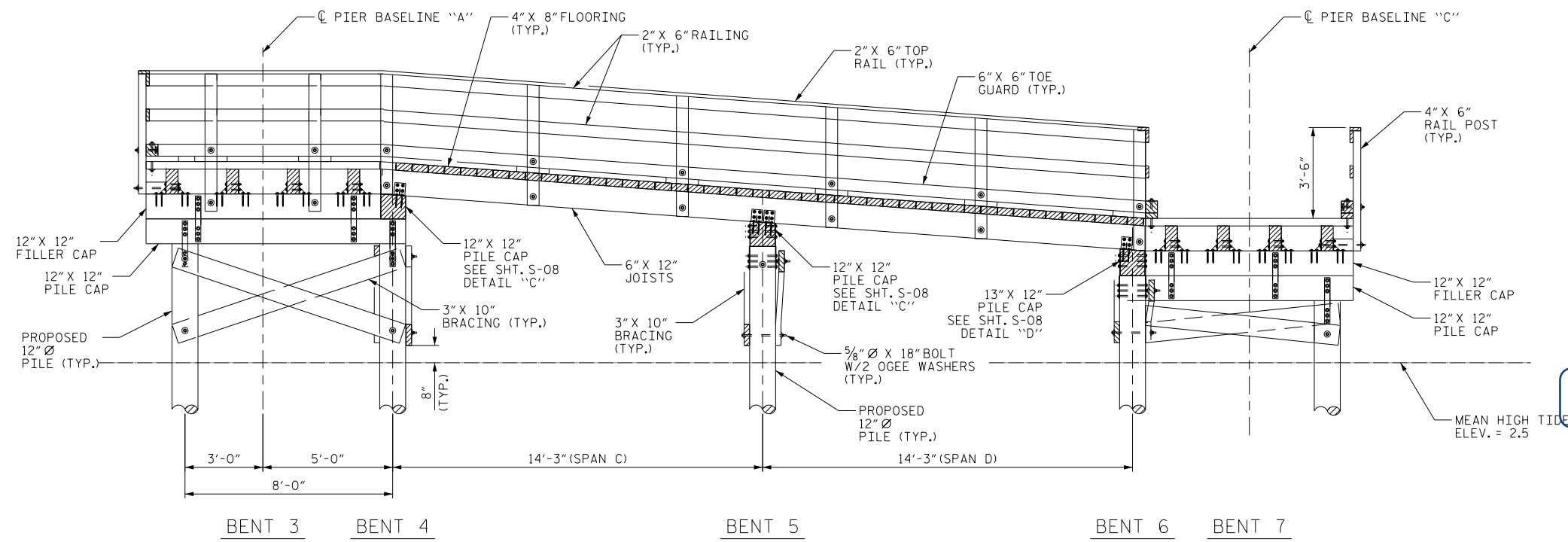
DRAWN BY : R.L. PUTEK DATE : 10/2020
 CHECKED BY : T.M. SHERRILL DATE : 10/2020

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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			12

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED



ELEVATION VIEW A-A
(ALONG PIER BASELINE "A")

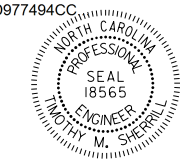


ELEVATION VIEW B-B
(ALONG PIER BASELINE "B")

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
 BRIDGE NO. 090209

SHEET 1 OF 3

DocuSigned by:
Timothy M. Shear
 AD50B1D977494CC



1/8/2021

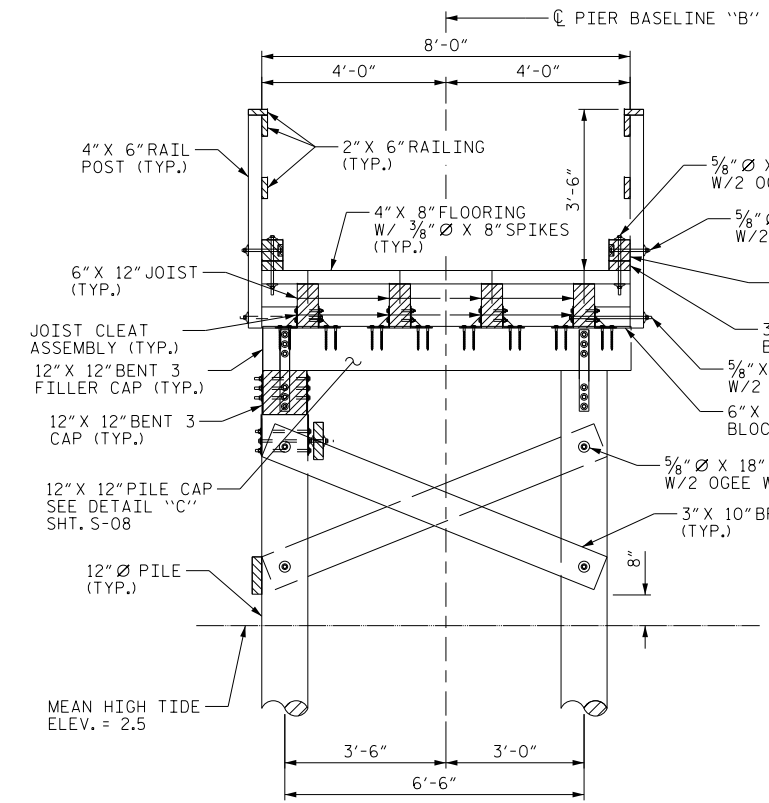
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

ELEVATION / SECTION VIEWS

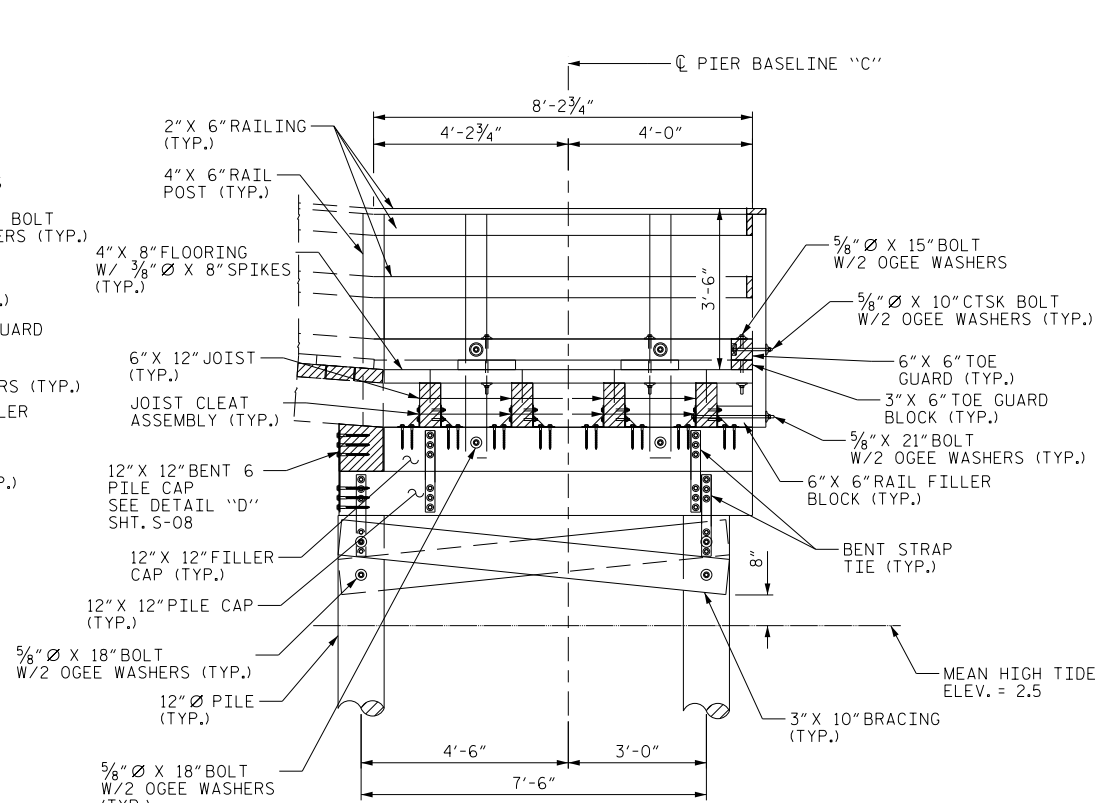
DRAWN BY : R.L. PUTEK DATE : 09/2020
 CHECKED BY : T.M. SHERRILL DATE : 10/2020

