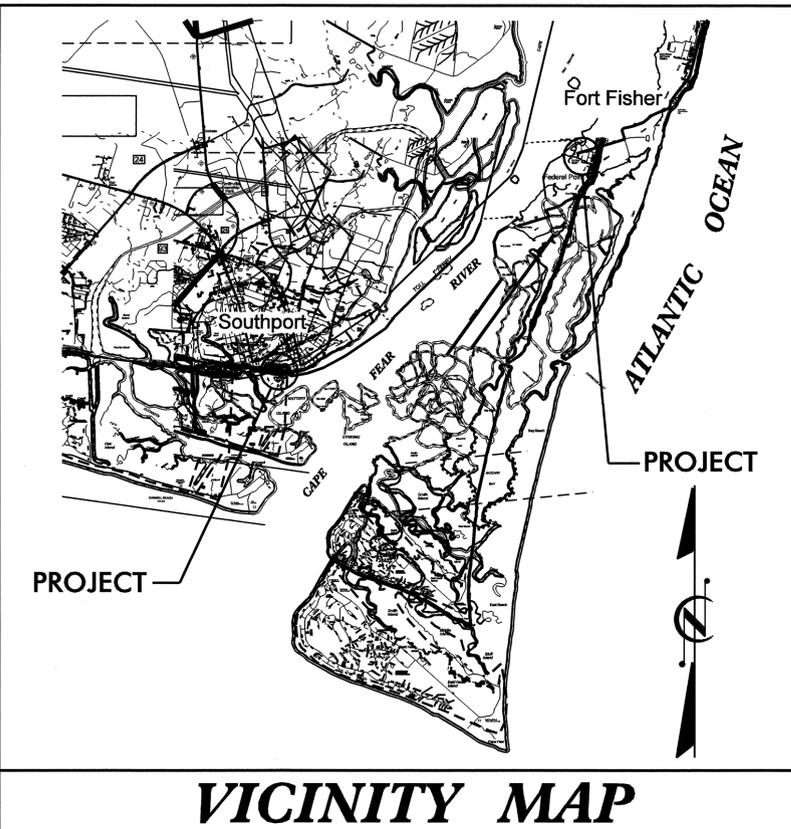


CONTRACT: C202110 TIP PROJECT: F-5002



**VICINITY MAP
STRUCTURES**

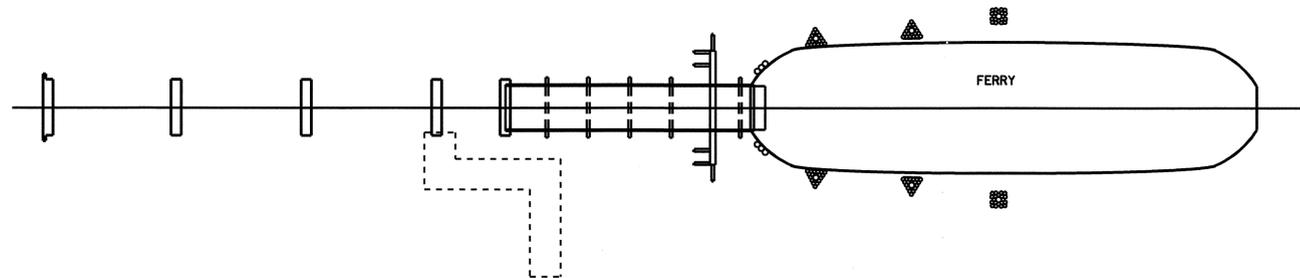
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK / NEW HANOVER

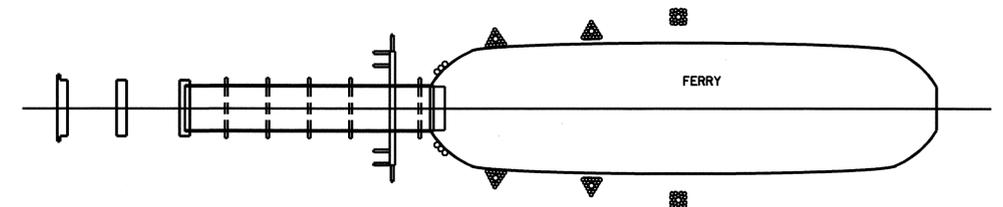
**LOCATION: SOUTHPORT AND FORT FISHER RAMP - GANTRY
PAINT AND REHABILITATION**

**TYPE OF WORK: SAFETY IMPROVEMENTS, PAINTING
& STRUCTURAL MAINTENANCE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	F-5002		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41148.3.1		PE / CONSTR.	



SOUTHPORT FERRY
BASIN



FORT FISHER FERRY
BASIN



Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 BIRCH RIDGE DR. RALEIGH, NC 27610

2006 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 19, 2008

N. N. BULLOCK, PE
PROJECT ENGINEER

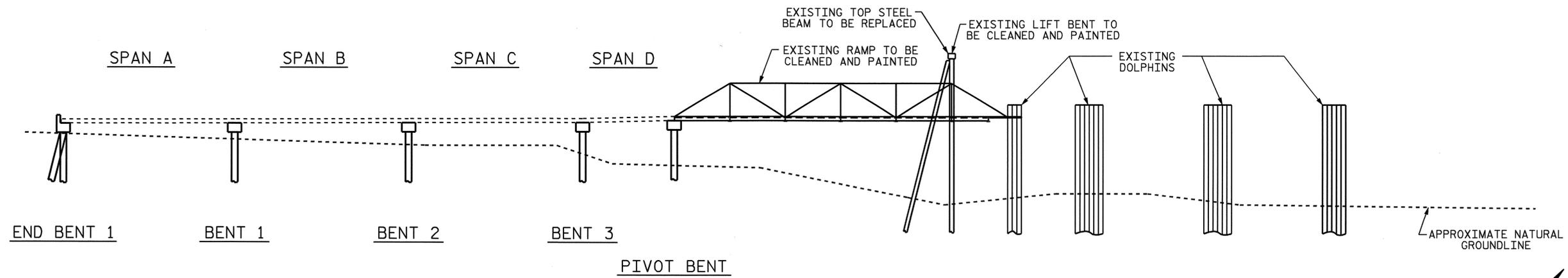
D. R. CALHOUN, PE
PROJECT DESIGN ENGINEER

STRUCTURE DESIGN UNIT

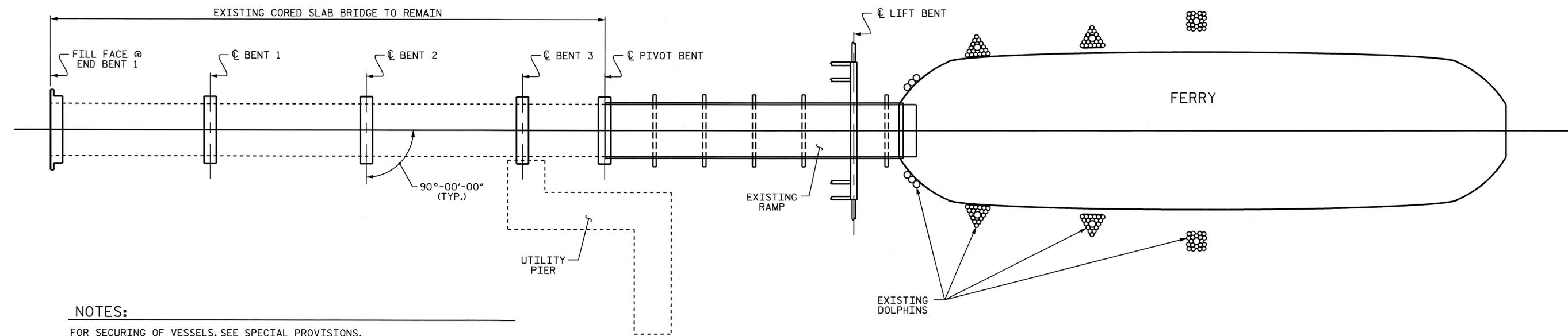
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER
P.E.
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR
DATE



