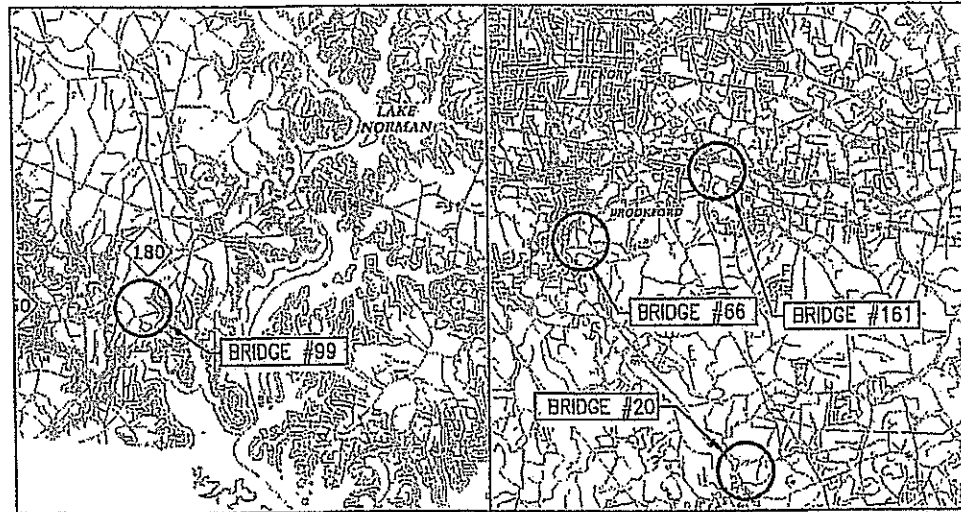
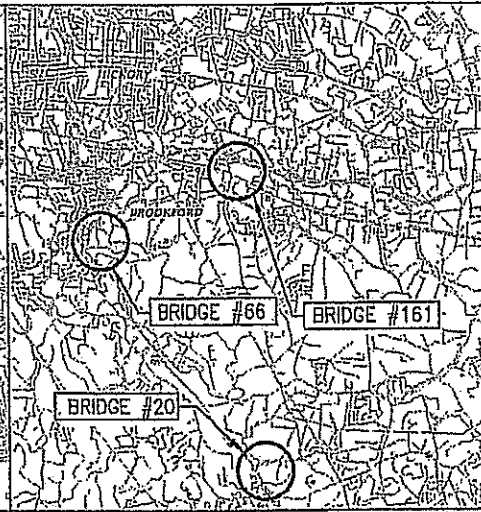


TIP PROJECT: WBS 17BP.12.P.3

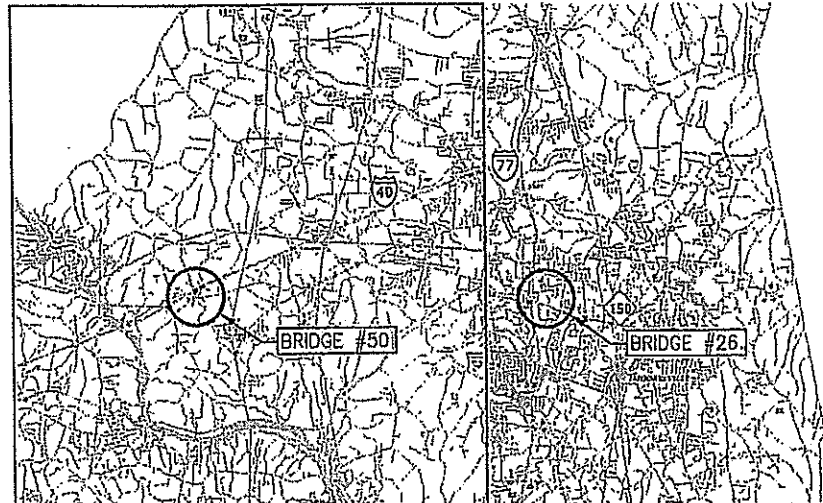
CONTRACT: C203011



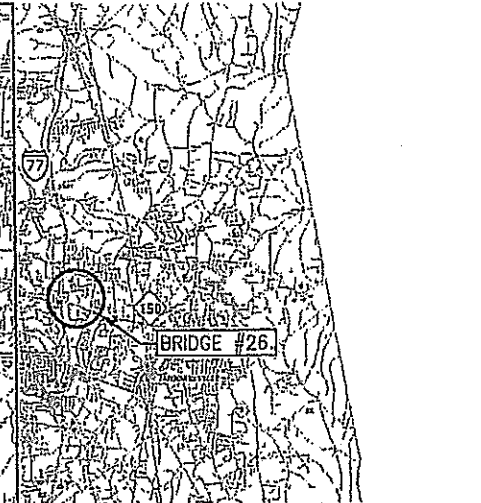
VICINITY MAP  
CATAWBA COUNTY



VICINITY MAP  
CATAWBA COUNTY



VICINITY MAP  
IREDELL COUNTY



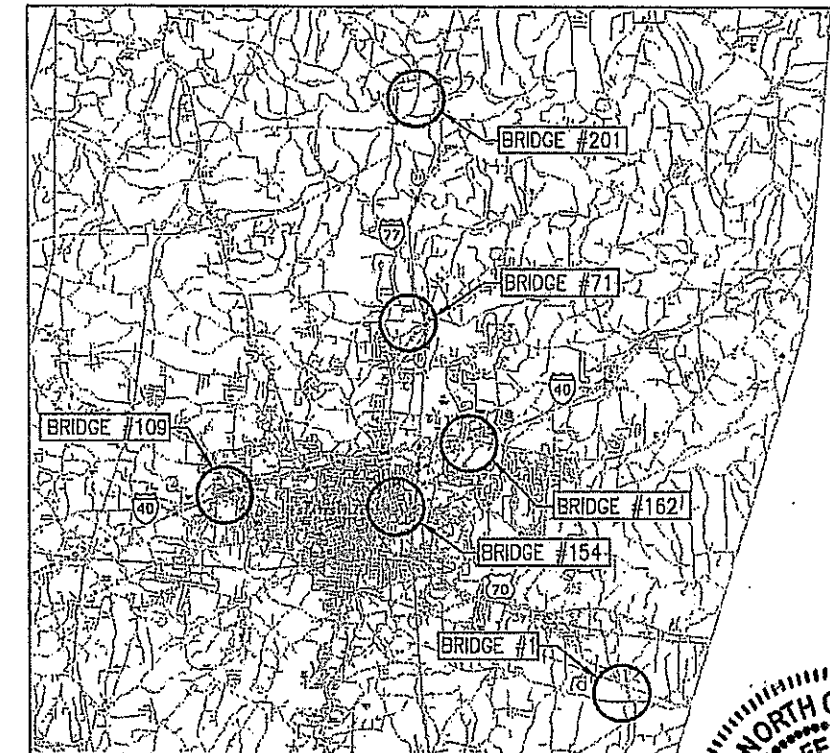
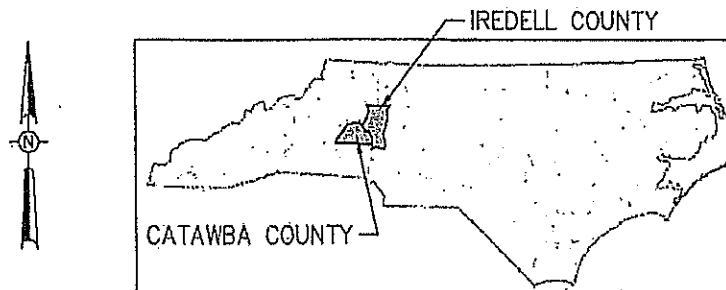
VICINITY MAP  
IREDELL COUNTY

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS CATAWBA AND IREDELL COUNTIES

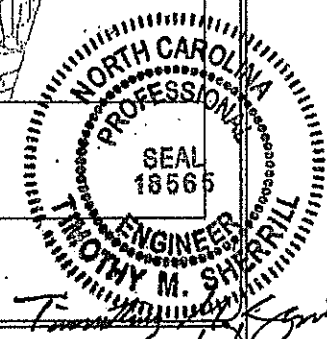
LOCATION: CATAWBA COUNTY  
 BRIDGE #20 ON NC10, OVER S. FORK CATAWBA RIVER.  
 BRIDGE #66 ON OLD NC127 (SR2959), OVER US321.  
 BRIDGE #99 ON NC150, OVER SEABOARD COASTLINE RR.  
 BRIDGE #161 ON SR1007, OVER I40.

LOCATION: IREDELL COUNTY  
 BRIDGE #1 ON SR2362, OVER THIRD CREEK.  
 BRIDGE #26 ON NC150, OVER I77.  
 BRIDGE #50 ON SR1502, OVER I40.  
 BRIDGE #71 ON US21, OVER I77.  
 BRIDGE #109 ON I40 WBL, OVER US64 & NC90.  
 BRIDGE #154 ON SR2321, OVER I77 & SALISBURY CREEK.  
 BRIDGE #162 ON I40 WBL, OVER US64 WBL RAMP.  
 BRIDGE #201 ON I77 SBL, OVER PATTERSON CREEK.