DOCUMENT NOT CONSIDERED
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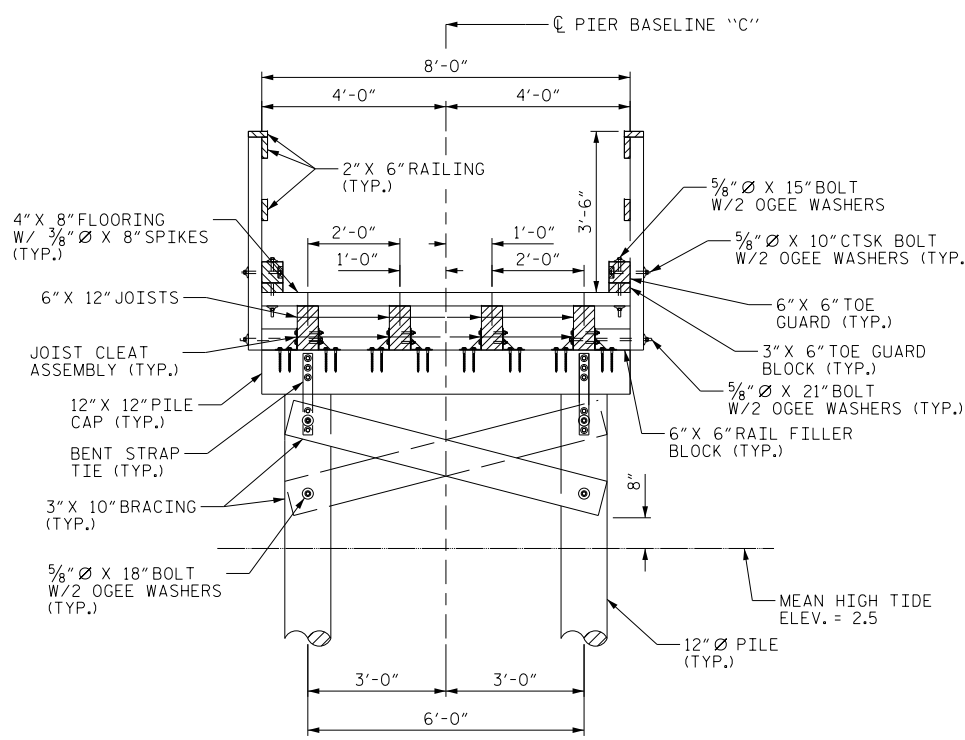
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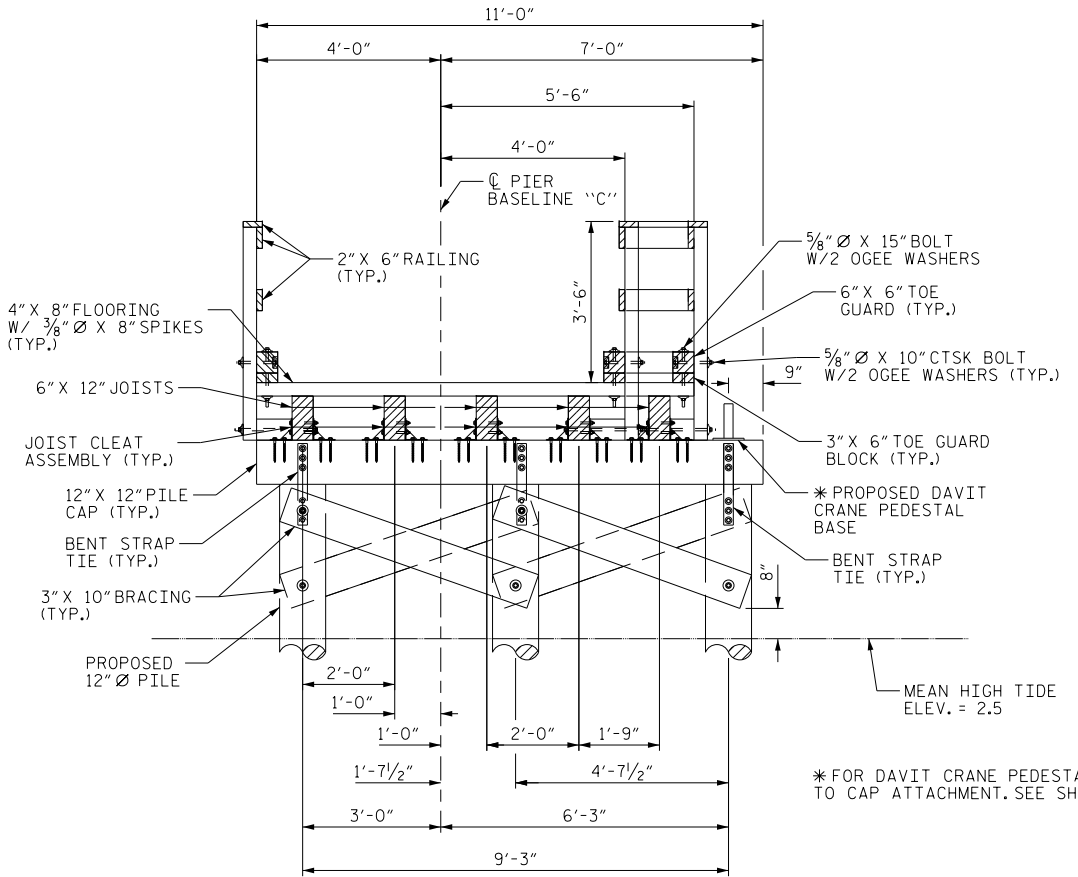
SECTION C-C
(BENT 4)



SECTION D-D
(BENT 7)



SECTION E-E
(BENT 8 SHOWN, BENTS 1, 5, 10, & 13 SIMILAR)

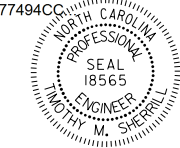


SECTION F-F
(BENT 12 SHOWN, BENT 9 SIMILAR)

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
 BRIDGE NO. 090209

SHEET 2 OF 3

DocuSigned by:
Timothy M. Shear
 AD50B1D977494C



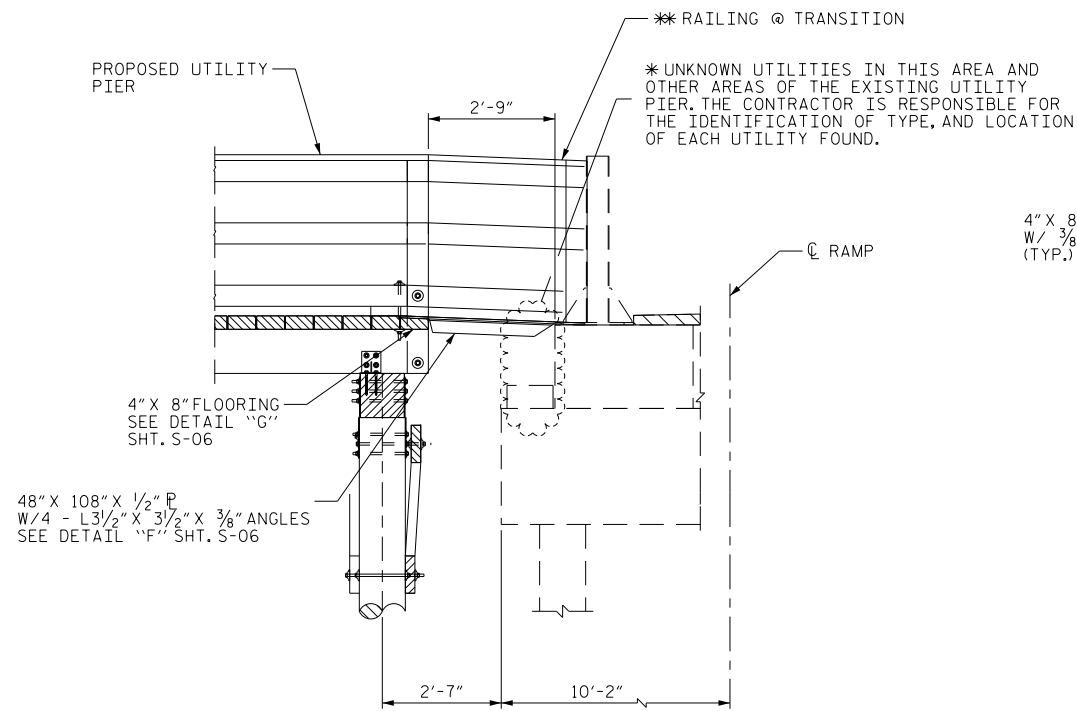
1/8/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