SECTION ALONG C RAMP



PLAN

NOTES:

- FOR SECURING OF VESSELS, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR HIGH STRENGTH BOLTS, SEE SPECIAL PROVISIONS.
- FOR SCOPE OF WORK, SEE SPECIAL PROVISIONS.
- FOR CLEANING AND PAINTING THE EXISTING LIFT BENTS, SEE SPECIAL PROVISIONS.
- FOR CLEANING AND PAINTING THE EXISTING RAMPS, SEE SPECIAL PROVISIONS.
- FOR REPLACEMENT OF EXISTING STEEL BEAM, SEE SPECIAL PROVISIONS.
- FOR REPAIR OF EXISTING RAMP ENDS, SEE SPECIAL PROVISIONS.
- FOR SEALING THE JOINTS, SEE SPECIAL PROVISIONS.
- FOR INSTALLATION OF WORK PLATFORM, SEE SPECIAL PROVISIONS.
- FOR LIFT SYSTEM, SEE SPECIAL PROVISIONS.

PROJECT NO. F-5002
BRUNSWICK COUNTY
 STATION: _____

SHEET 1 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

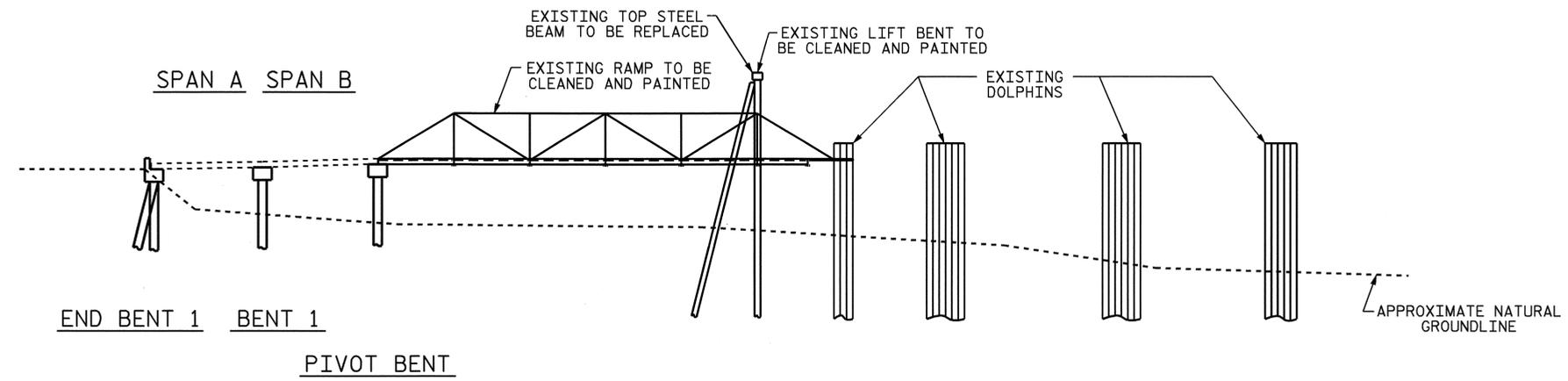
GENERAL DRAWING
 SOUTHPORT FERRY
 BASIN



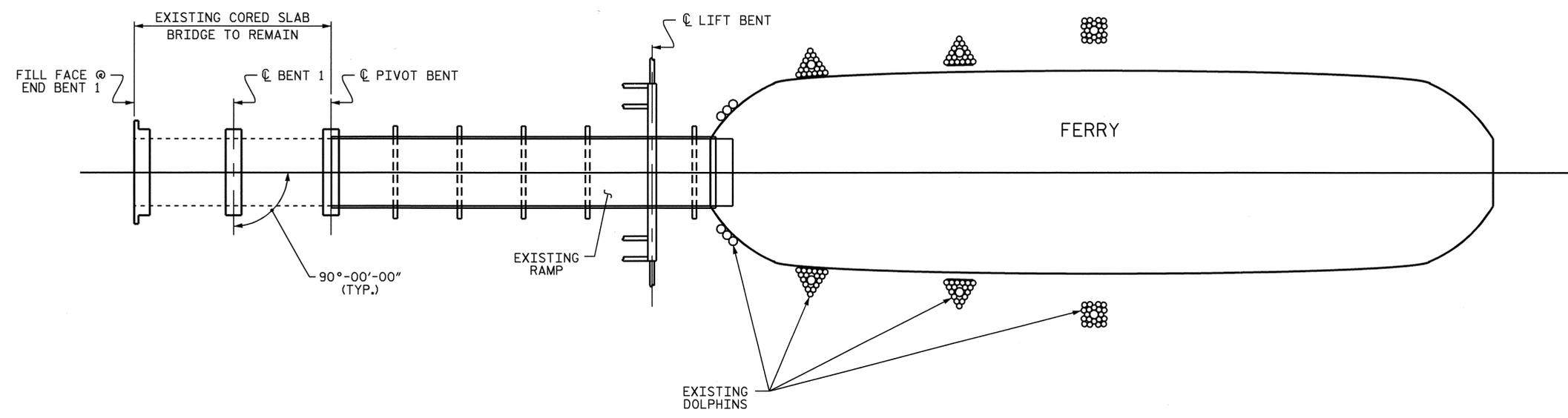
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 bngrady

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			8



SECTION ALONG C RAMP



PLAN

TOTAL BILL OF MATERIAL							
	MOBILIZATION (STRUCTURES)	CLEANING & PAINTING EXISTING LIFT BENT	CLEANING & PAINTING EXISTING RAMP	REPLACEMENT OF EXISTING STEEL BEAM	REPAIR OF EXISTING RAMP END	INSTALLATION OF WORK PLATFORM	RAMP LIFT, ELECTRICAL, AND LUBRICATION SYSTEM
FORT FISHER	-	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
SOUTHPORT	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM

PROJECT NO. F-5002
NEW HANOVER COUNTY
 STATION: _____

SHEET 2 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

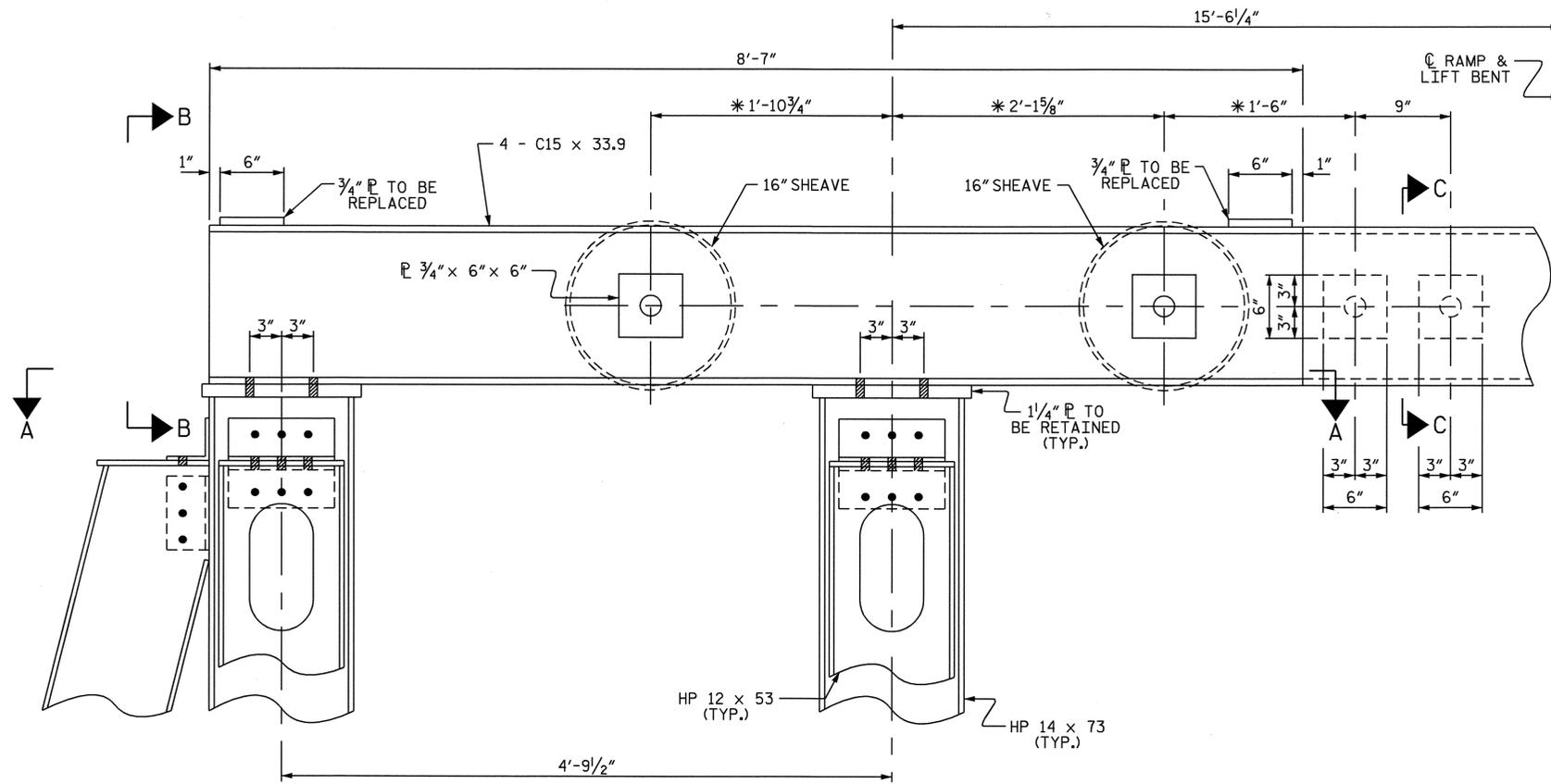
GENERAL DRAWING
 FORT FISHER FERRY
 BASIN

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			5-2
2			4			TOTAL SHEETS 8



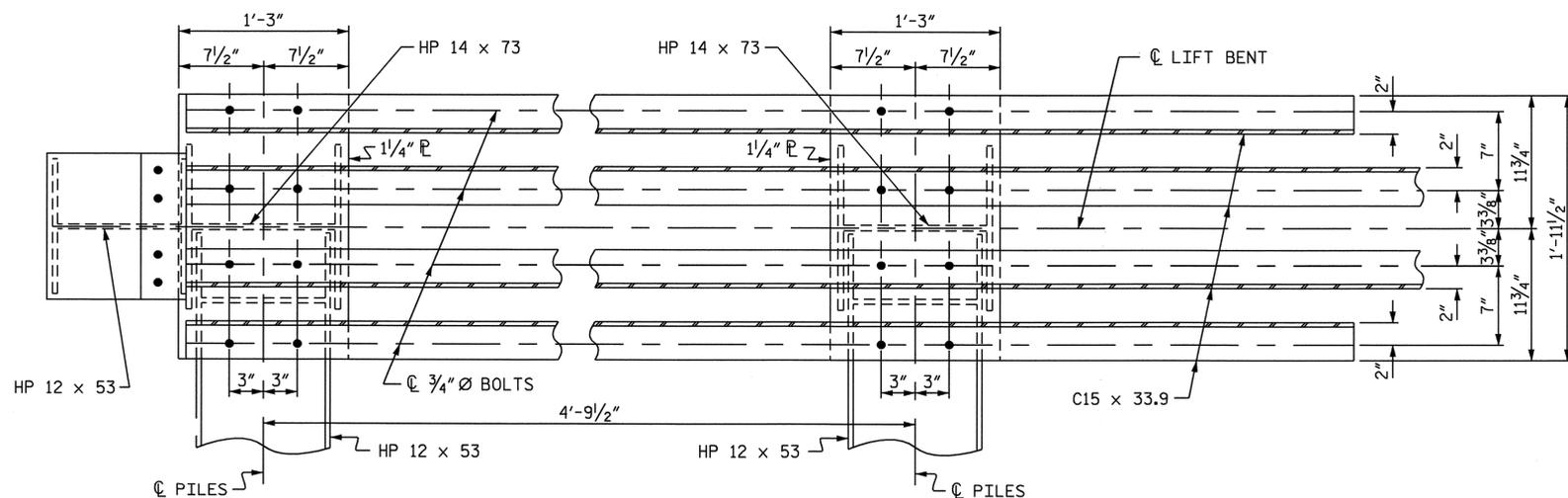
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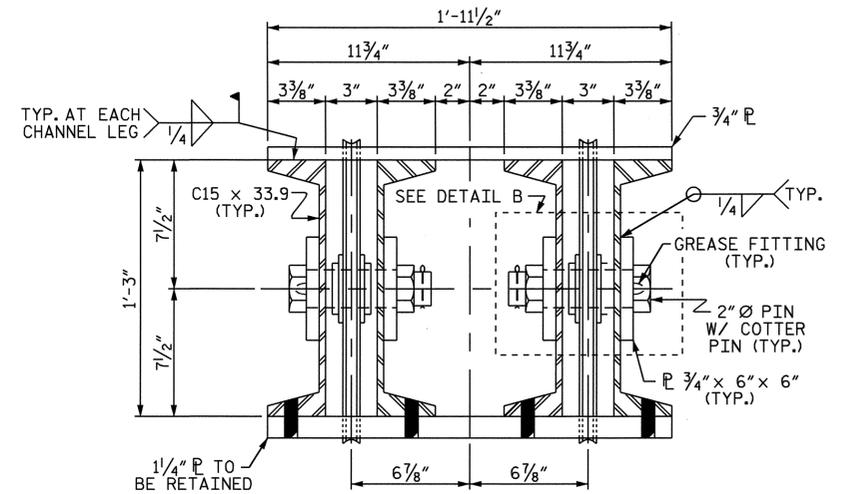


DETAIL A

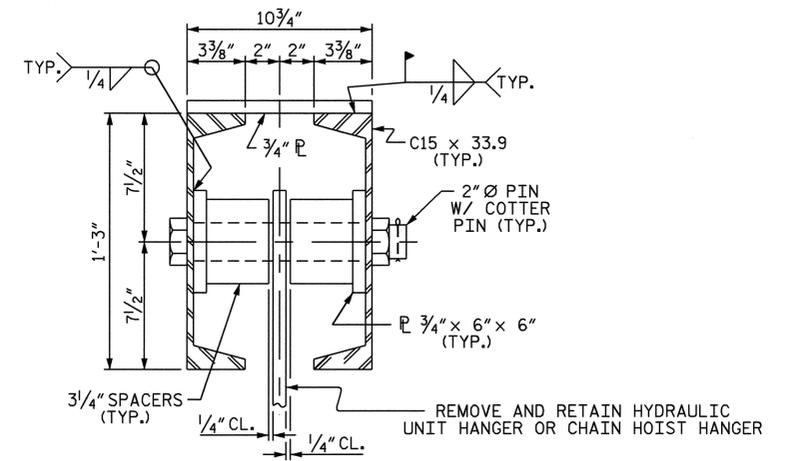
* THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THESE DIMENSIONS MAY NEED TO BE CHANGED. THE ORIGINAL DESIGN WAS FOR 12" SHEAVES. THE FERRY DIVISION HAS SINCE INCREASED THE SHEAVE SIZE TO 16". THESE DIMENSIONS MAY BE CHANGED TO REFLECT THE NEW SHEAVE SIZE.