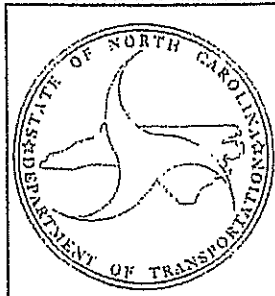
TYPE OF WORK: BRIDGE PRESERVATION: EPOXY/STONE  
 OVERLAYS AND LATEX MODIFIED CONCRETE OVERLAYS



VICINITY MAP  
IREDELL COUNTY



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA



### DESIGN DATA

BRIDGE #20 ADT 2009 = 9100	BRIDGE #50 ADT 2008 = 1900
BRIDGE #66 ADT 2009 = 5000	BRIDGE #71 ADT 2009 = 6850
BRIDGE #99 ADT 2009 = 9100	BRIDGE #109 ADT 2008 = 22000
BRIDGE #161 ADT 2009 = 29500	BRIDGE #154 ADT 2008 = 21000
BRIDGE #1 ADT 2005 = 1700	BRIDGE #162 ADT 2009 = 16000
BRIDGE #26 ADT 2008 = 38000	BRIDGE #201 ADT 2009 = 15000

### STRUCTURE PROJECT LENGTH

BRIDGE #20 = 0.053 MILES	BRIDGE #50 = 0.036 MILES
BRIDGE #66 = 0.058 MILES	BRIDGE #71 = 0.065 MILES
BRIDGE #99 = 0.029 MILES	BRIDGE #109 = 0.045 MILES
BRIDGE #161 = 0.056 MILES	BRIDGE #154 = 0.052 MILES
BRIDGE #1 = 0.036 MILES	BRIDGE #162 = 0.056 MILES
BRIDGE #26 = 0.046 MILES	BRIDGE #201 = 0.050 MILES

PLAN PREPARED BY:



**ALPHA & OMEGA GROUP**  
 CIVIL & STRUCTURAL ENGINEERS  
 4601 Lake Boone Trail, Ste. 3C Raleigh, NC 27607  
 Phone 919 981 0310 Fax 919 981 0451  
 Firm License No. C-1684 www.aogroup.com  
 A & O PROJECT #: 2011.031

FOR: THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

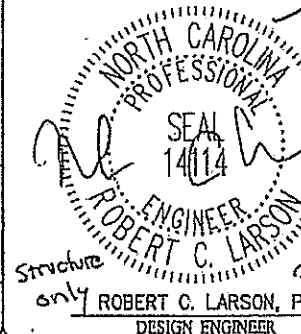
2012 STANDARD SPECIFICATIONS

LETTING DATE:  
MAY 15, 2012

NCDOT CONTACT:

R. LARSON, PE  
PROJECT ENGINEER

RICK NELSON, PE  
DESIGN ENGINEER



Structure only  
 ROBERT C. LARSON, PE  
 DESIGN ENGINEER

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

CATAWBA AND IREDELL COUNTIES

INDEX OF SHEETS

<u>SHEET NO.</u>	<u>TITLE</u>	<u>SHEET NO.</u>	<u>TITLE</u>
1	TITLE SHEET	TMP-1	TITLE SHEET, AND INDEX OF SHEETS
1A	INDEX OF SHEETS	TMP-1A	LIST OF ROADWAY STANDARD DRAWINGS AND LEGEND
2	SUMMARY OF QUANTITIES	TMP-2	GENERAL NOTES
S-1 THRU S-3	BRIDGE #20	TMP-3	PHASING
S-4 THRU S-6	BRIDGE #66	TMP-4 THRU TMP-4B	CATAWBA COUNTY BRIDGE #161
S-7 THRU S-9	BRIDGE #99	TMP-5 THRU TMP-5B	IREDELL COUNTY BRIDGE #26
S-10 THRU S-12	BRIDGE #161	TMP-6 THRU TMP-6B	IREDELL COUNTY BRIDGE #71
S-13 THRU S-15	BRIDGE #1	TMP-7 THRU TMP-7A	IREDELL COUNTY BRIDGE #109
S-16 THRU S-25	BRIDGE #26	TMP-8 THRU TMP-8B	IREDELL COUNTY BRIDGE #154
S-26 THRU S-34	BRIDGE #50	TMP-9 THRU TMP-9A	IREDELL COUNTY BRIDGE #162
S-35 THRU S-38	BRIDGE #71		
S-39 THRU S-47	BRIDGE #109		
S-48 THRU S-59	BRIDGE #154		
S-60 THRU S-62	BRIDGE #162		
S-63 THRU S-65	BRIDGE #201		

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
CATAWBA AND IREDELL COUNTIES

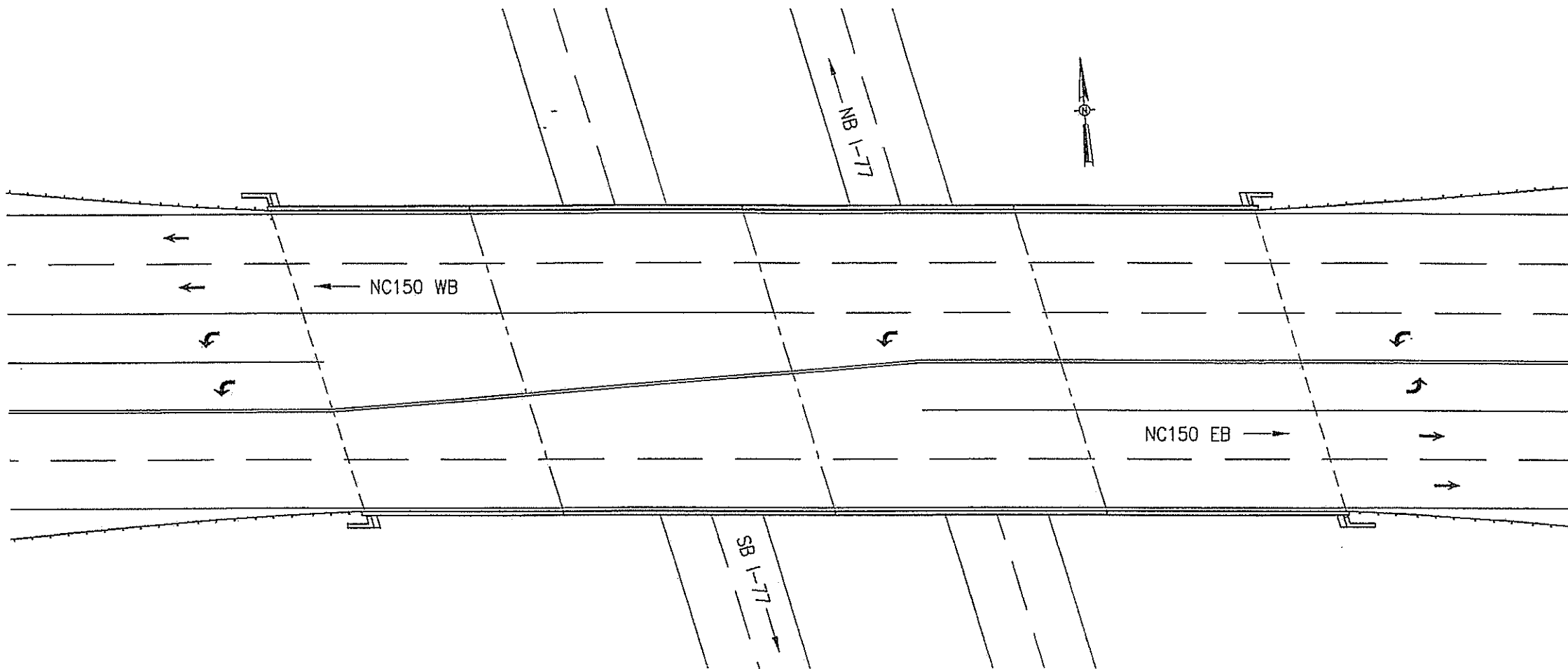
STATE	PROJECT REFERENCE NO.	SHEET NO.
NC	WBS 17DP.12.P.3	2

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203011

SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
1330000000-E	607	4,268	SY	INCIDENTAL MILLING
1519000000-E	610	357	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	21	TON	ASPHALT BINDER FOR PLANT MIX
4400000000-E	1110	10	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	1,035	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	32	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	4	EA	FLASHING ARROW BOARD
4420000000-N	1120	5	EA	PORTABLE CHANGEABLE MESSAGE SIGN
4430000000-N	1130	500	EA	DRUMS
4435000000-N	1135	100	EA	CONES
4445000000-E	1145	72	LF	BARRICADES (TYPE III)
4450000000-N	1150	1,344	HR	FLAGGER
4480000000-N	1165	1	EA	TMA
4510000000-N	SP	3,228	HR	LAW ENFORCEMENT
4710000000-E	1205	216	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
4805000000-N	1205	55	EA	COLD APPLIED PLASTIC PAVEMENT MARKING SYMBOL, TYPE ** (II)
4810000000-E	1205	24,185	LF	PAINT PAVEMENT MARKING LINES (4")
4840000000-N	1205	16	EA	PAINT PAVEMENT MARKING CHARACTER
4845000000-N	1205	34	EA	PAINT PAVEMENT MARKING SYMBOL
4847000000-E	1205	12,905	LF	POLYUREA PAVEMENT MARKING LINES (4", *****) (HIGHLY REFLECTIVE ELEMENTS)
4847100000-E	1205	3,075	LF	POLYUREA PAVEMENT MARKING LINES (6", *****) (HIGHLY REFLECTIVE ELEMENTS)
4847110000-E	1205	150	LF	POLYUREA PAVEMENT MARKING LINES (8", *****) (HIGHLY REFLECTIVE ELEMENTS)

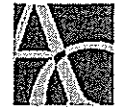
ItemNumber	Sec #	Quantity	Unit	Description
4905000000-N	1253	242	EA	SNOWPLOWABLE PAVEMENT MARKERS
8161000000-E	420	104,817	SF	GROOVING BRIDGE FLOORS
8660000000-E	SP	16	CF	CONCRETE REPAIRS
8664000000-E	SP	365	CF	SHOTCRETE REPAIRS
8692000000-N	SP	Lump Sum		FOAM JOINT SEALS
8881000000-E	SP	569	CY	GENERIC STRUCTURE ITEM LATEX MOD CONC OVERLAY - VERY EARLY STRENGTH
8892000000-E	SP	524	SF	GENERIC STRUCTURE ITEM CLASS II CONCRETE DECK REPAIRS FOR EPOXY OVERLAY
8892000000-E	SP	58,458	SF	GENERIC STRUCTURE ITEM PLACEMENT OF EPOXY OVERLAY
8893000000-E	SP	12,288	SY	GENERIC STRUCTURE ITEM HYDRO-DEMOLITION OF BRIDGE DECK
8893000000-E	SP	12,304	SY	GENERIC STRUCTURE ITEM PLACING & FINISHING OF LATEX MOD CONC OVERLAY - VERY EARLY STRENGTH
8893000000-E	SP	12,288	SY	GENERIC STRUCTURE ITEM SCARIFYING BRIDGE DECK
8897000000-N	SP	96	EA	GENERIC STRUCTURE ITEM CLEAN & PAINT BEARINGS



**BRIDGE 480026 ON NC150**

LOCATION: BRIDGE 480026, NC150 OVER I-77, 0.4 MILE EAST OF JUNCTION WITH SR1474.