ELEVATION / SECTION
 VIEWS

DRAWN BY : R.L. PUTEK DATE : 10/2020
 CHECKED BY : T.M. SHERRILL DATE : 10/2020

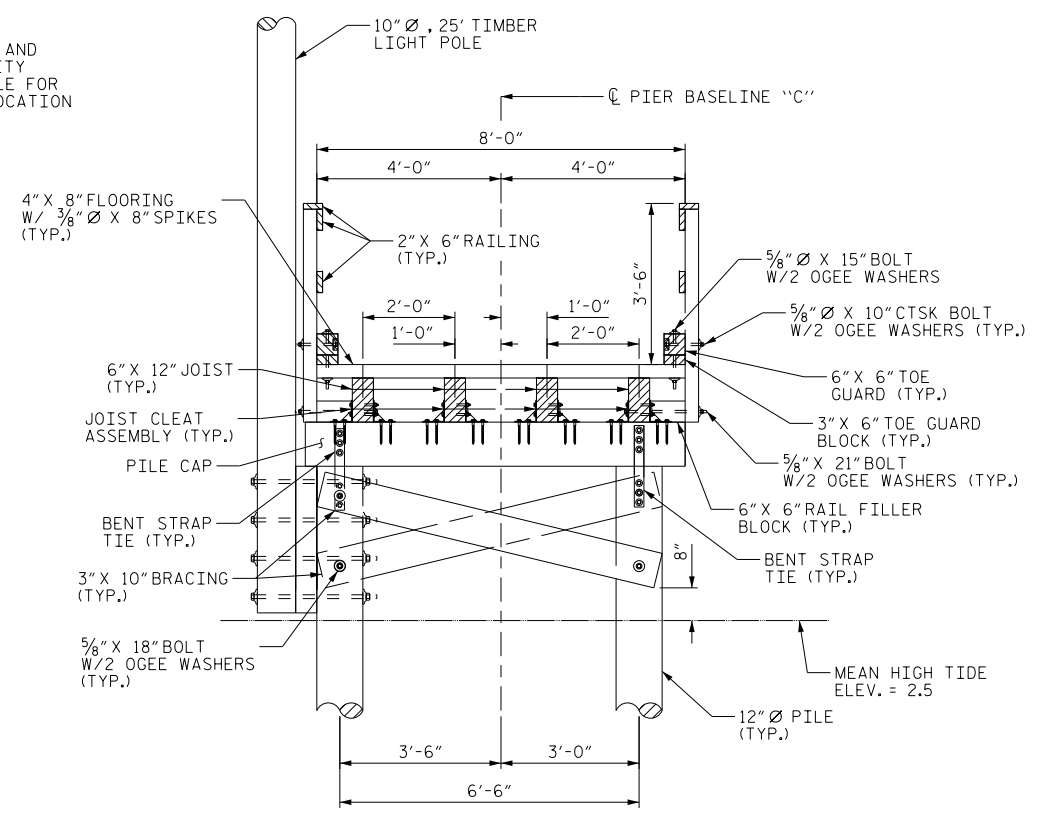
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-06
1			3			TOTAL SHEETS
2			4			12



SECTION G-G

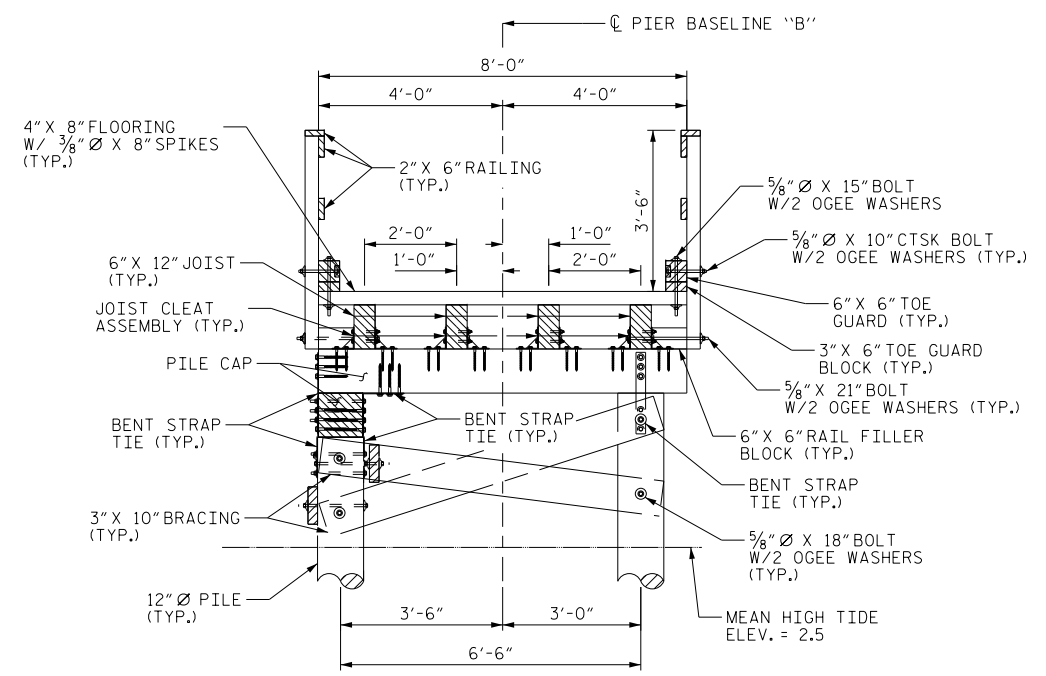
(TRANSITION FROM RAMP TO PIER @ BENT 1)

* RAILING AND TOE GUARD ATTACHMENT AT TRANSITION OF UTILITY PIER AND EXISTING CORED SLAB RAMP SHALL BE DETERMINED IN THE FIELD.



SECTION H-H

(BENT 11)



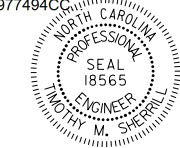
SECTION I-I

(BENT 6)

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
 BRIDGE NO. 090209

SHEET 3 OF 3

DocuSigned by:
Timothy M. Shear
 AD50B1D977494CC



1/8/2021

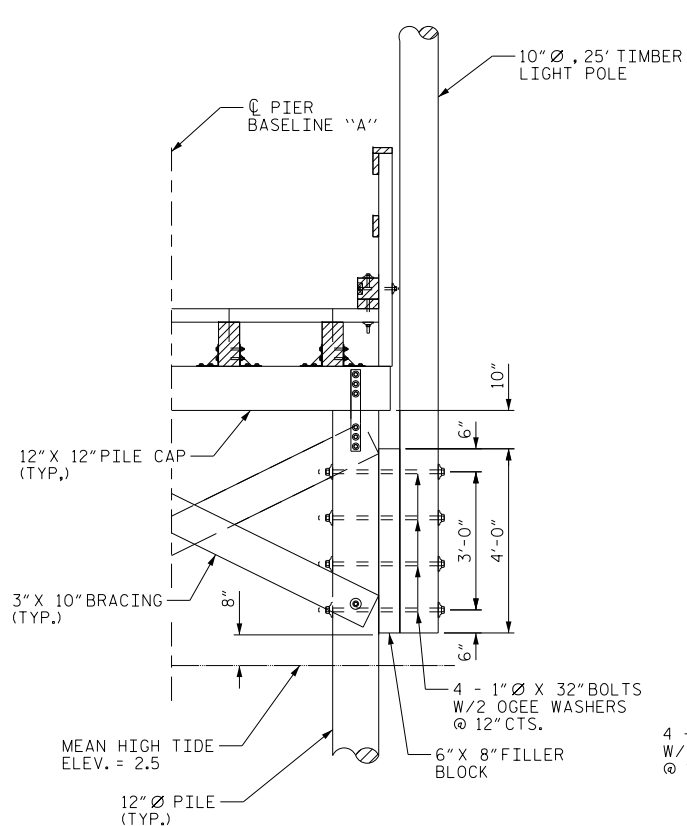
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

ELEVATION / SECTION VIEWS

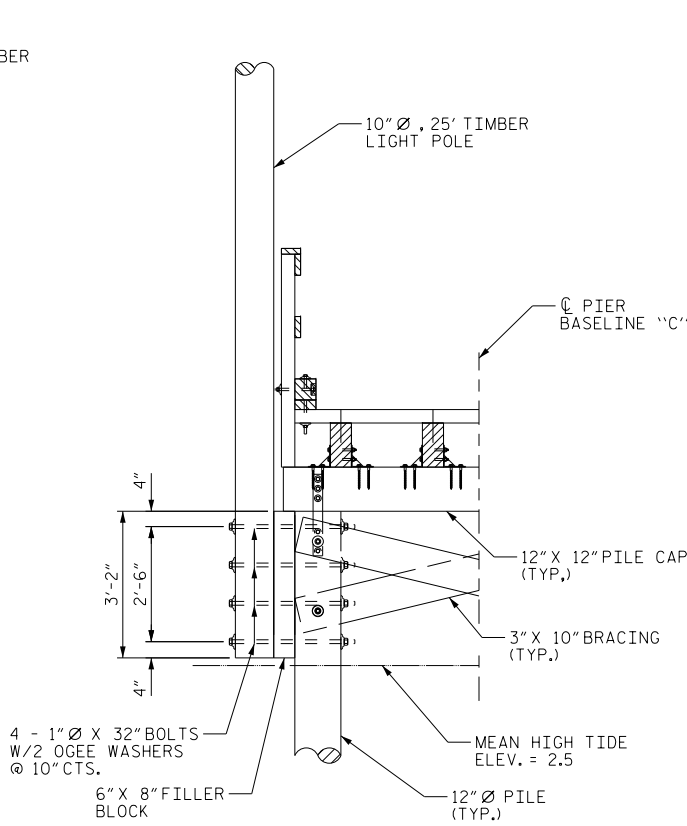
DRAWN BY : R.L. PUTEK DATE : 10/2020
 CHECKED BY : T.M. SHERRILL DATE : 10/2020