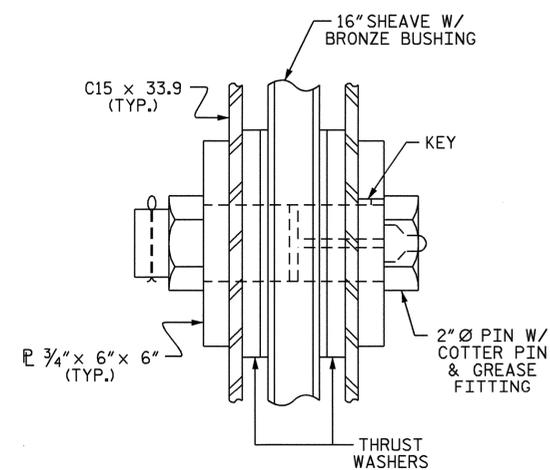
SECTION A-A



VIEW B-B



VIEW C-C



DETAIL B

PROJECT NO. F-5002
BRUNSWICK/NEW HANOVER COUNTY

STATION: _____

SHEET 4 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LIFT BENT DETAILS
SOUTHPORT AND
FORT FISHER

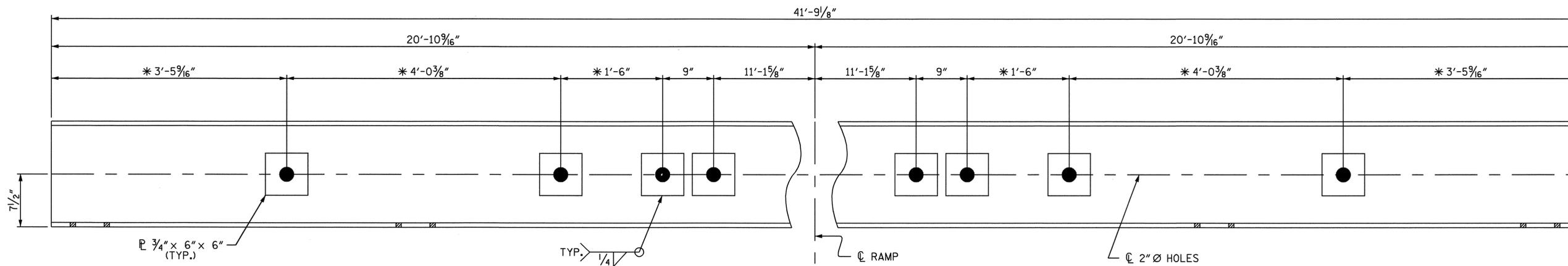


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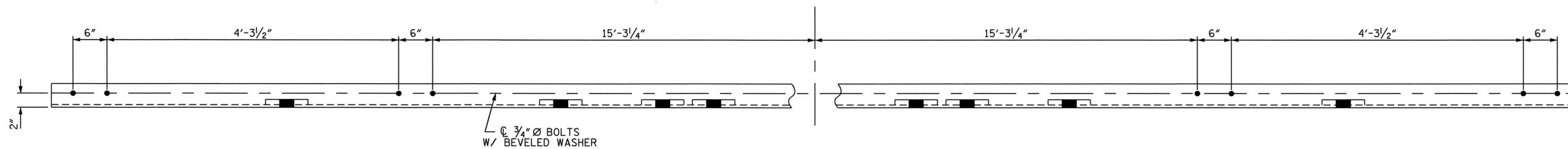
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bngrady

REVISIONS						TOTAL SHEETS
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1			3			
2			4			

SHEET NO.
S-4



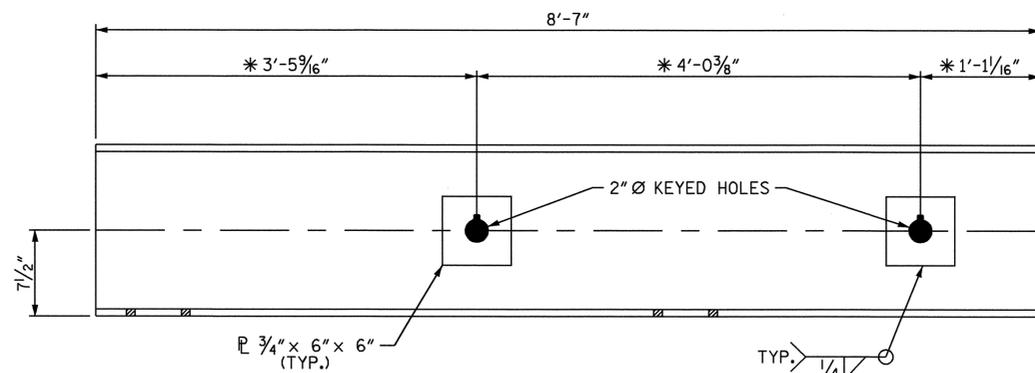
ELEVATION



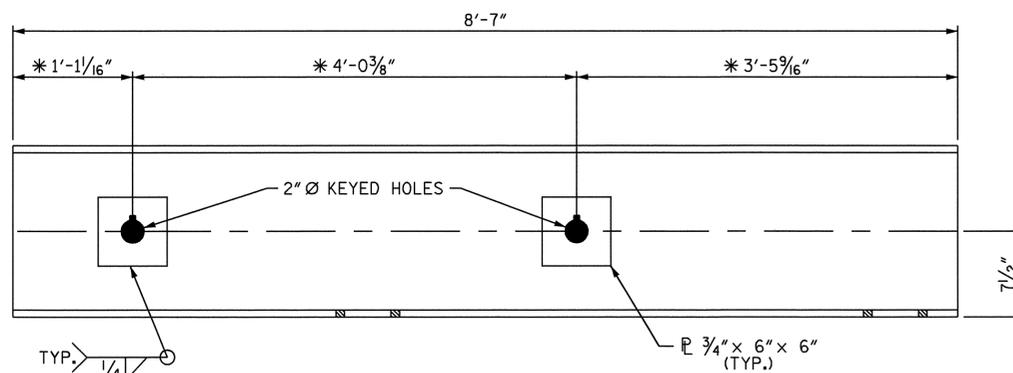
PLAN OF BOTTOM FLANGE

CHANNEL NO. 1 - C15 x 33.9

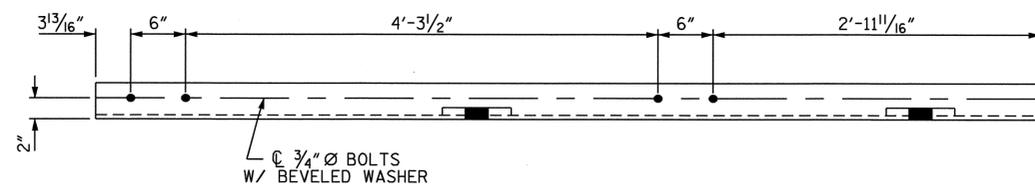
* THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THESE DIMENSIONS MAY NEED TO BE CHANGED. THE ORIGINAL DESIGN WAS FOR 12" SHEAVES. THE FERRY DIVISION HAS SINCE INCREASED THE SHEAVE SIZE TO 16". THESE DIMENSIONS MAY BE CHANGED TO REFLECT THE NEW SHEAVE SIZE.