PLAN PREPARED BY:



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 A & O PROJECT #: 2011.031

TOTAL BILL OF MATERIAL									
SCARIFYING BRIDGE DECK	HYDRO-DEMOLITION OF BRIDGE DECK	LATEX MODIFIED CONC. OVERLAY VERY EARLY STRENGTH	PLACING & FINISHING LATEX MODIFIED CONC. OVERLAY VERY EARLY STRENGTH	GROOVING BRIDGE FLOORS	FOAM JOINT SEALS	ASPHALT CONC. SURFACE COURSE TYPE S9.5B	SHOTCRETE REPAIRS	INCIDENTAL MILLING	CLEAN AND PAINT BEARINGS
SQ. YD.	SQ. YD.	CU. YD.	SQ. YD.	SQ. FT.	LUMP SUM	TON	CU. FT.	SQ. YD.	EA.
1,982	1,982	83	1,982	17,574	L.S.	85	184	1,008	96

PROJECT NO. WBS 17BP.12.P.3  
IREDELL COUNTY  
 BRIDGE NO. 480026

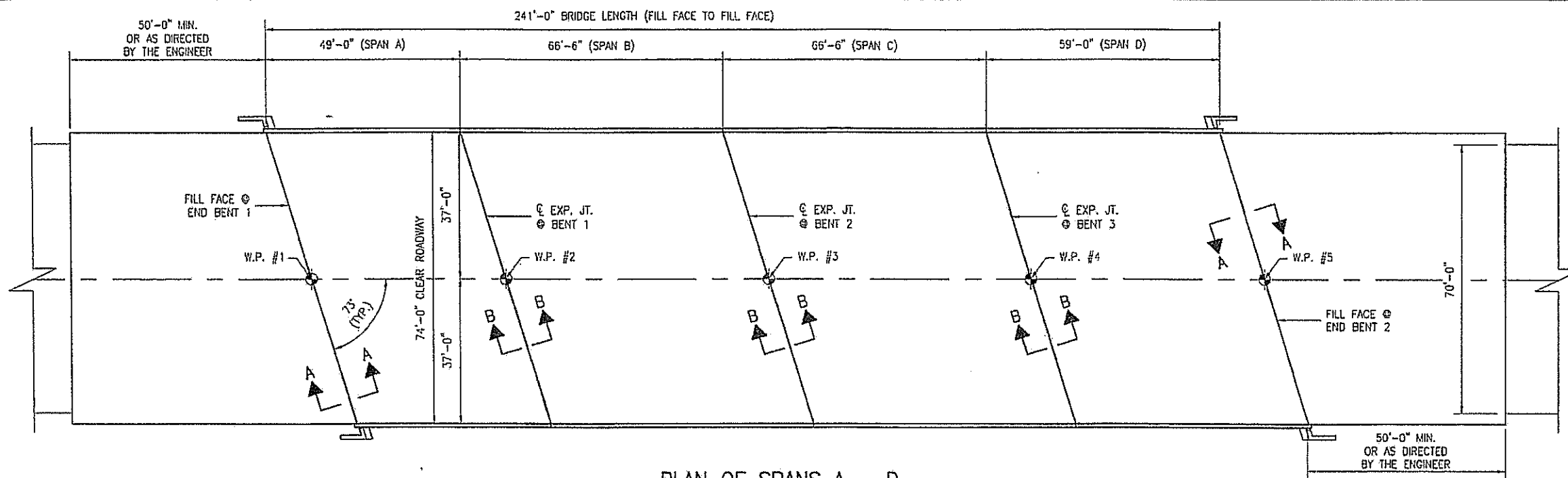
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

LOCATION SKETCH  
 AND TOTAL  
 BILL OF MATERIAL

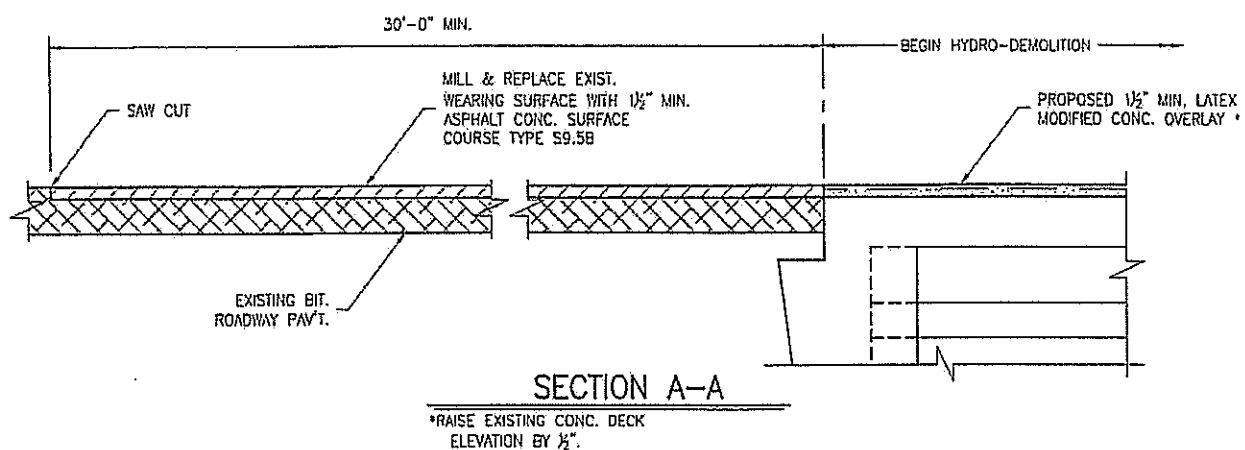


DRAWN BY: F.F. ROBBINS DATE: 12-07-11  
 CHECKED BY: R.C. LARSON DATE: 12-08-11

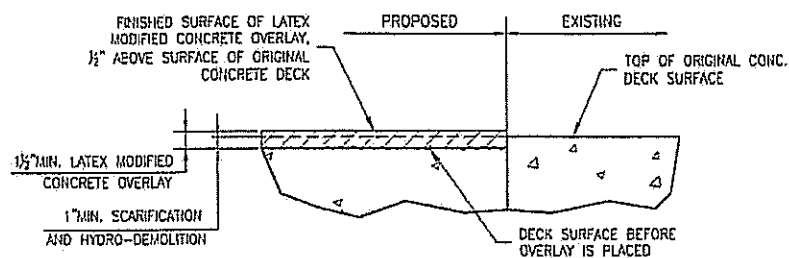
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			65



PLAN OF SPANS A - D



SECTION A-A  
\*RAISE EXISTING CONC. DECK ELEVATION BY 1/2".



DETAIL FOR LATEX MODIFIED CONC. OVERLAY

NOTE: EXISTING DEPTH OF CONC. COVER IS UNKNOWN. CONTRACTOR TO MAKE HIS OWN DETERMINATION.

NOTES:

- EXISTING DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS WITH LATEX MODIFIED CONCRETE. SEE SPECIAL PROVISIONS.
- FOR HYDRO-DEMOLITION, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR MUST COLLECT, TREAT, AND DISPOSE OF RUNOFF WATER FROM THE HYDRO-DEMOLITION PROCESS. SEE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THRU OF THE DECK. SEE DETAIL, SHEET S-19.
- FOR VERY EARLY STRENGTH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.
- FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR SECTION B-B, SEE SHEET S-18.
- CLEAN AND PAINT ALL STEEL BEARING PLATES. SEE SPECIAL PROVISIONS.

PLAN PREPARED BY:

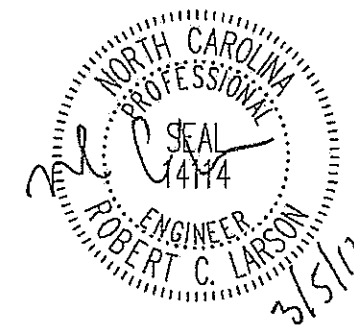


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 A & O PROJECT #: 2011.031

PROJECT NO. WBS 17BP.12.P.3  
IREDELL COUNTY  
 BRIDGE NO. 480026

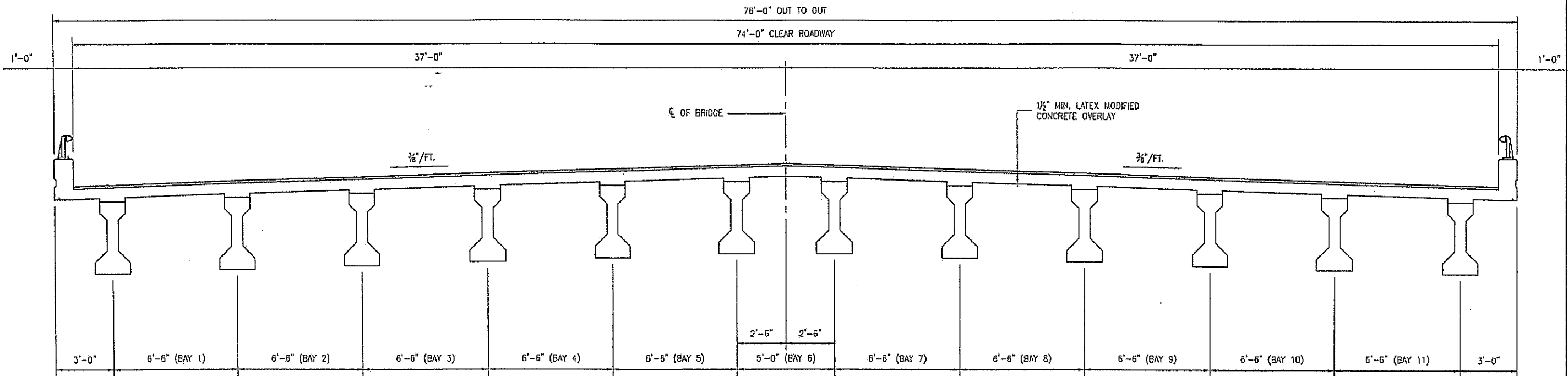
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE PLAN  
 AND DETAILS