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2			4			12

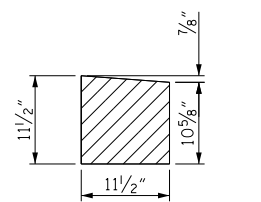
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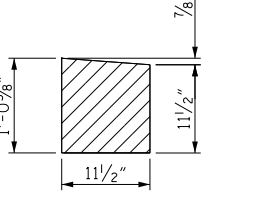
DETAIL "A"
(BENT 2)



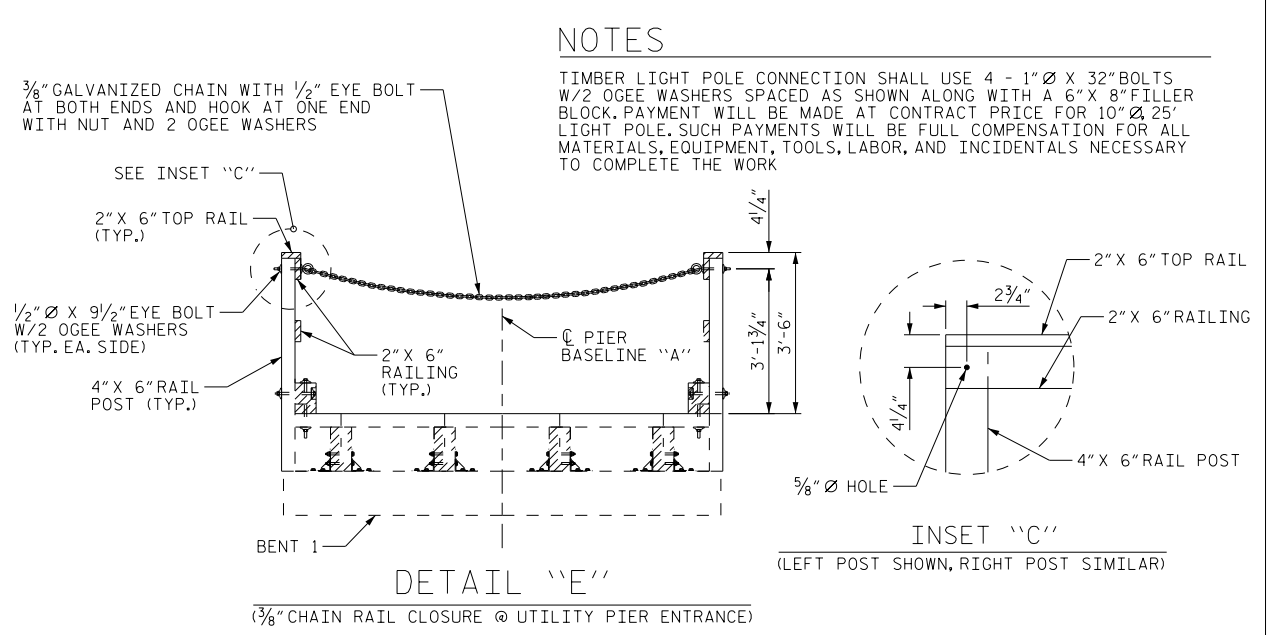
DETAIL "B"
(BENT 11)



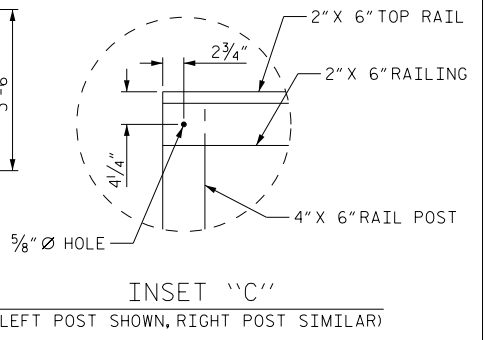
DETAIL "C"
(12" X 12" BENT 4 & 5 CAP)



DETAIL "D"
(12" X 13" BENT 6 CAP)



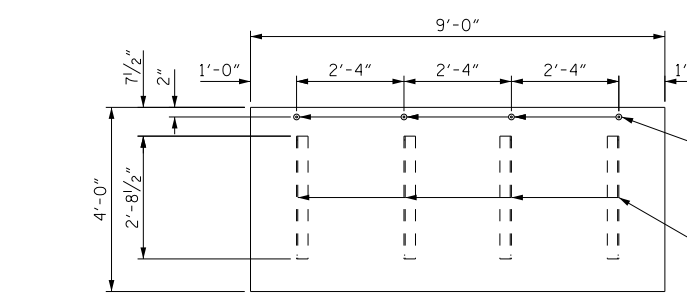
DETAIL "E"
(3/8" CHAIN RAIL CLOSURE @ UTILITY PIER ENTRANCE)



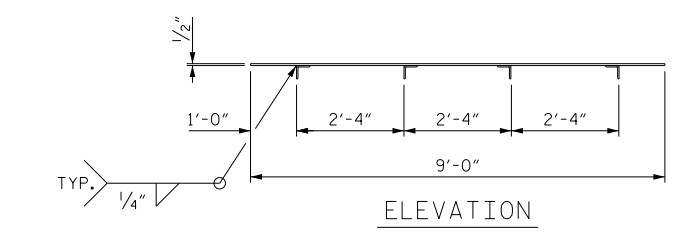
INSET "C"
(LEFT POST SHOWN, RIGHT POST SIMILAR)

NOTES

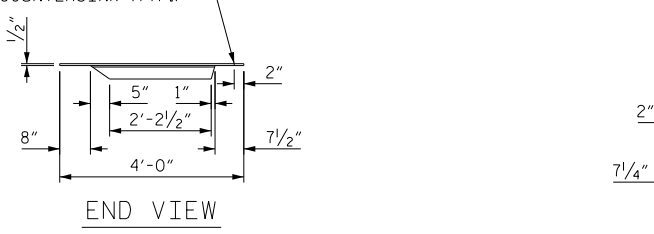
TIMBER LIGHT POLE CONNECTION SHALL USE 4 - 1" Ø X 32" BOLTS W/2 Ogee WASHERS SPACED AS SHOWN ALONG WITH A 6" X 8" FILLER BLOCK. PAYMENT WILL BE MADE AT CONTRACT PRICE FOR 10" Ø 25' LIGHT POLE. SUCH PAYMENTS WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.