ELEVATION



ELEVATION



PLAN OF BOTTOM FLANGE

CHANNEL NO. 2 - C15 x 33.9



PLAN OF BOTTOM FLANGE

CHANNEL NO. 3 - C15 x 33.9

PROJECT NO. F-5002
BRUNSWICK/NEW HANOVER COUNTY

STATION: _____

SHEET 5 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

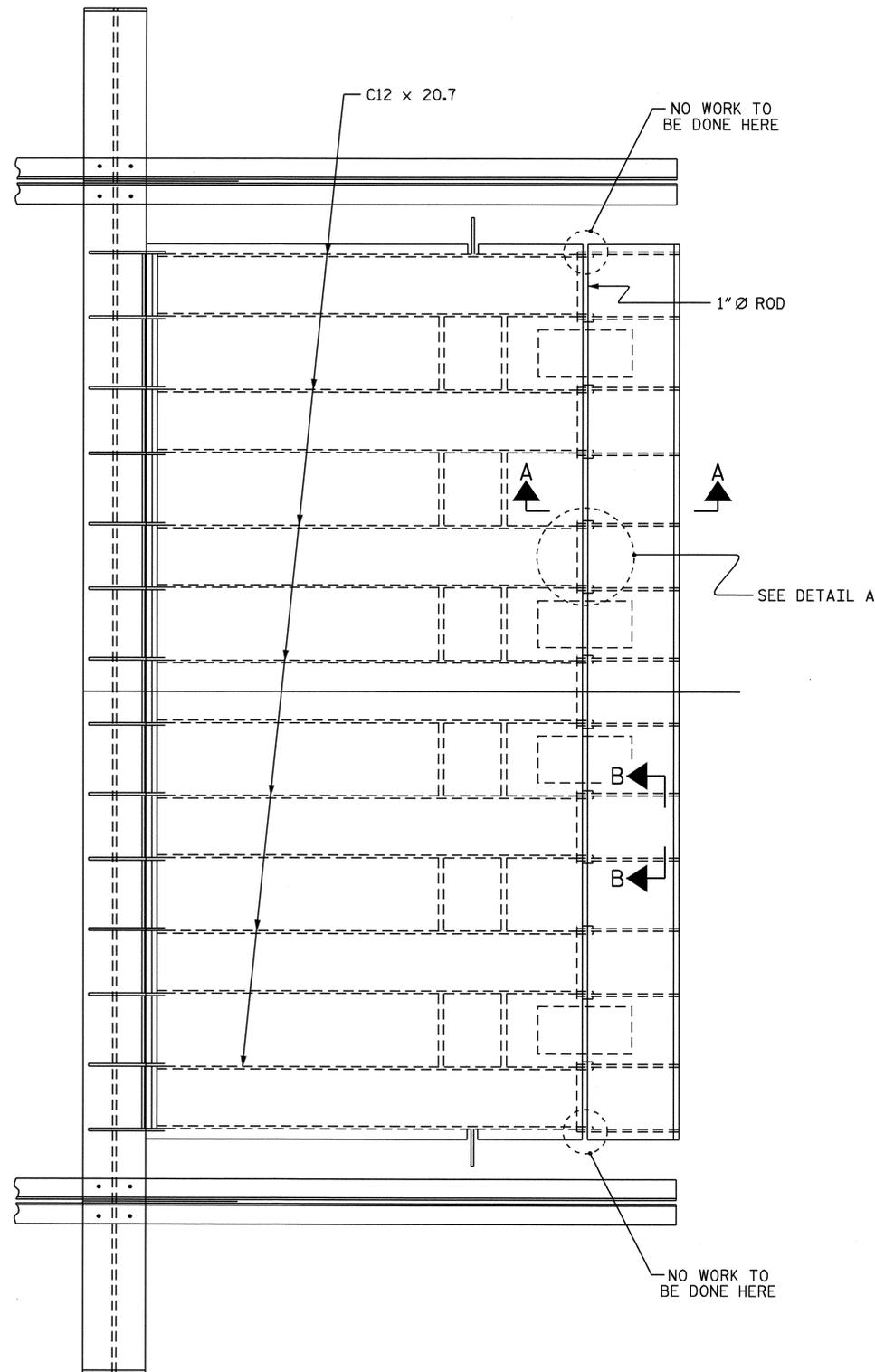
LIFT BENT DETAILS
SOUTHPORT AND
FORT FISHER



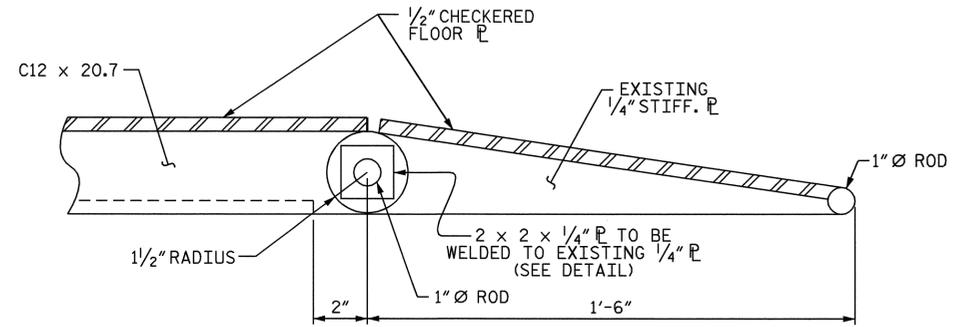
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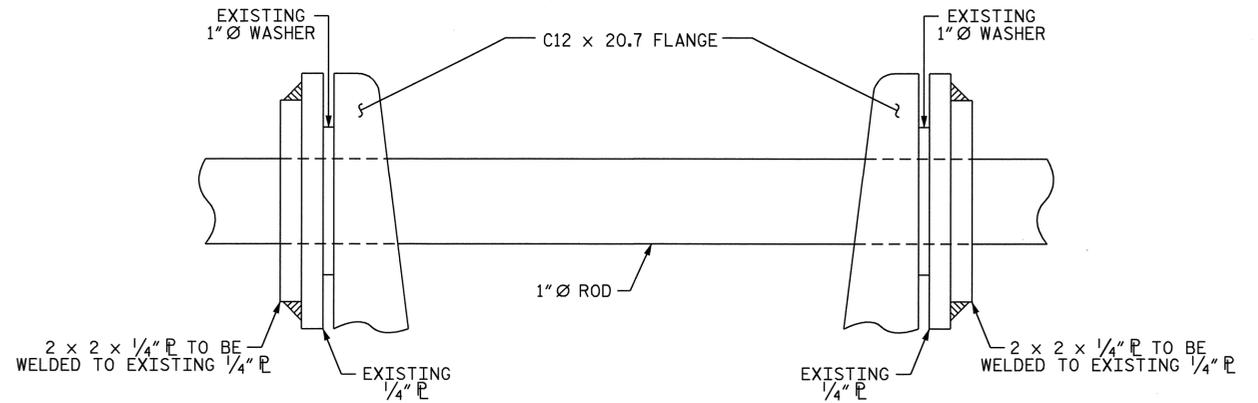
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-5
1			3			TOTAL SHEETS
2			4			8



PARTIAL PLAN OF END RAMP

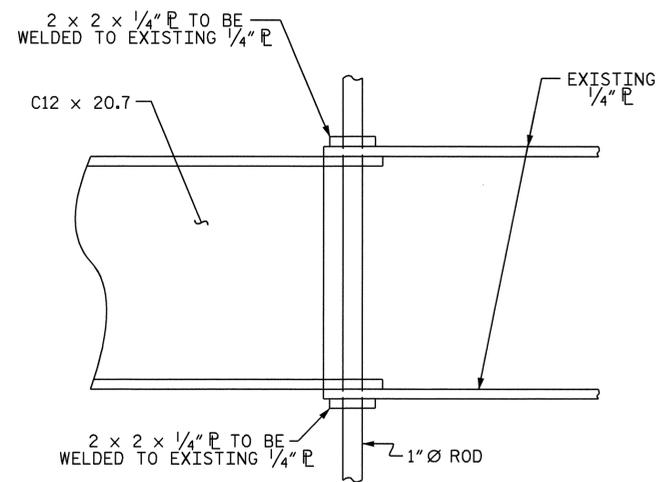


SECTION A-A

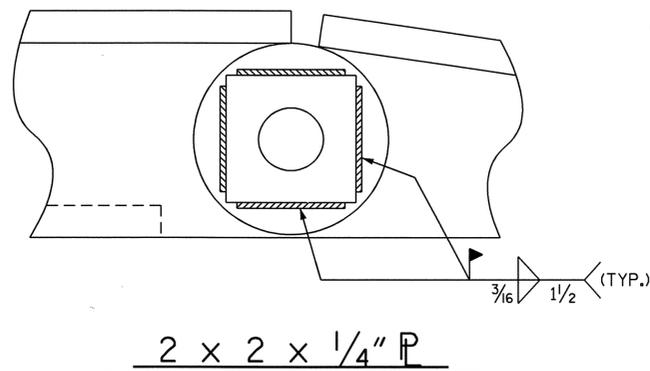


SECTION B-B

(TYP. EA. CHANNEL)