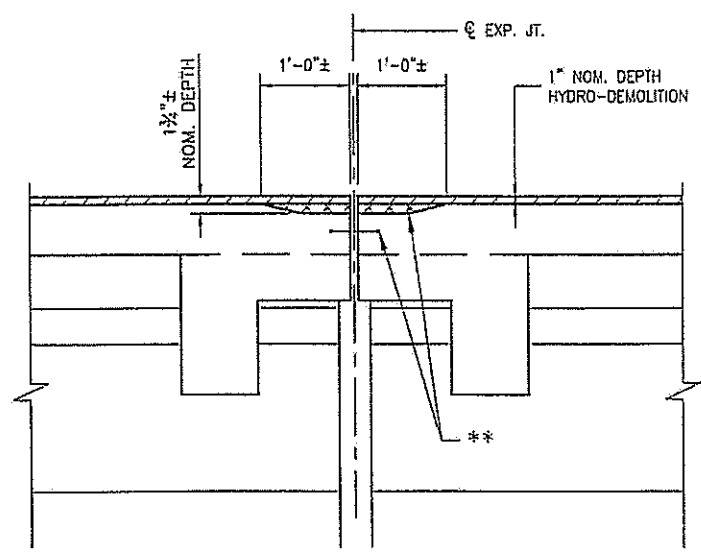


DRAWN BY: F.F. ROBBINS DATE: 12-07-11  
 CHECKED BY: R.C. LARSON DATE: 12-08-11

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			65



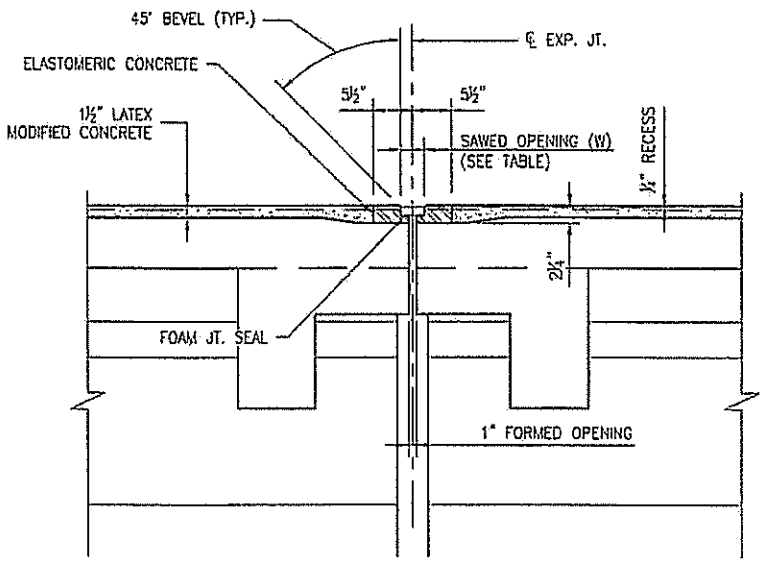
TYPICAL SECTION SPANS A - D



SECTION B-B  
EST. MAX. EXISTING JOINT DEMOLITION

NOTES: RETAIN ALL EXIST. REINF. STEEL.  
CLEAN AND REPAIR AS REQ'D.  
ALL EXISTING JT. SEAL MATERIALS  
ARE TO BE COMPLETELY REMOVED.

\*\* ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, REMOVE THE ENTIRE WATERSTOP.



SECTION B-B  
FOAM JOINT SEAL

NOTES: USE 2 1/2" WIDE UNCOMPRESSED  
FOAM JOINT SEAL MATERIAL.

FOAM JOINT SAWS OPENING (W) TABLE			
TEMP.	45° F	60° F	90° F
BENT 1	2 1/8"	2"	1 1/8"
BENT 2	2 1/8"	2"	1 1/8"
BENT 3	2 1/8"	2"	1 1/8"

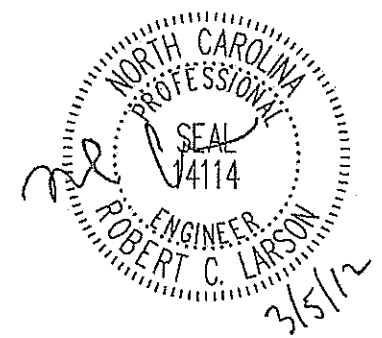
PLAN PREPARED BY:



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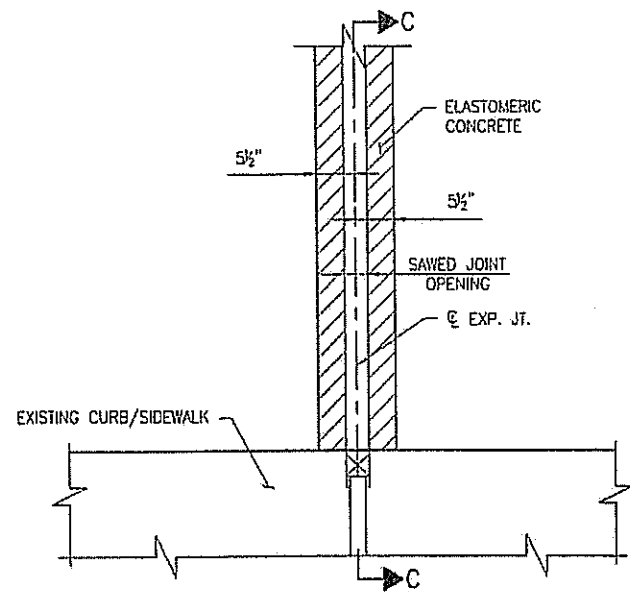
PROJECT NO. WBS 17BP.12.P.3  
IREDELL COUNTY  
BRIDGE NO. 480026

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
  
TYPICAL SECTION  
AND DETAILS

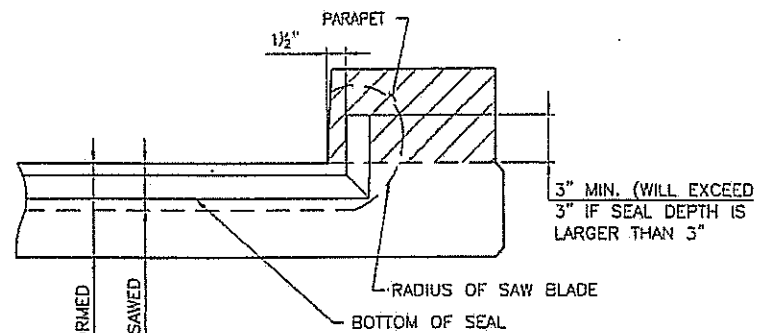


DRAWN BY: F.E. ROBBINS DATE: 12-07-11  
CHECKED BY: R.C. LARSON DATE: 12-08-11

REVISIONS						SHEET NO. S-18
NO	BY:	DATE:	NO	BY:	DATE:	
1			3			TOTAL SHEETS 65
2			4			

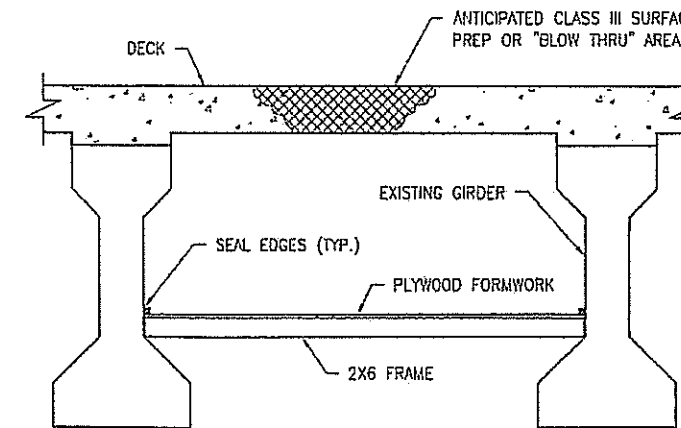


PARTIAL PLAN @ JOINT



SECTION C-C

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO FACE OF THE PARAPET.

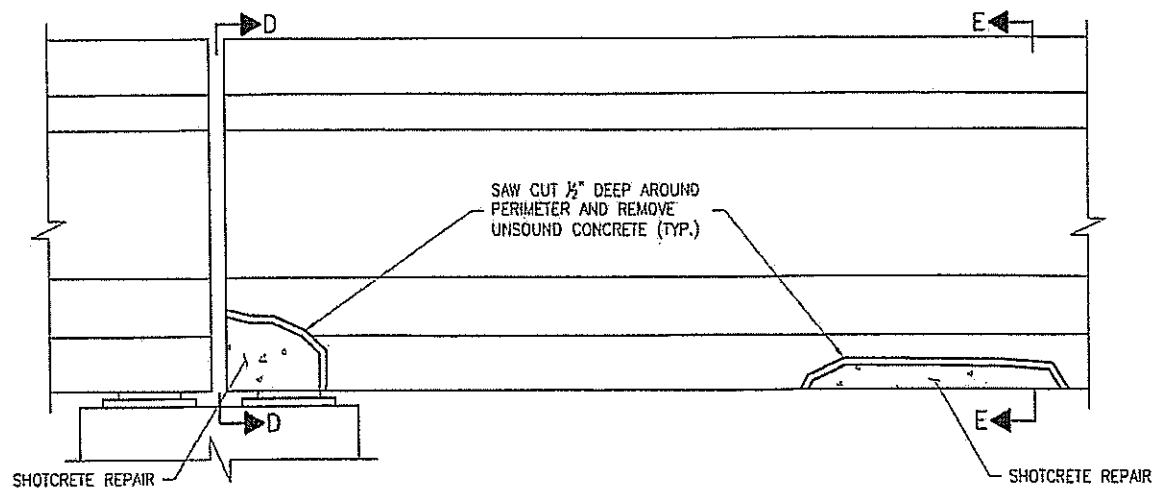


TYPICAL BLOW THRU CONTAINMENT AND FORMWORK

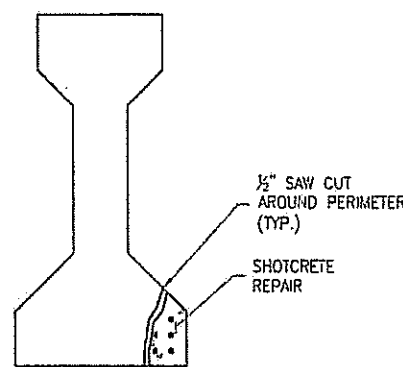
PROVIDE A METHOD TO CAPTURE WATER AND DEBRIS FROM UNEXPECTED BLOW THRU DURING HYDRO-DEMOLITION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

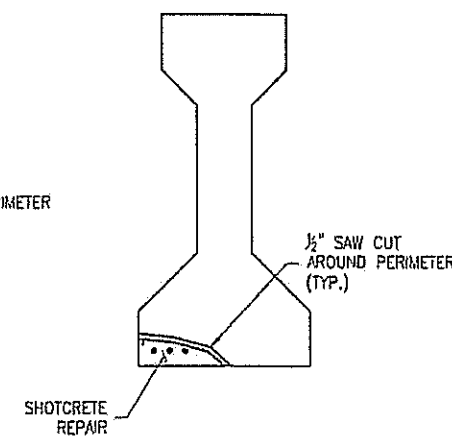
COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YD. OF HYDRO-DEMOLITION.