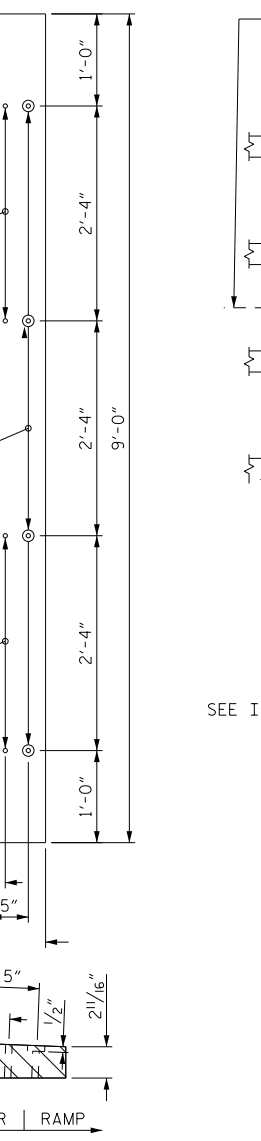
PLAN



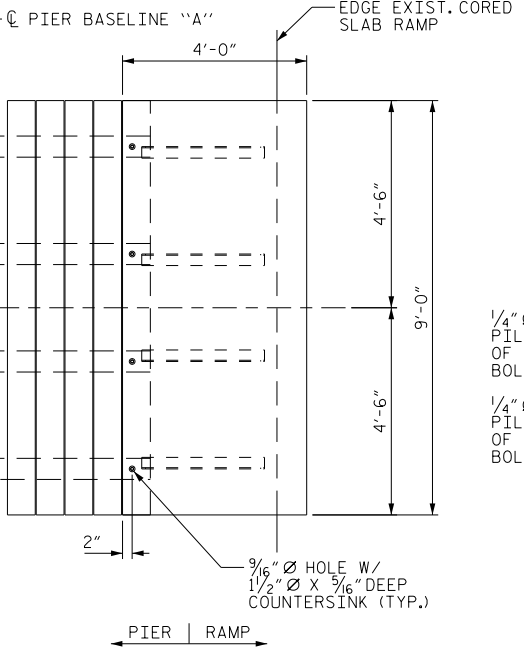
ELEVATION



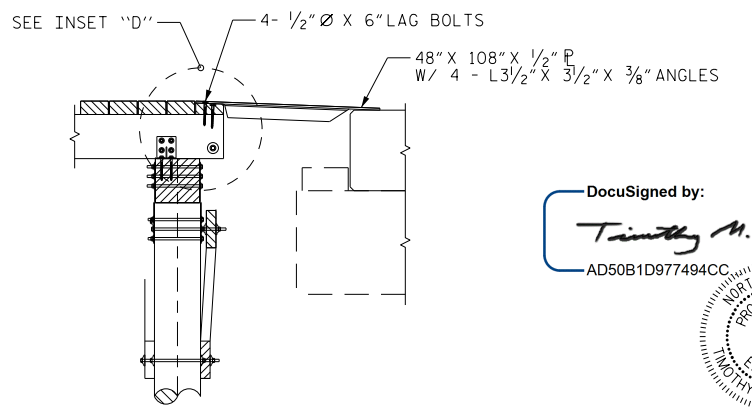
END VIEW



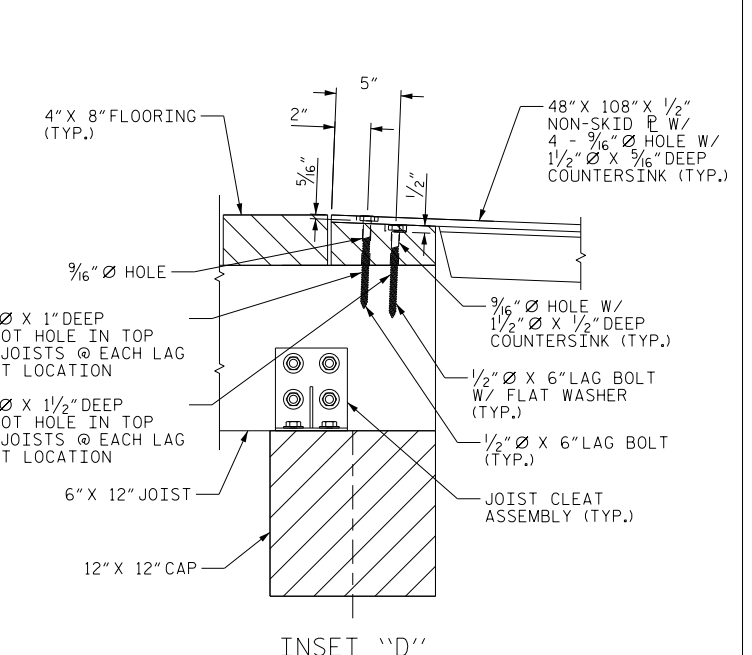
DETAIL "G"



PIER | RAMP



DETAIL "H"



INSET "D"

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
 BRIDGE NO. 090209

SHEET 1 OF 2

DocuSigned by:
Timothy M. Shearill
 AD50B1D977494CC



1/8/2021

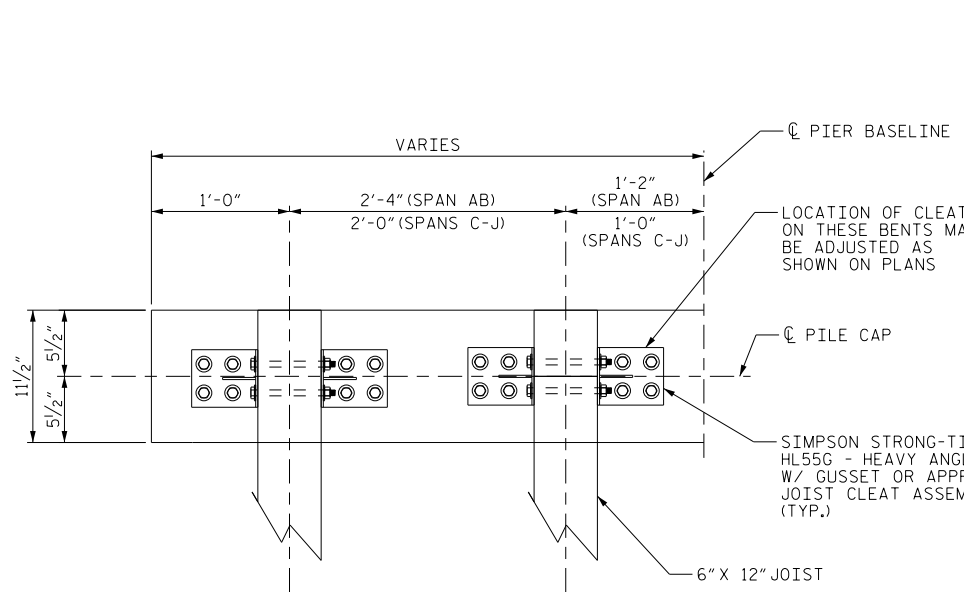
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DETAILS

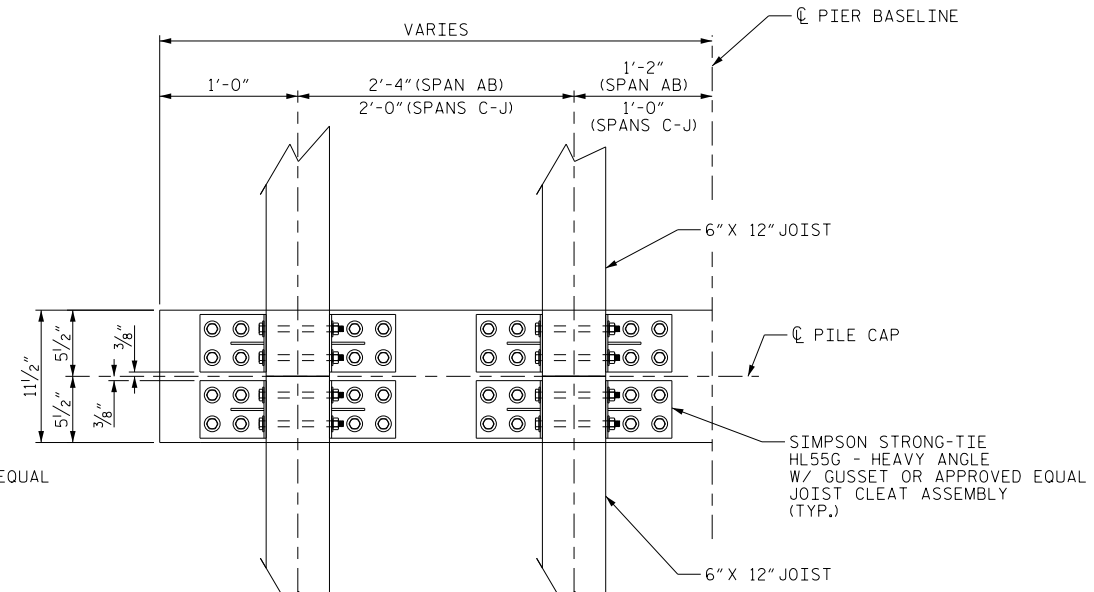
DRAWN BY : R.L. PUTEK DATE : 10/2020
 CHECKED BY : T.M. SHERRILL DATE : 10/2020

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 SIGNATURES COMPLETED

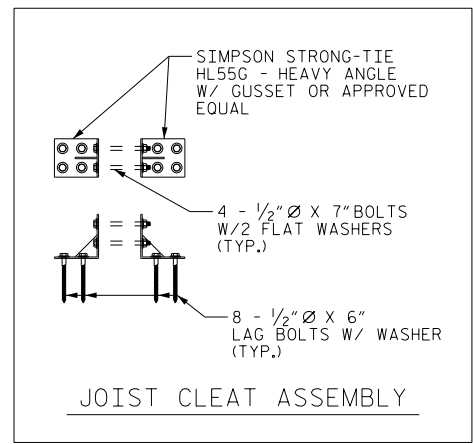
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-08
1			3			TOTAL SHEETS
2			4			12



BENTS 1-4, 6, 7, & 13



BENTS 5 & 8-12



NOTES

JOIST CLEAT ASSEMBLY - SIMPSON STRONG-TIE HL55G - HEAVY ANGLE W/ GUSSET OR APPROVED EQUAL USED IN PAIRS, WITH 8 - 3/8" Ø X 6" LAG BOLTS W/ FLAT WASHER, AND 4 - 1/2" Ø X 7" BOLTS W/2 FLAT WASHERS.

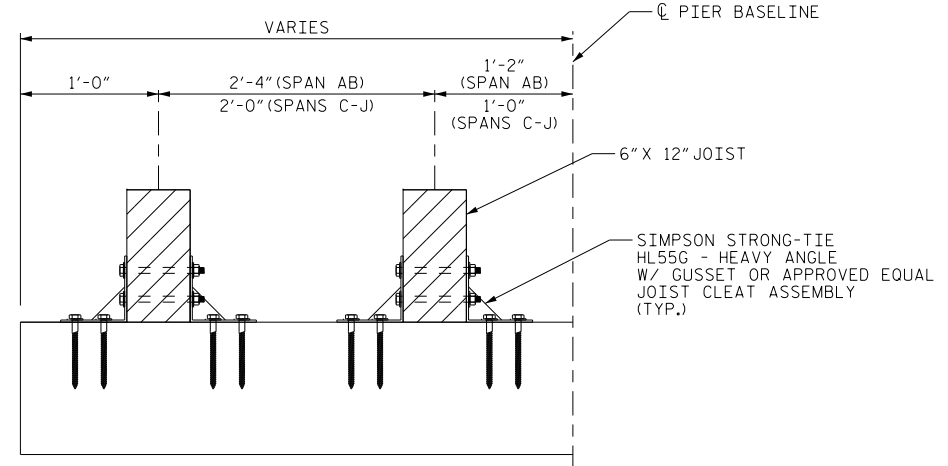
PAYMENT WILL BE MADE AT CONTRACT PRICE FOR 10" Ø 25' LIGHT POLE. SUCH PAYMENTS WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

HEAVY STRAP TIE - SIMPSON STRONG-TIE HST2 - HEAVY STRAP TIE OR APPROVED EQUAL USED IN PAIRS, WITH 5 - 5/8" Ø X 14" BOLTS W/2 FLAT WASHERS AND 1 - 5/8" Ø X 19" BOLT W/2 FLAT WASHERS, AND 2 OGEE WASHERS.