DETAIL A



2 x 2 x 1/4" P

PROJECT NO. F-5002
 BRUNSWICK/NEW HANOVER COUNTY

STATION: _____

SHEET 6 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

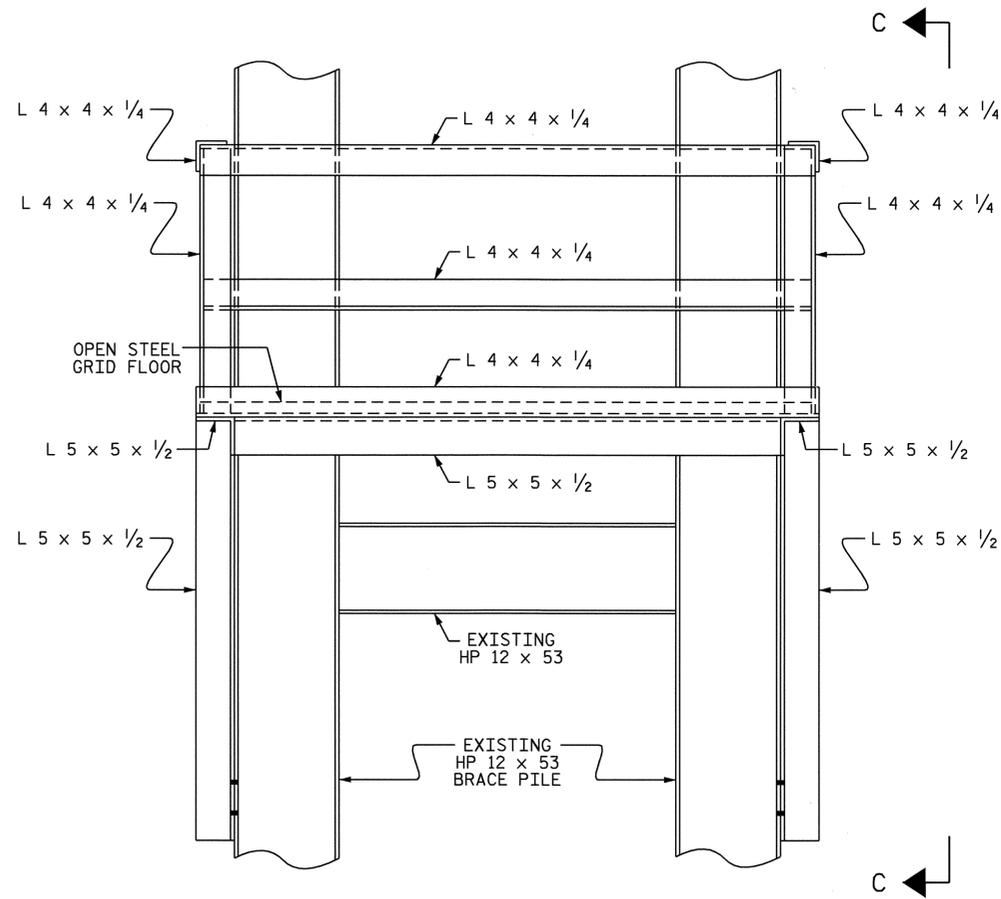
END RAMP REPAIR
 SOUTHPORT AND
 FORT FISHER



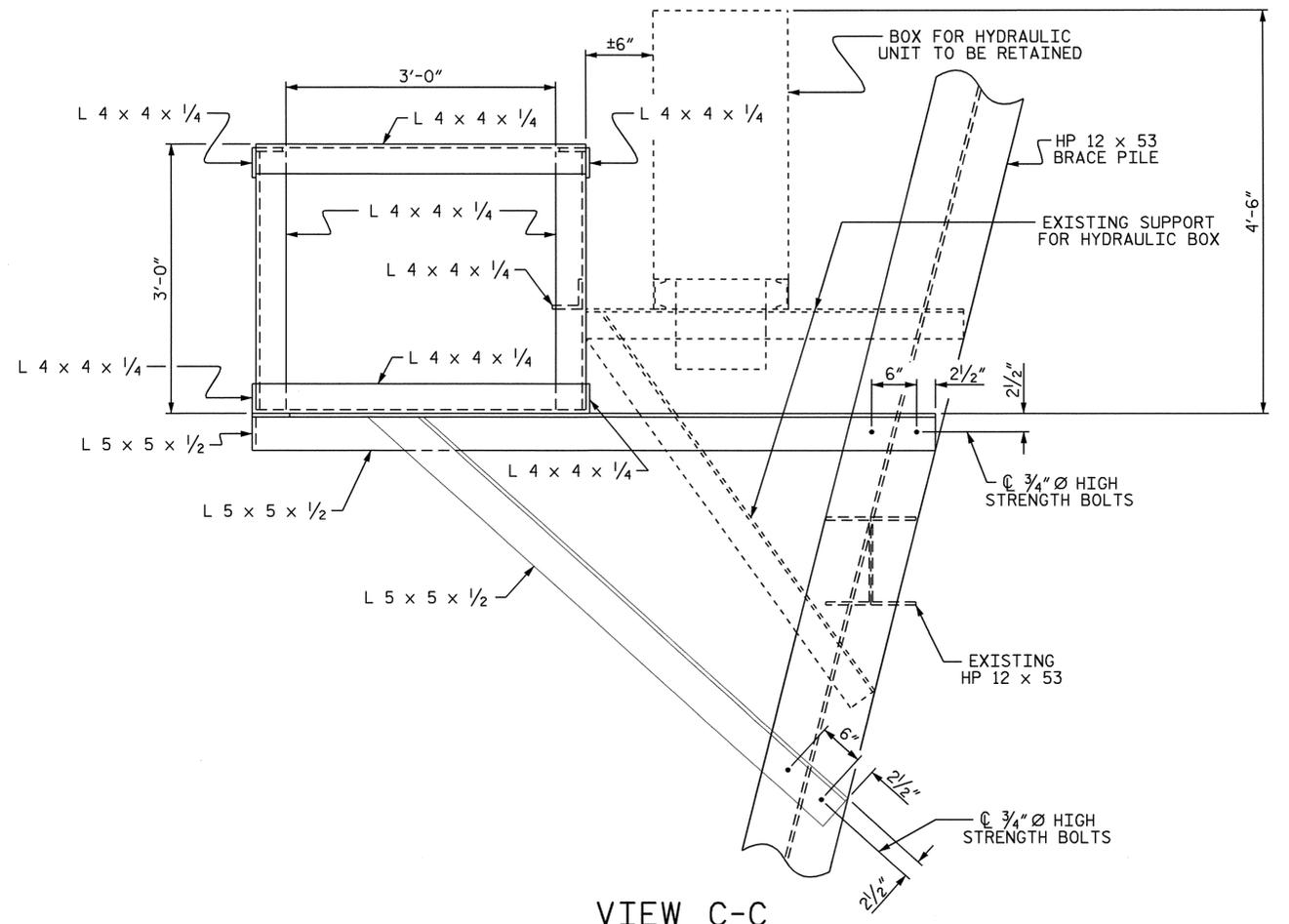
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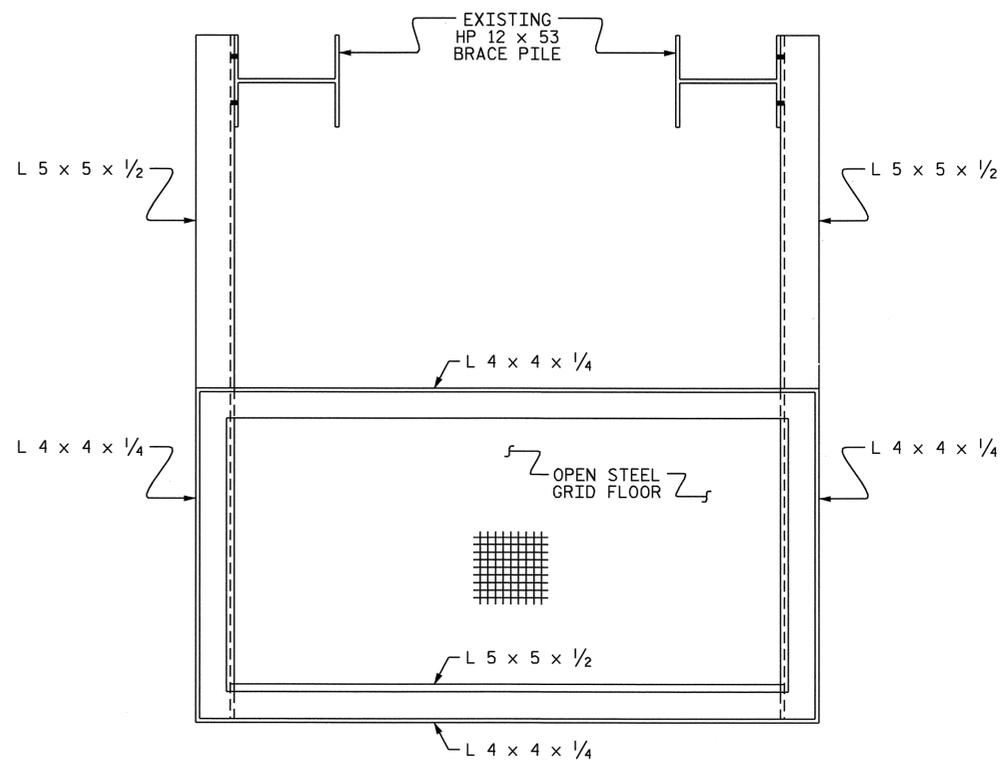
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1			3			TOTAL SHEETS
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ELEVATION
(EXISTING HYDRAULIC BOX SUPPORT NOT SHOWN)