TYPICAL GIRDER ELEVATION



SECTION D-D



SECTION E-E

PLAN PREPARED BY:



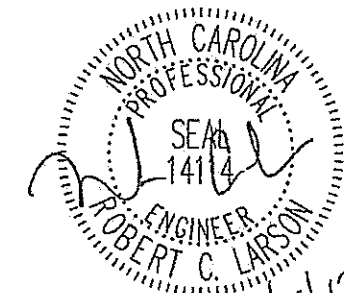
**ALPHA & OMEGA GROUP**  
CIVIL & STRUCTURAL ENGINEERS

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A & O PROJECT #: 2011.031

PROJECT NO. WBS 17BP.12.P.3  
IREDELL COUNTY  
BRIDGE NO. 480026

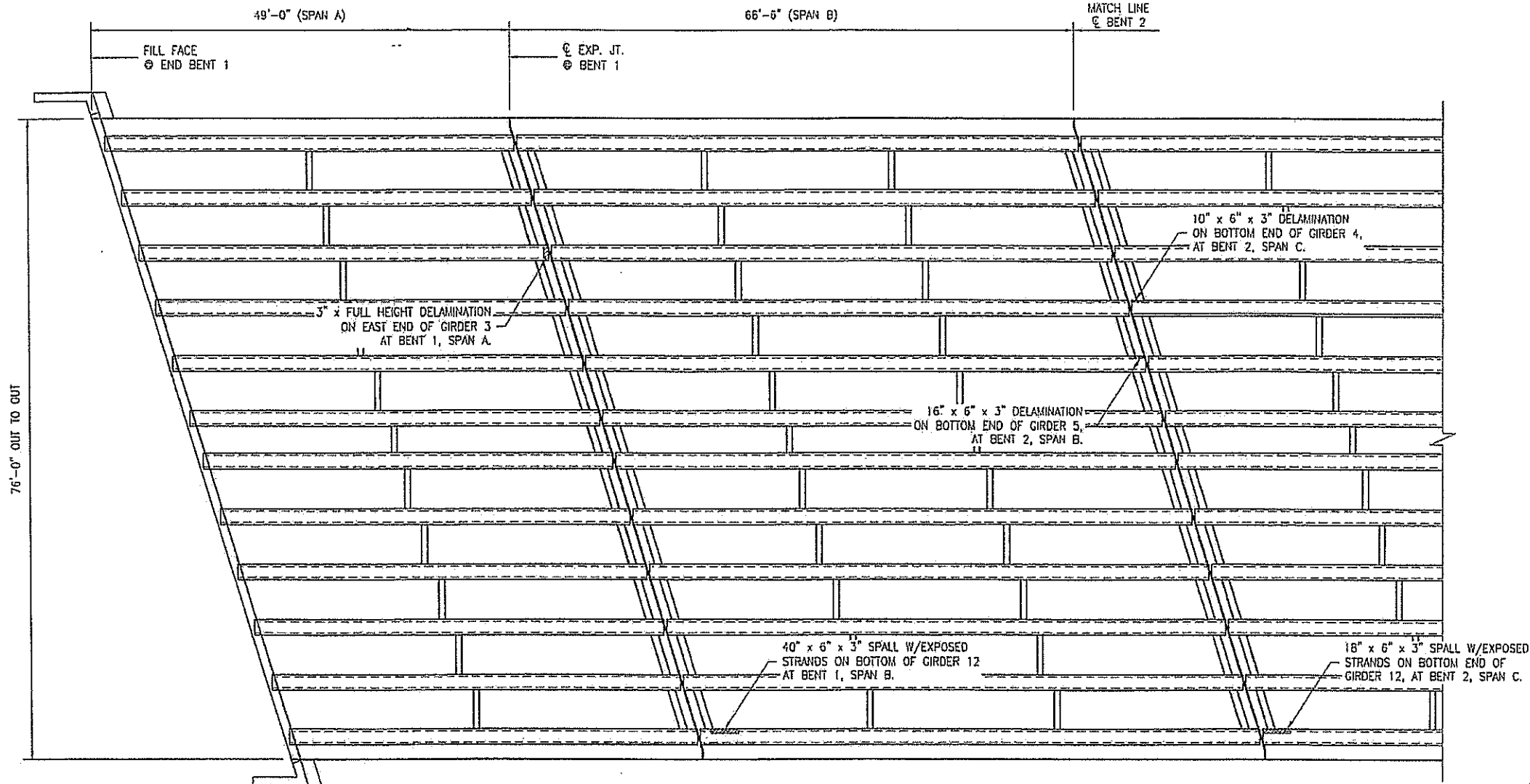
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

EXPANSION JOINT  
AND GIRDER  
REPAIR DETAILS



DRAWN BY: F.F. ROBBINS DATE: 12-07-11  
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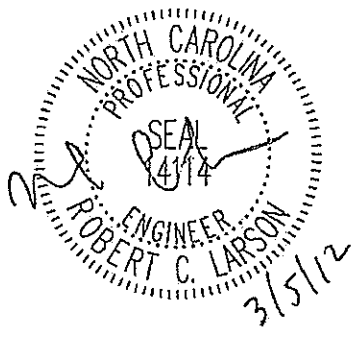
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			65



DECK PLAN UNDERSIDE

AREA TO BE REPAIRED WITH SHOTCRETE. SEE DETAILS, SHEET S-19  
SEE THE SPECIAL PROVISION "SHOTCRETE REPAIRS."

ESTIMATED SHOTCRETE REPAIRS  
SPANS A & B = 2 CF



PLAN PREPARED BY:



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A & O PROJECT #: 2011.031

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BRIDGE NO. 480026

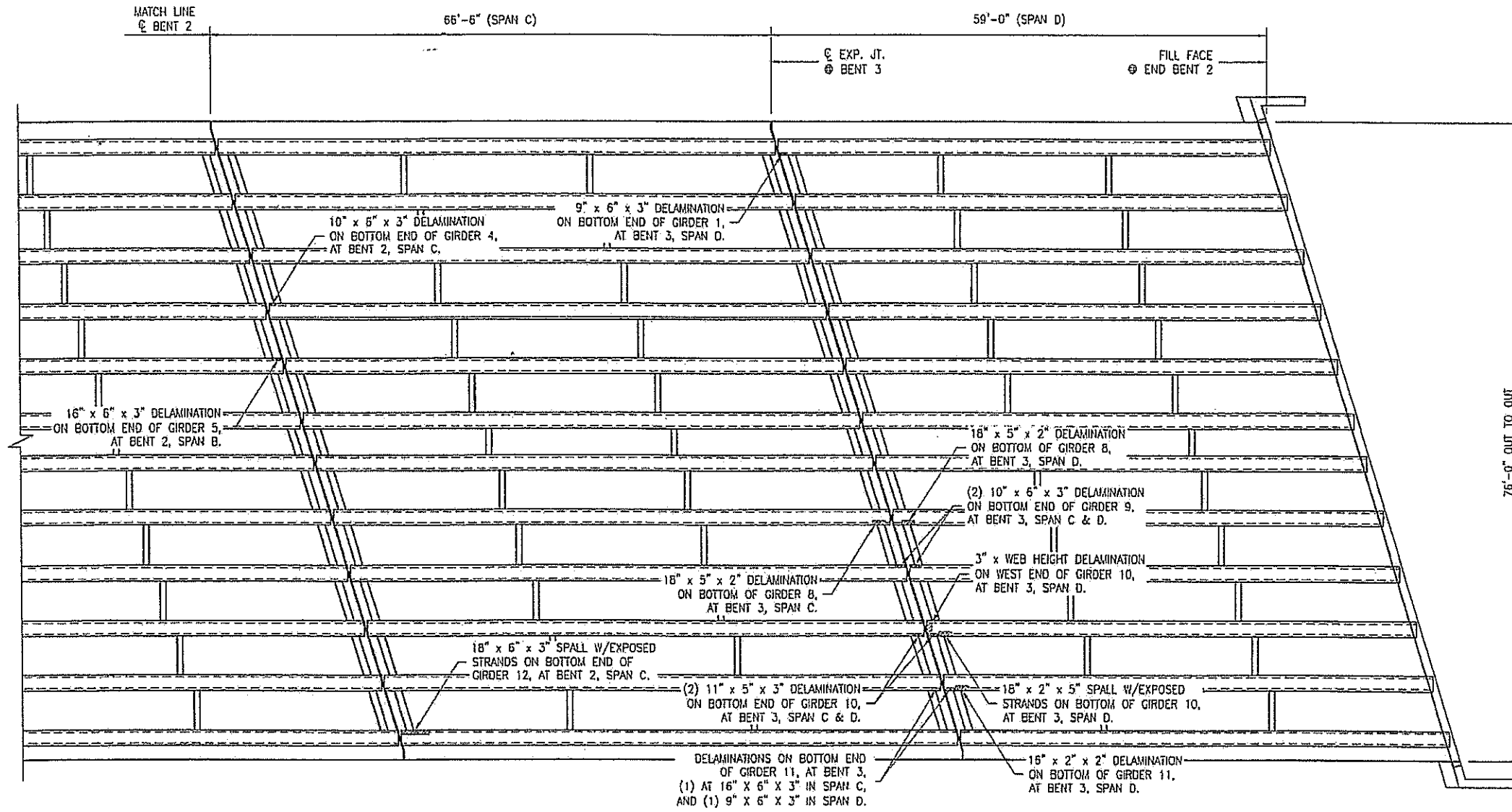
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE PLAN  
UNDERSIDE  
SPANS A AND B

REVISIONS						SHEET NO. S-20 TOTAL SHEETS 65
NO	BY	DATE	NO	BY	DATE	
1			3			
2			4			

DRAWN BY: F.F. ROBBINS DATE: 12-07-11  
CHECKED BY: R.C. LARSON DATE: 12-08-11

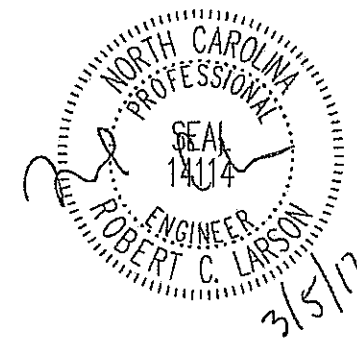




DECK PLAN UNDERSIDE

AREA TO BE REPAIRED WITH SHOTCRETE. SEE DETAILS, SHEET S-19 SEE THE SPECIAL PROVISION "SHOTCRETE REPAIRS."