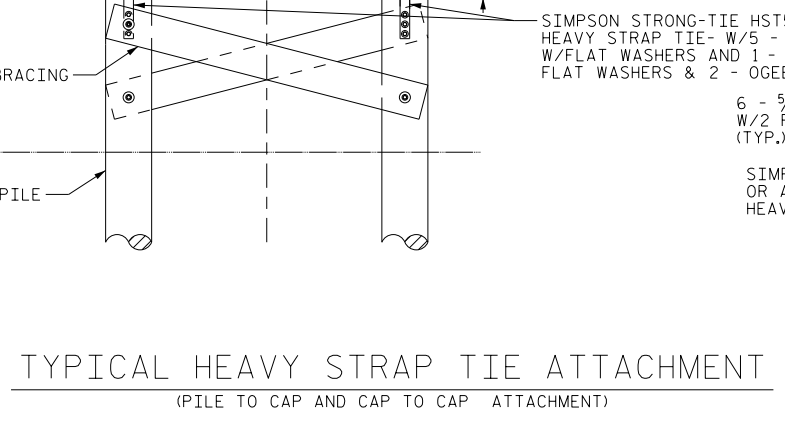
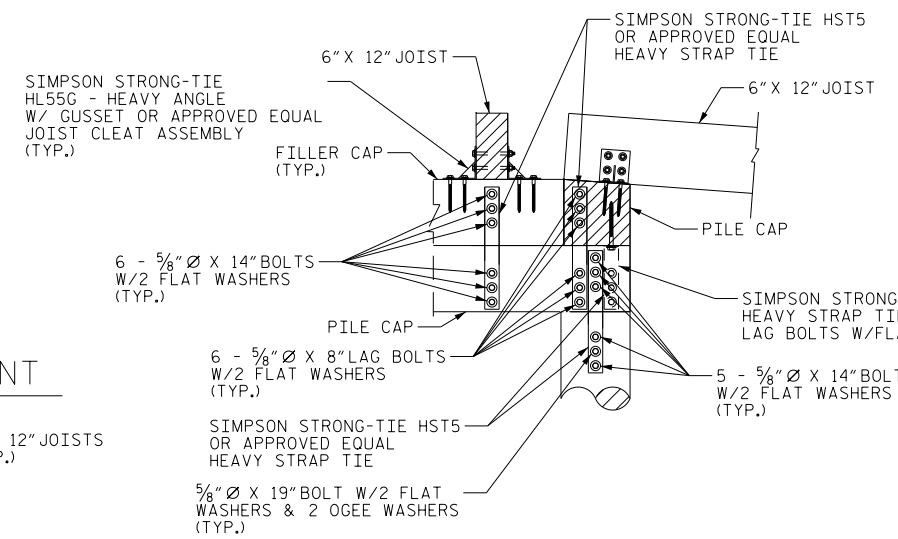
HEAVY STRAP TIES USED TO CONNECT THE FILLER CAPS AT BENTS 3 AND 7, AND CAP TO PILE CONNECTION AT BENT 4 SHALL USE 6 - 5/8" Ø X 14" BOLTS W/2 FLAT WASHERS.

HEAVY STRAP TIES USED TO CONNECT PILE CAPS AT BENTS 4 AND 6 TO FILLER CAPS AT BENTS 3 AND 7 SHALL USE 6 - 5/8" Ø X 8" LAG BOLTS W/ FLAT WASHERS.

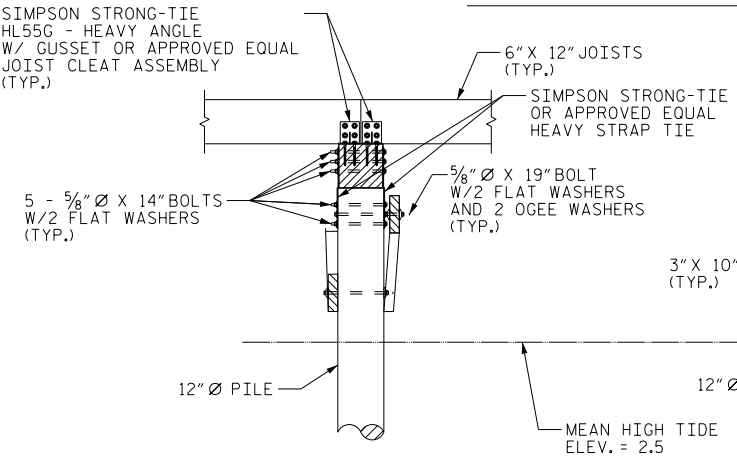
PAYMENT WILL BE MADE AT CONTRACT PRICE FOR HEAVY STRAP TIE. SUCH PAYMENTS WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.



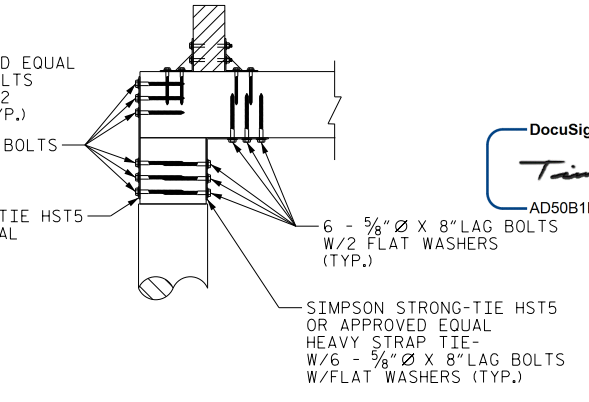
TYPICAL JOIST CLEAT ASSEMBLY ATTACHMENT



TYPICAL HEAVY STRAP TIE ATTACHMENT
(PILE TO CAP AND CAP TO CAP ATTACHMENT)



DRAWN BY : R.L. PUTEK DATE : 10/2020
CHECKED BY : T.M. SHERRILL DATE : 10/2020



CAP TO CAP ATTACHMENT

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
BRIDGE NO. 090209

SHEET 2 OF 2

DocuSigned by:
Timothy M. Sherrill
AD50B1D977494CC



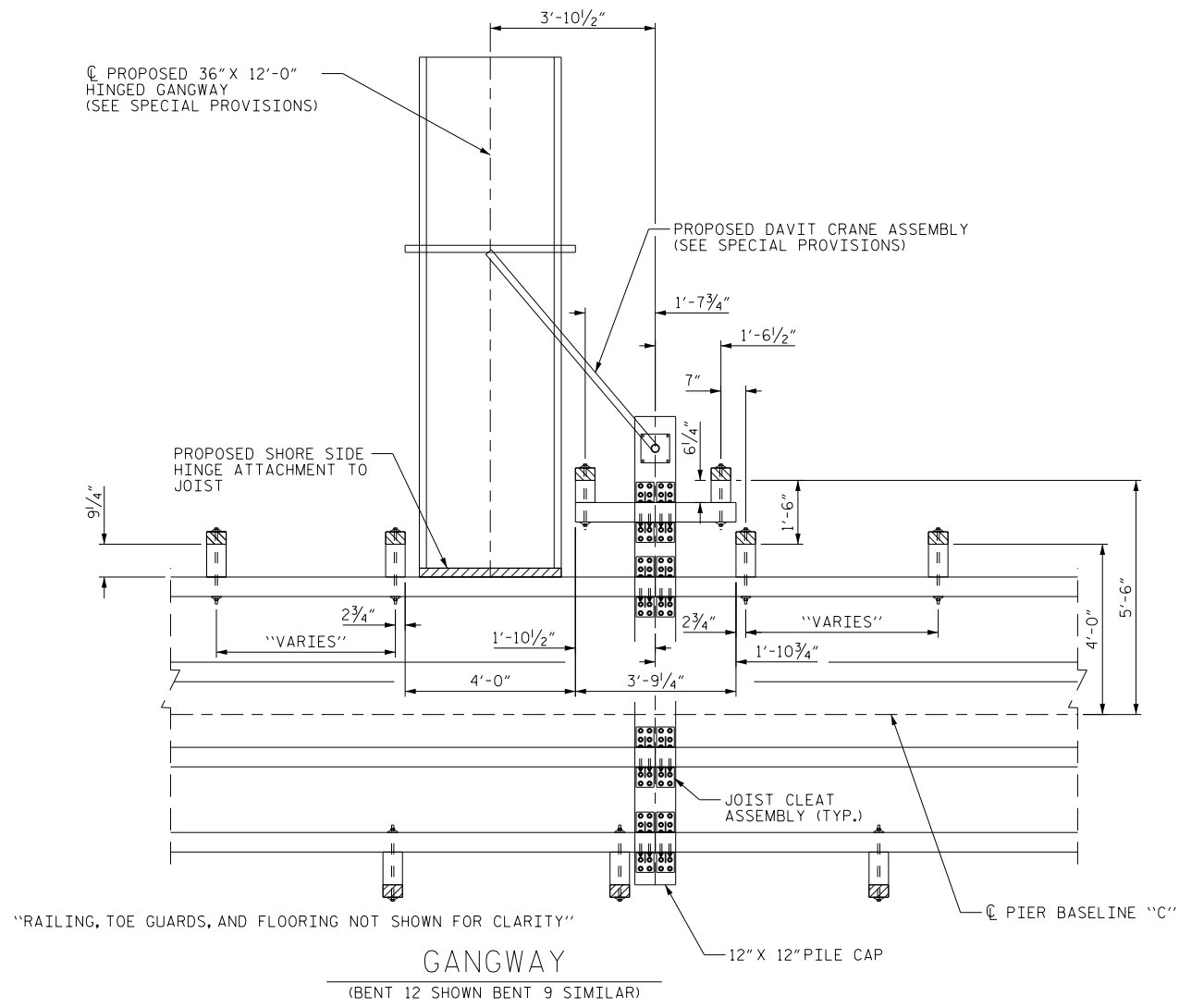
1/8/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