VIEW C-C



FLOOR PLAN

NOTES:

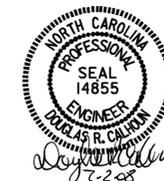
THE CONTRACTOR SHALL FIELD MEASURE EXISTING DIMENSIONS PRIOR TO CONSTRUCTION OF WORK PLATFORM.
FOR OPEN STEEL GRID FLOOR, SEE SPECIAL PROVISIONS FOR INSTALLATION OF WORK PLATFORM.
ALL NONBOLTED CONNECTIONS SHALL BE WELDED AND SHALL BE DETAILED IN THE SUBMITTAL.

PROJECT NO. F-5002
BRUNSWICK/NEW HANOVER COUNTY
STATION: _____

SHEET 7 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

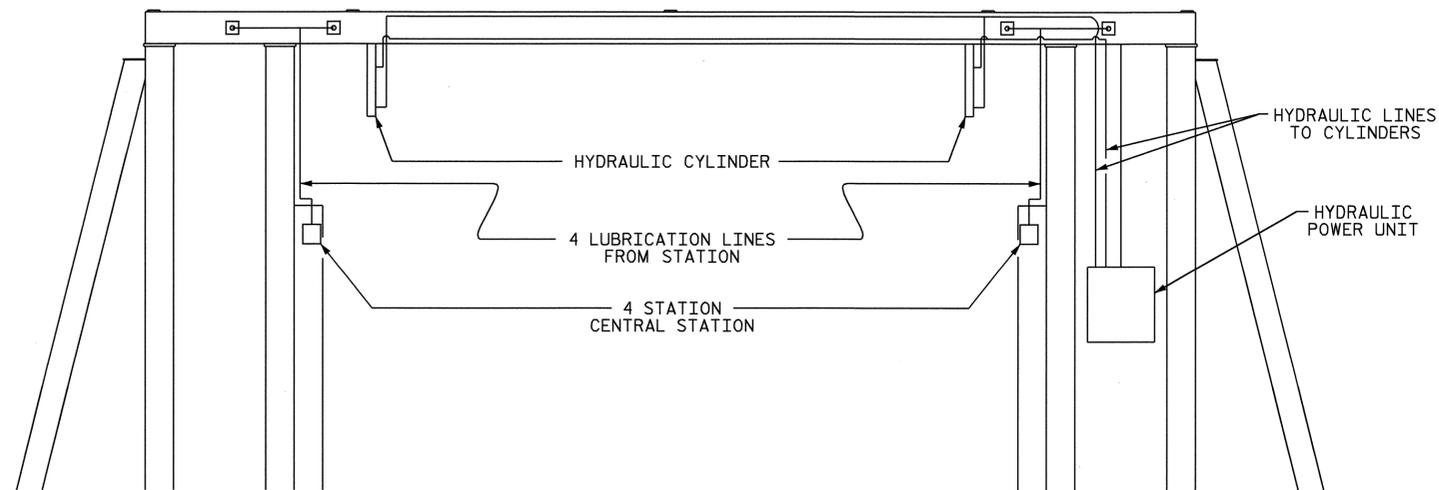
WORK PLATFORM
SOUTHPORT AND
FORT FISHER



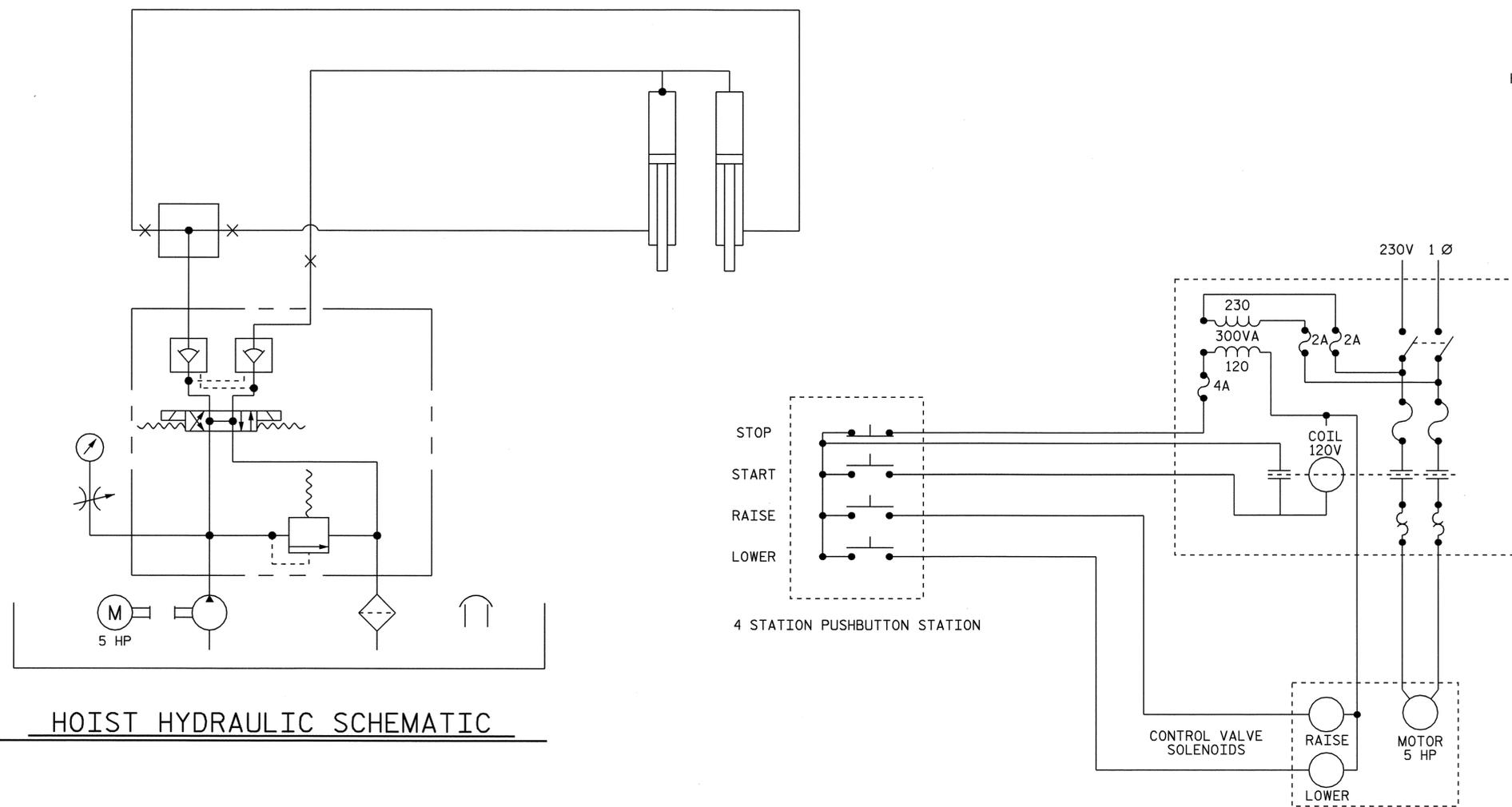
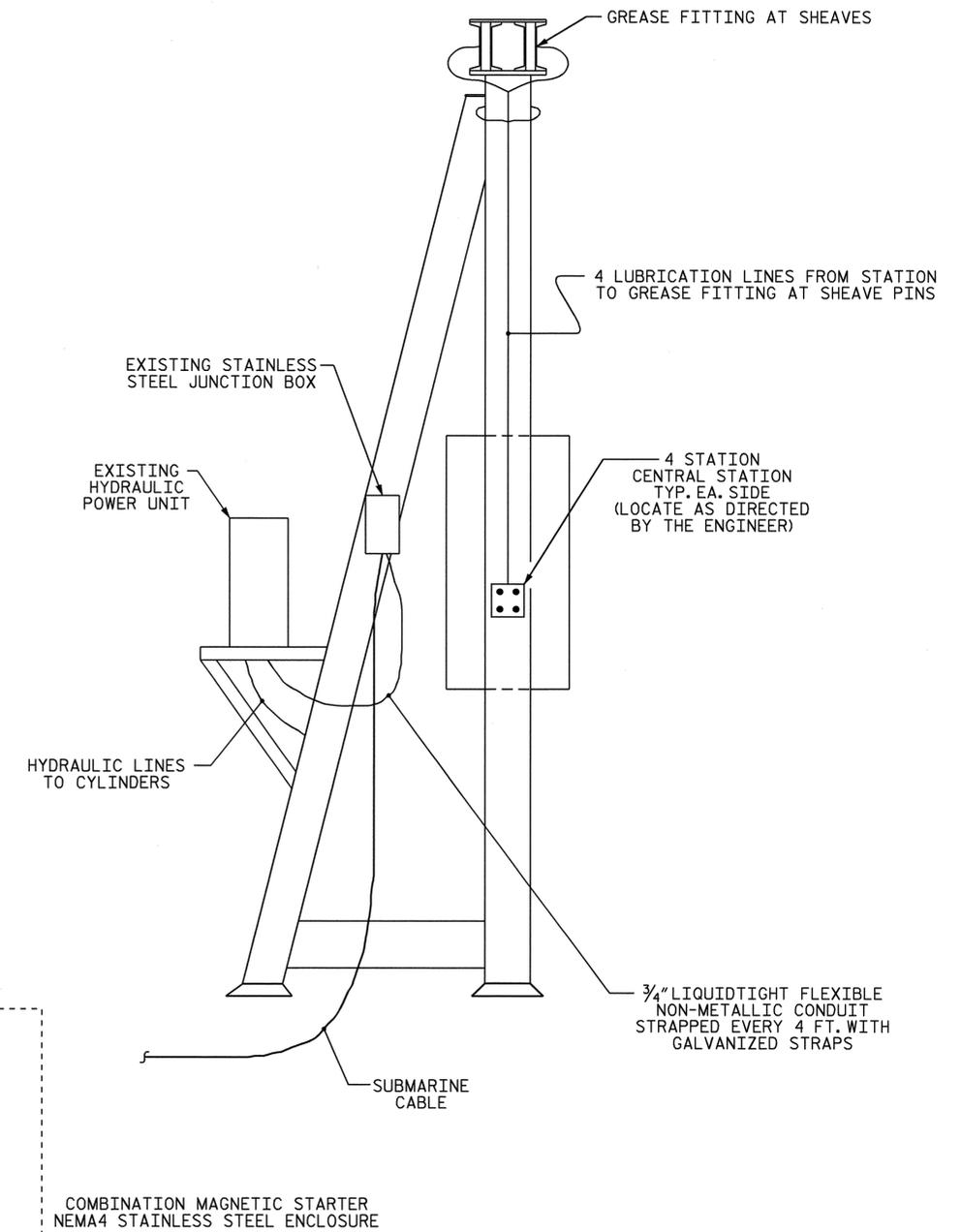
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REVISIONS						SHEET NO.
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1			3			8
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HYDRAULIC AND LUBRICATION LINES DIAGRAM



PROJECT NO. F-5002
 BRUNSWICK/NEW HANOVER COUNTY
 STATION: _____

SHEET 8 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

RAMP HOIST DETAILS
 FOR LIFT BENT
 SOUTHPORT AND
 FORT FISHER



REVISIONS						SHEET NO.
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1			3			5-8
2			4			TOTAL SHEETS 8

DRAWN BY : B.N. GRADY DATE : 5/20/08
 CHECKED BY : N.N. BULLOCK DATE : 6/26/08

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STANDARD NOTES

DESIGN DATA:

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	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
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	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	-----	375 LBS. PER SQ. IN.
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 2002 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; CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP; AND CLASS S SHALL BE USED FOR UNDERWATER FOOTING SEALS.

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 1-1/2" 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 WITH THE EXCEPTION OF #2 BARS WHICH MAY BE FABRICATED FROM COLD DRAWN STEEL WIRE. 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 5/16" 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.
PLACEMENT OF BEAM OR GIRDER MEMBERS ON TRUCKS FOR HAULING SHALL BE DONE IN COMPLIANCE WITH LIMITS SHOWN ON SKETCHES PROVIDED TO THE MATERIALS AND TEST UNIT APPROVED BY THE STRUCTURE DESIGN UNIT DATED MAY 8, 1991. THESE SKETCHES PRIMARILY LIMIT THE UNSUPPORTED CANTILEVER LENGTH OF MEMBERS. WHEN THE CONTRACTOR WISHES TO PLACE MEMBERS ON TRUCKS NOT IN ACCORDANCE WITH THESE LIMITS, TO SHIP BY RAIL, TO ATTACH SHIPPING RESTRAINTS TO THE MEMBERS OR TO INVERT MEMBERS, HE SHALL SUBMIT A SKETCH FOR APPROVAL PRIOR TO SHIPPING. SEE ALSO ARTICLE 1072-11.
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. FINIS 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