ESTIMATED SHOTCRETE REPAIRS SPANS C & D = 1 CF



DRAWN BY: F.F. ROBBINS DATE: 12-07-11  
 CHECKED BY: R.C. LARSON DATE: 12-08-11

PLAN PREPARED BY:



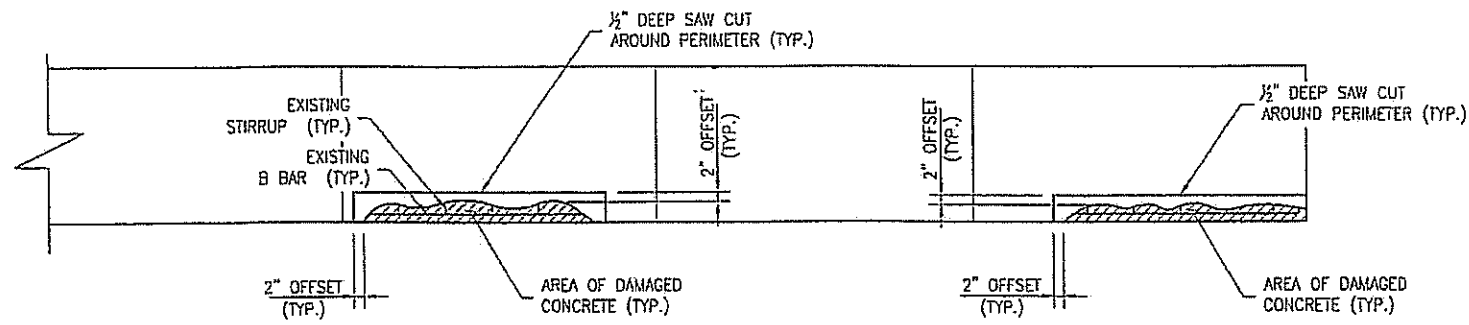
**ALPHA & OMEGA GROUP**  
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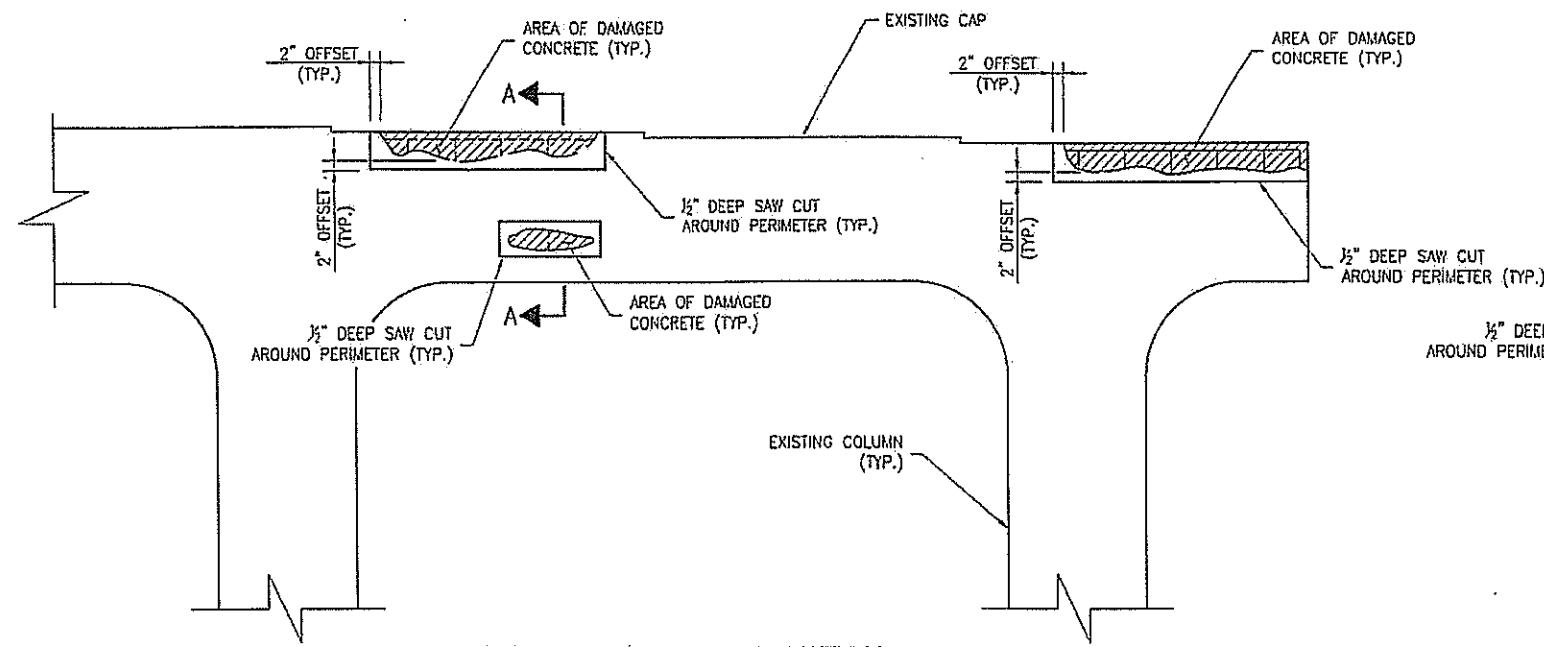
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE PLAN  
 UNDERSIDE  
 SPANS C AND D

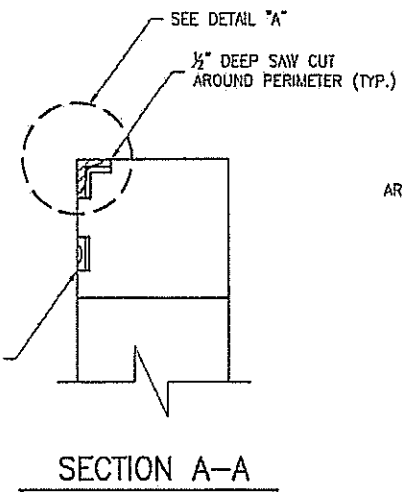
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2			4			65



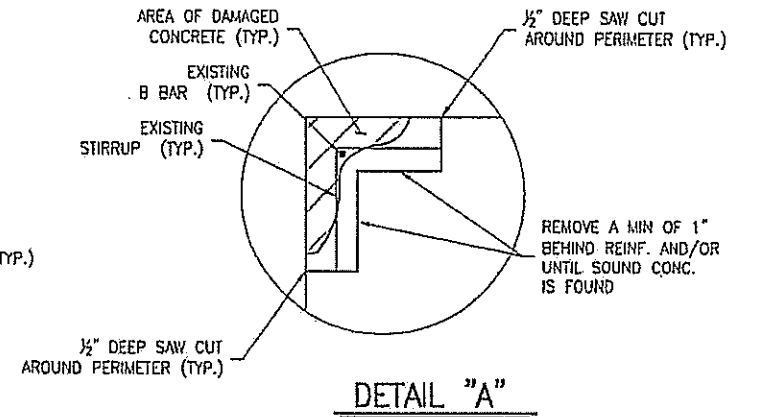
TYPICAL PARTIAL PLAN



TYPICAL PARTIAL ELEVATION



SECTION A-A



DETAIL "A"

NOTES:

1. SPALL/DELAMINATION DIMENSIONS SHOWN ARE APPROXIMATE.
2. REPAIR MATERIAL SHALL BE SHOTCRETE. SEE SPECIAL PROVISIONS.
3. AT THE CONTRACTOR'S OPTION, USE CONCRETE REPAIR WHERE SHOTCRETE IS DIFFICULT OR IMPRACTICAL. IN ANY EVENT, REPAIRS WILL BE PAID FOR AT THE UNIT PRICE BID FOR SHOTCRETE REPAIR.
4. REPAIRS OF SUPERSTRUCTURE UNDERSIDE, DIAPHRAGMS, ETC. SIMILAR.

PLAN PREPARED BY:

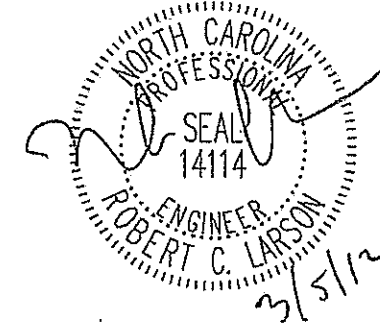


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IREDELL COUNTY  
 BRIDGE NO. 480026

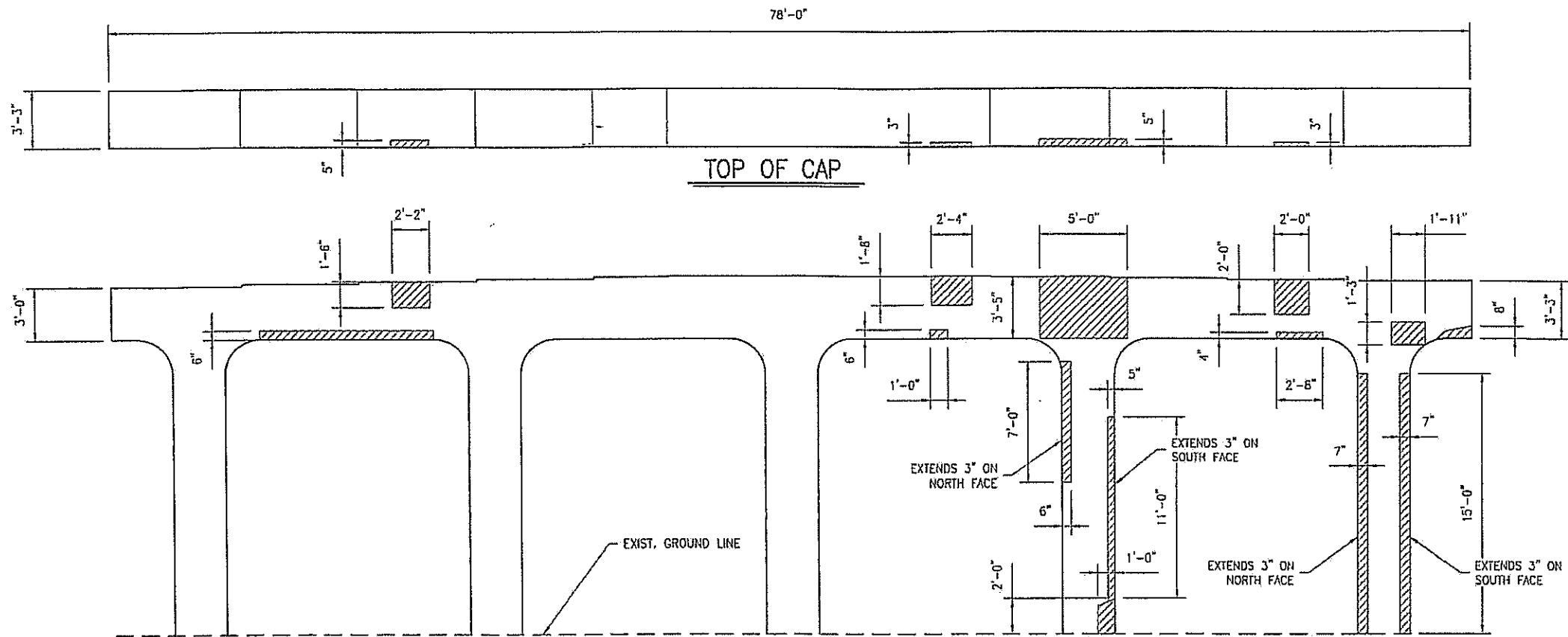
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