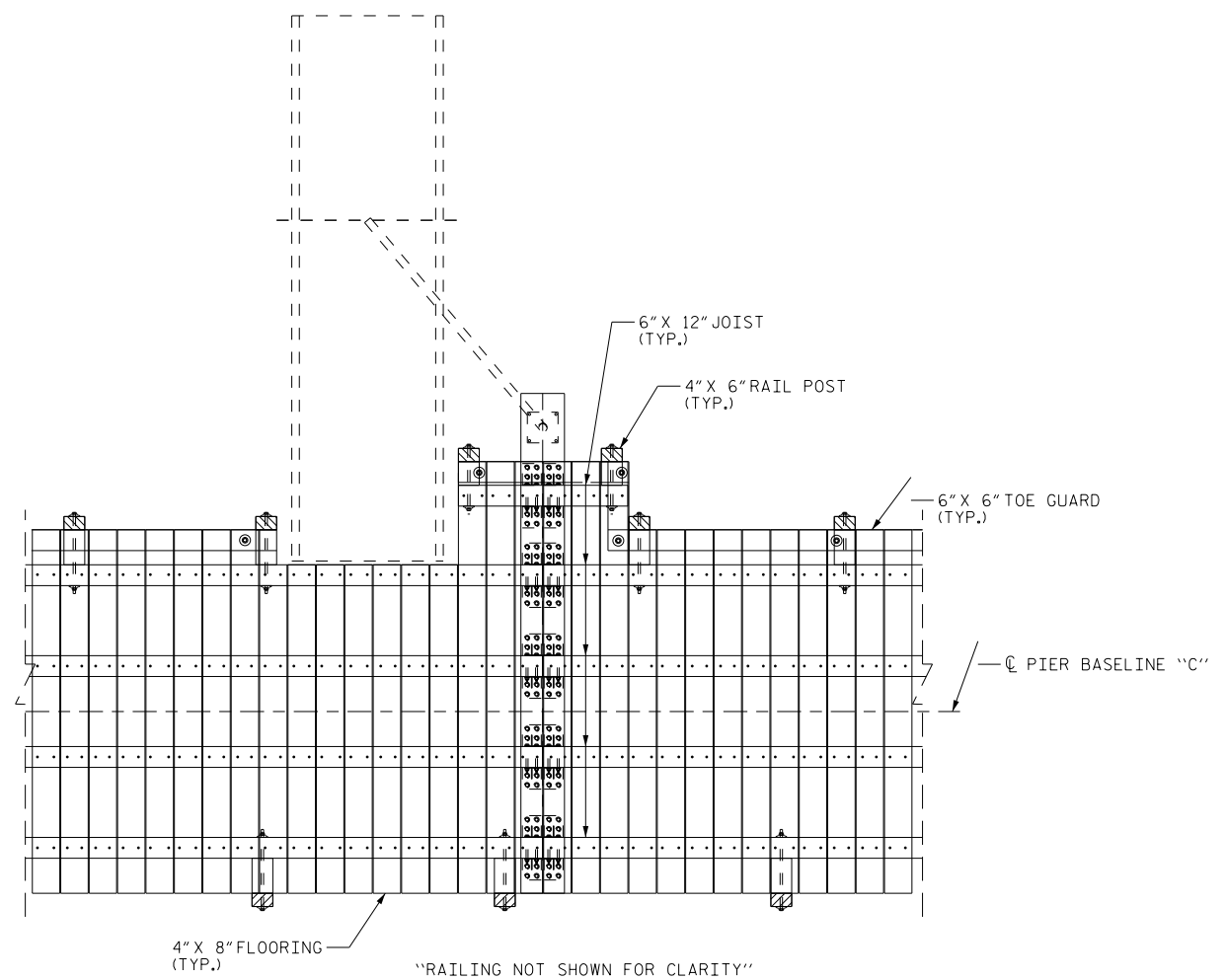
DETAILS

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

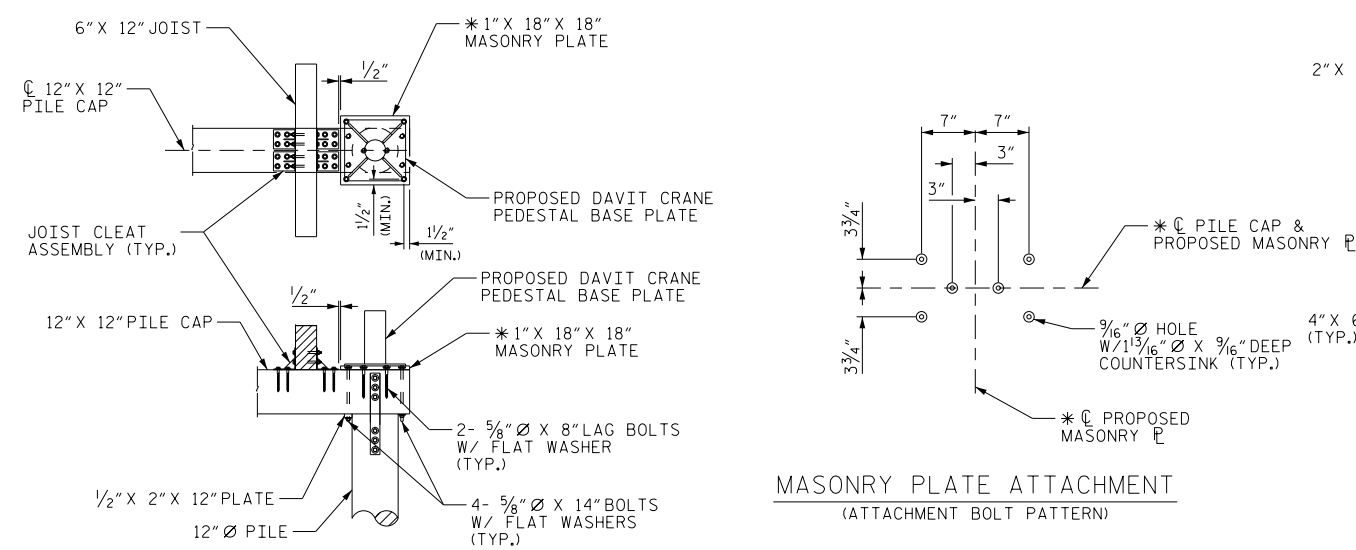
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			5-09
2			4			12



GANGWAY
(BENT 12 SHOWN BENT 9 SIMILAR)

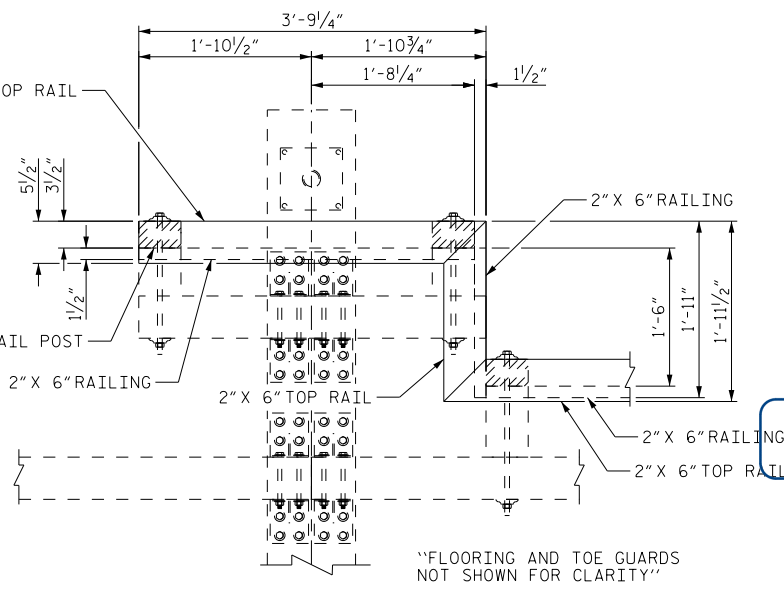


GANGWAY
(BENT 12 SHOWN BENT 9 SIMILAR)



LAG BOLT AND BOLT THROUGH CAP ATTACHMENT

* MASONRY PLATE DIMENSIONS AND DAVIT CRANE BASE SHOWN FOR ILLUSTRATION ONLY. ACTUAL DIMENSIONS AND BASE MAY VARY FROM THAT SHOWN, BASED ON THE APPROVED SUBMITTED DAVIT CRANE, AND MAY REQUIRE SLIGHT MODIFICATION OF THE PILE AND PILE CAP CONSTRUCTION AT THE CRANE BASE.