TYPICAL  
 BENT CAP  
 REPAIR DETAILS



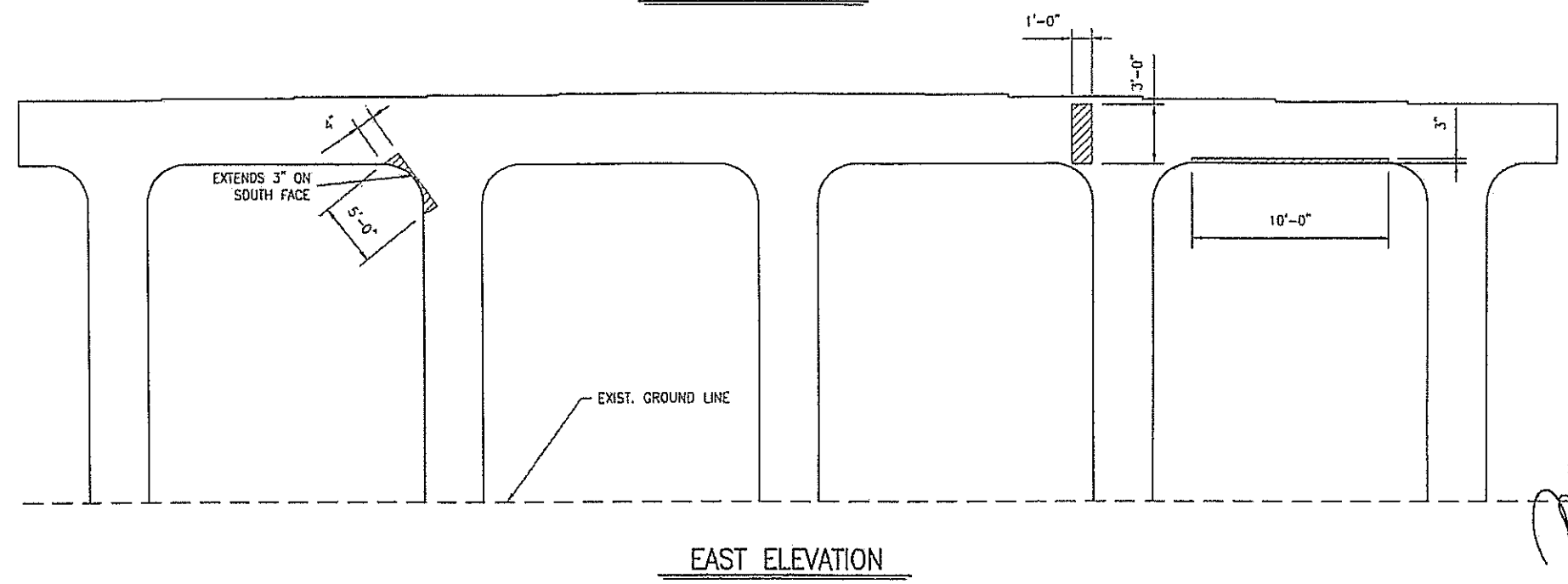
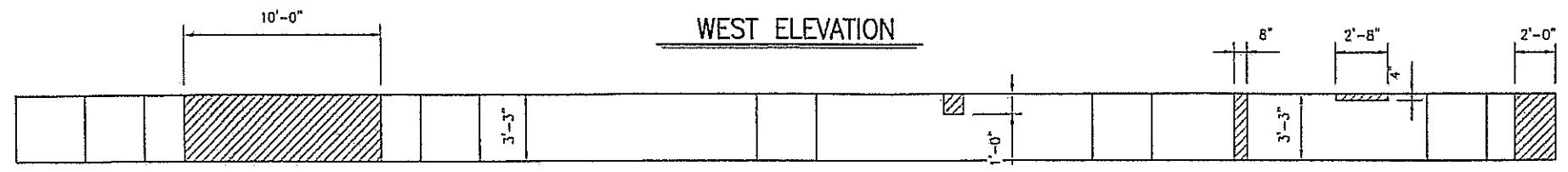
DRAWN BY: F.E. ROBBINS DATE: 12-07-11  
 CHECKED BY: R.C. LARSON DATE: 12-08-11

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS
2			4			65



AREA TO BE REPAIRED WITH SHOTCRETE. SEE DETAILS, SHEET S-22  
SEE THE SPECIAL PROVISION "SHOTCRETE REPAIRS."

ESTIMATED SHOTCRETE REPAIRS  
BENT 1 = 40 CF



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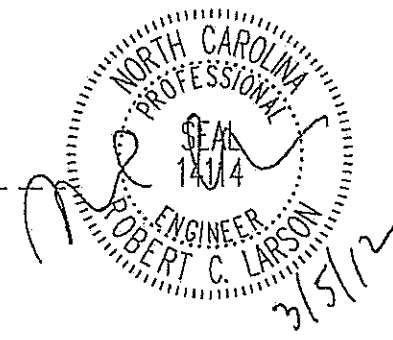


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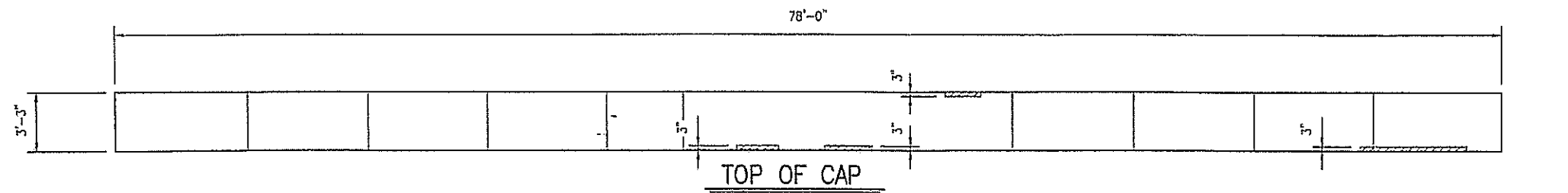
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CONCRETE CAP AND  
 COLUMN REPAIRS  
 BENT 1



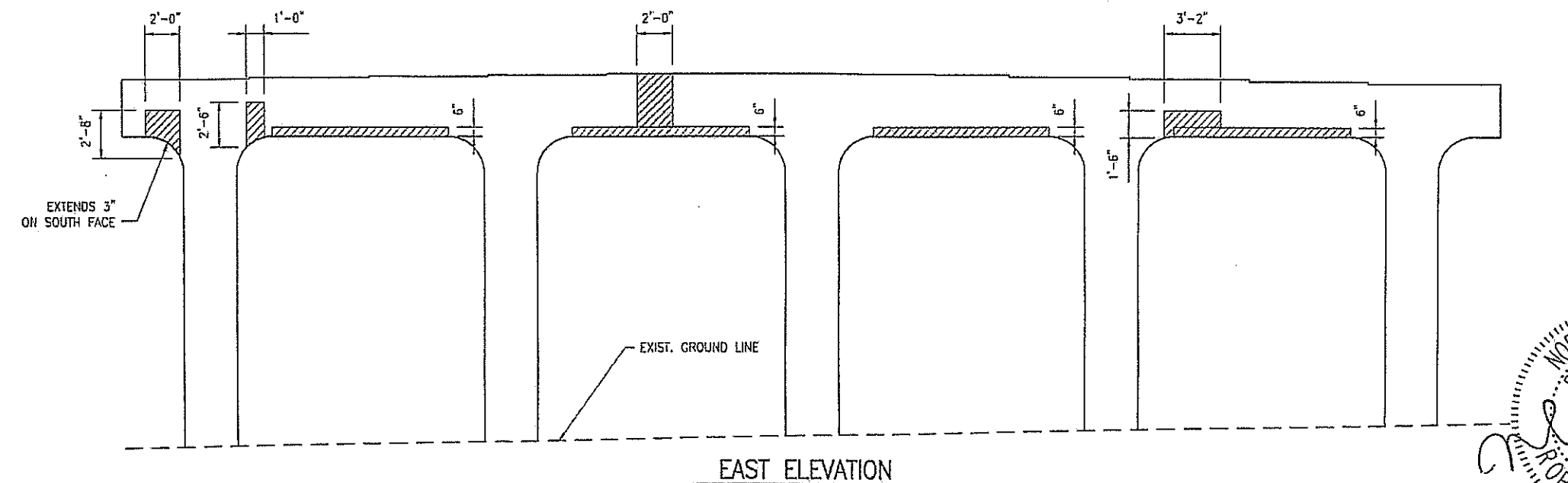
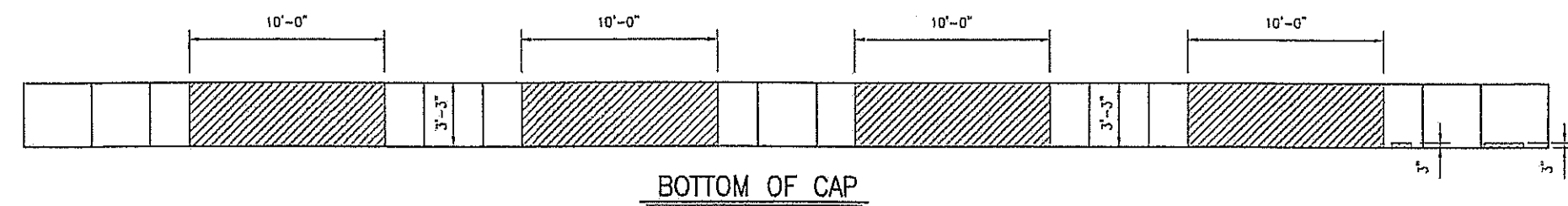
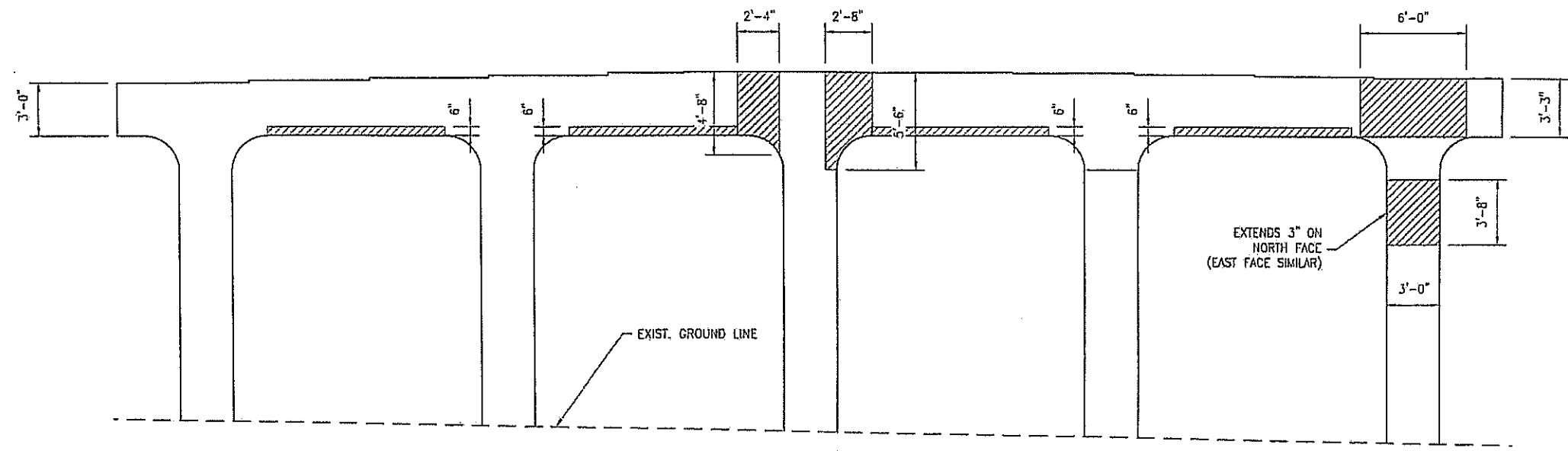
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REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23	
1			3			TOTAL SHEETS	
2			4			65	