BRIDGE RAIL @ DAVIT CRANE
(BENT 12 SHOWN BENT 9 SIMILAR)

PROJECT NO. DF16616.2170011
BRUNSWICK COUNTY
BRIDGE NO. 090209

DocuSigned by:
Timothy M. Shear



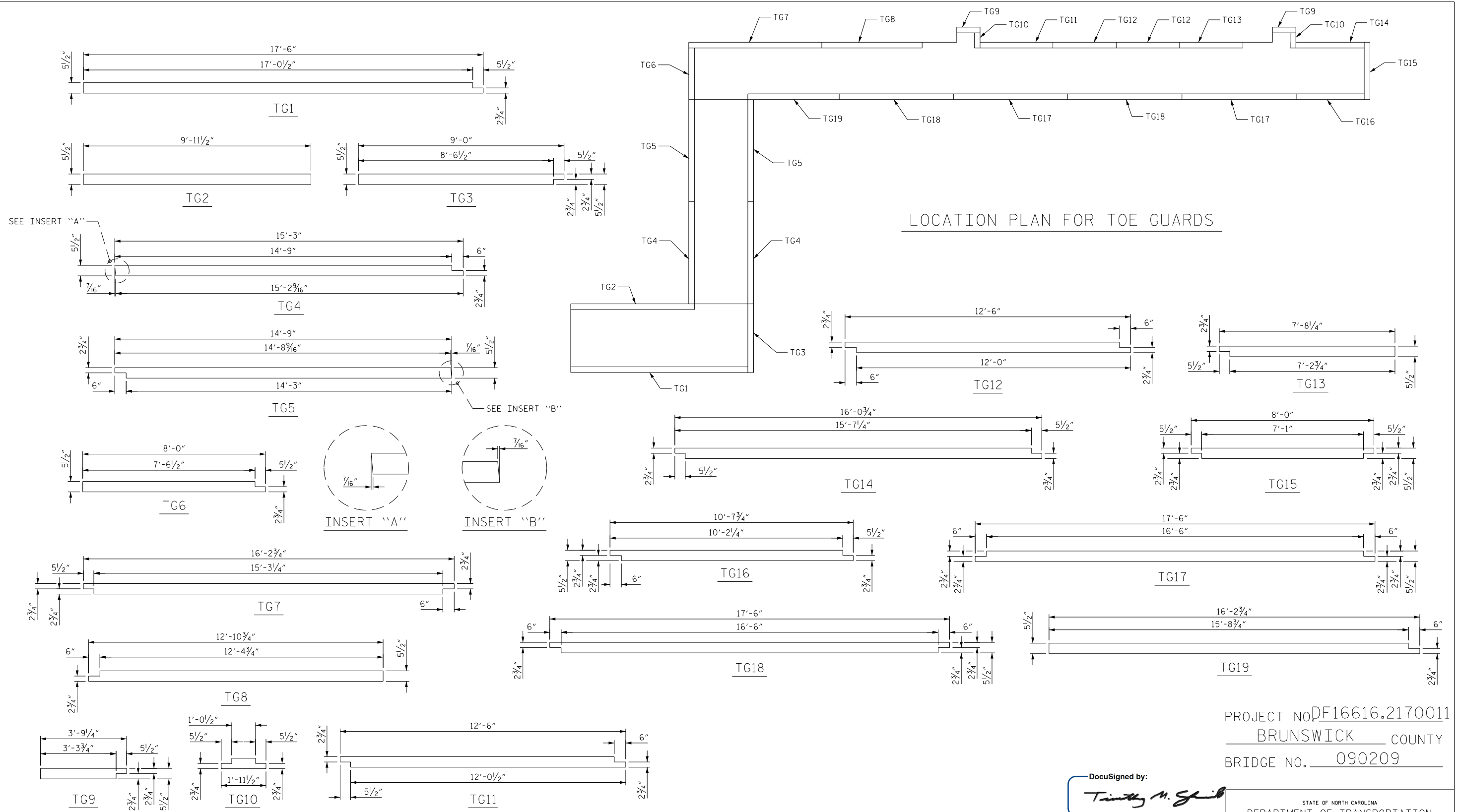
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GANGWAY AND LIFT SYSTEM

1/8/2021

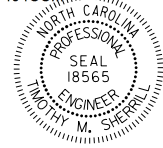
DRAWN BY: R.L. PUTEK DATE: 11/20
CHECKED BY: T.M. SHERRILL DATE: 11/20

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
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DocuSigned by:
Trinity M. Sherrill
 AD50B1D977494CC



1/8/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TOE GUARD DETAILS

DRAWN BY : R.L.PUTEK DATE : 09/2020
 CHECKED BY : T.M.SHERRILL DATE : 10/2020

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			12

SUBSTRUCTURE BILL OF MATERIAL

TREATED TIMBER table with columns: ITEM, NO., SIZE, SURFACE TO, LENGTH, MBF. Includes items like PILE CAP - BENTS 1 & 7, BRACING - BENTS 1, 5, 8, 10, & 13, FILLER BLOCK - BENT 2, etc.

GALVANIZED HARDWARE

GALVANIZED HARDWARE table with columns: ITEM, NO., SIZE, LENGTH, WEIGHT. Includes items like LAG BOLT, BOLT, FLAT WASHERS, etc.

SUPERSTRUCTURE BILL OF MATERIAL

TREATED TIMBER table (Superstructure) with columns: ITEM, NO., SIZE, SURFACE TO, LENGTH, MBF. Includes items like JOISTS - SPANS AB, E & I, FLOORING - SPANS AB, TOE GUARD - TG1, etc.

TREATED RAIL TIMBER

TREATED RAIL TIMBER table with columns: ITEM, NO., SIZE, SURFACE TO, LENGTH, MBF. Includes items like RAILING - SPAN A, RAILING - SPAN AB, RAIL POST - SPAN A, etc.

TOTAL TREATED TIMBER MBF = 13.41

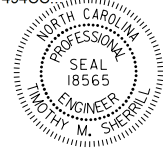
GALVANIZED HARDWARE

GALVANIZED HARDWARE table with columns: ITEM, NO., SIZE, LENGTH, WEIGHT. Includes items like BOLT, FLAT WASHERS, SPIKES, etc.

TOTAL BILL OF MATERIAL

TOTAL BILL OF MATERIAL summary table with columns: DESCRIPTION, NO., UNIT, QUANTITY. Includes REMOVAL OF EXISTING STRUCTURE AT BRIDGE 090209, TREATED TIMBER PILES, etc.

DocuSigned by: Timothy M. Shearlin AD50B1D977494CC



1/8/2021

PROJECT NO. DF16616.2170011 BRUNSWICK COUNTY BRIDGE NO. 090209

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

BILL OF MATERIAL

REVISIONS SHEET NO. S-12

REVISIONS table with columns: NO., BY, DATE. Shows revision 1 by TMS on 1/8/21 and revision 2 by TMS on 1/8/21.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD NOTES

DESIGN DATA:

Table with 2 columns: Specification and Value. Includes rows for SPECIFICATIONS (A.A.S.H.T.O. (CURRENT)), LIVE LOAD (SEE PLANS), IMPACT ALLOWANCE (SEE A.A.S.H.T.O.), STRESS IN EXTREME FIBER OF STRUCTURAL STEEL (AASHTO M270 GRADE 36, 50W, 50), REINFORCING STEEL IN TENSION (GRADE 60), CONCRETE IN COMPRESSION (1,200 LBS. PER SQ. IN.), CONCRETE IN SHEAR (SEE A.A.S.H.T.O.), STRUCTURAL TIMBER (TREATED OR UNTREATED EXTREME FIBER STRESS), COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER (375 LBS. PER SQ. IN.), and EQUIVALENT FLUID PRESSURE OF EARTH (30 LBS. PER CU. FT. (MINIMUM)).

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

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.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 3/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990

STD. NO. SN