AREA TO BE REPAIRED WITH SHOTCRETE. SEE DETAILS, SHEET S-22  
SEE THE SPECIAL PROVISION "SHOTCRETE REPAIRS."

ESTIMATED SHOTCRETE REPAIRS  
BENT 2 = 84 CF



PLAN PREPARED BY:

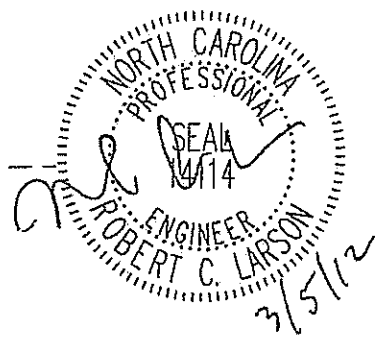


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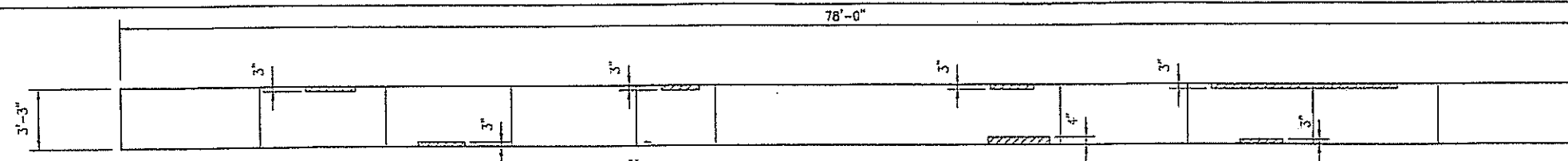
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DEPARTMENT OF TRANSPORTATION  
RALEIGH

CONCRETE CAP AND  
COLUMN REPAIRS  
BENT 2

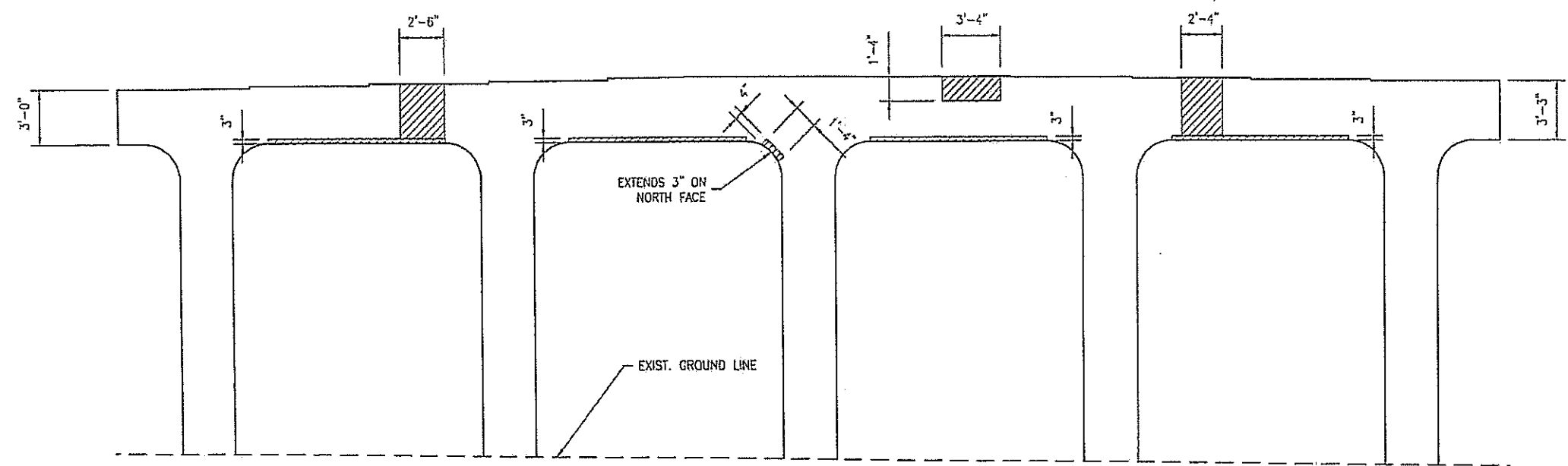


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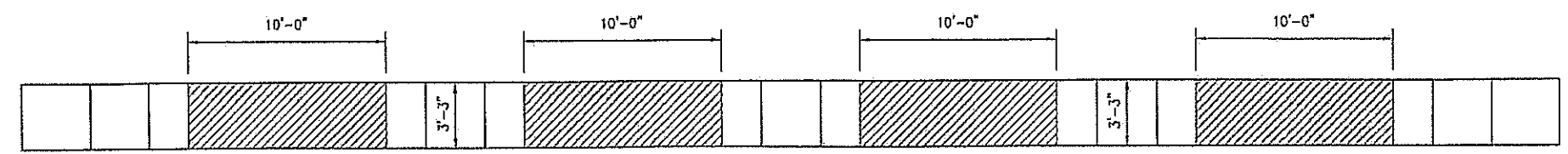
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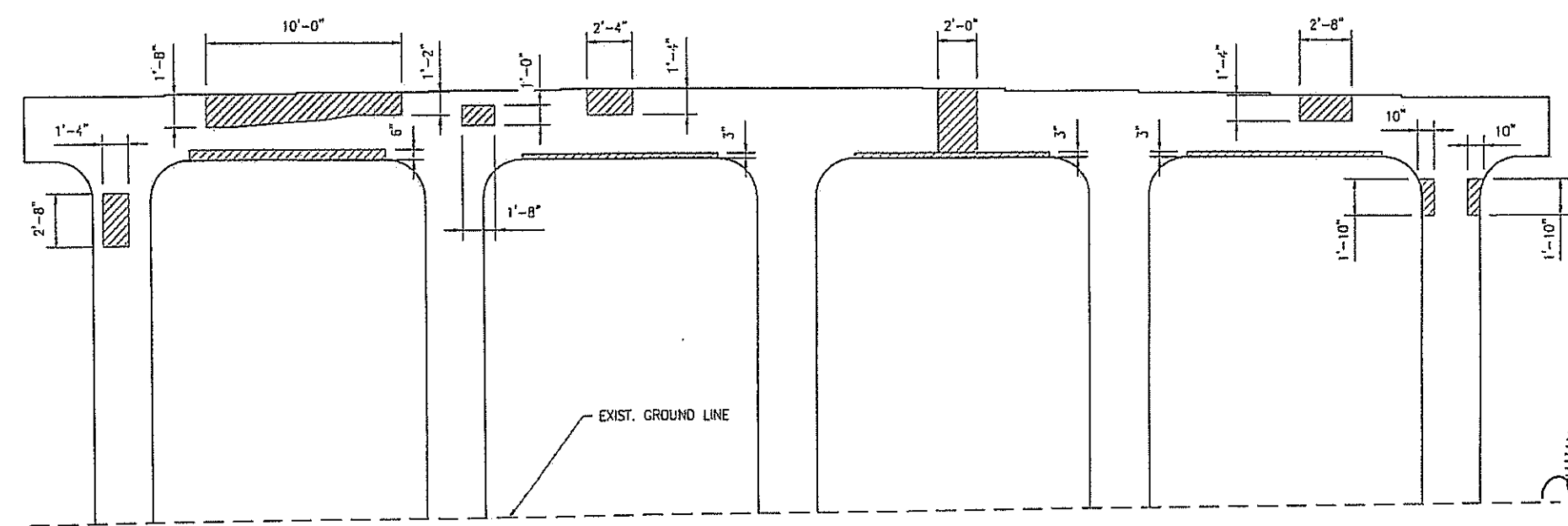
TOP OF CAP



WEST ELEVATION



BOTTOM OF CAP



EAST ELEVATION

AREA TO BE REPAIRED WITH SHOTCRETE. SEE DETAILS, SHEET S-22  
SEE THE SPECIAL PROVISION "SHOTCRETE REPAIRS."

ESTIMATED SHOTCRETE REPAIRS  
BENT 3 = 57 CF

PLAN PREPARED BY:

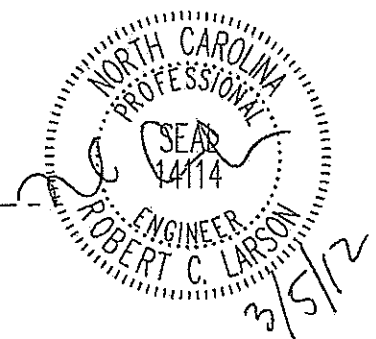


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DEPARTMENT OF TRANSPORTATION  
RALEIGH

CONCRETE CAP AND  
COLUMN REPAIRS  
BENT 3



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NO.	BY	DATE	NO.	BY	DATE	S-25
1			3			TOTAL SHEETS
2			4			65

## STANDARD NOTES

### 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 CUT TO OUT AS INDICATED ON PLANS.

WHERE 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 LESS 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. ELECTRODE 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. FINISH 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.

### 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 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OF THE 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 1-1/2" 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.

ENGLISH

JANUARY, 1990

STD. NO. SN