

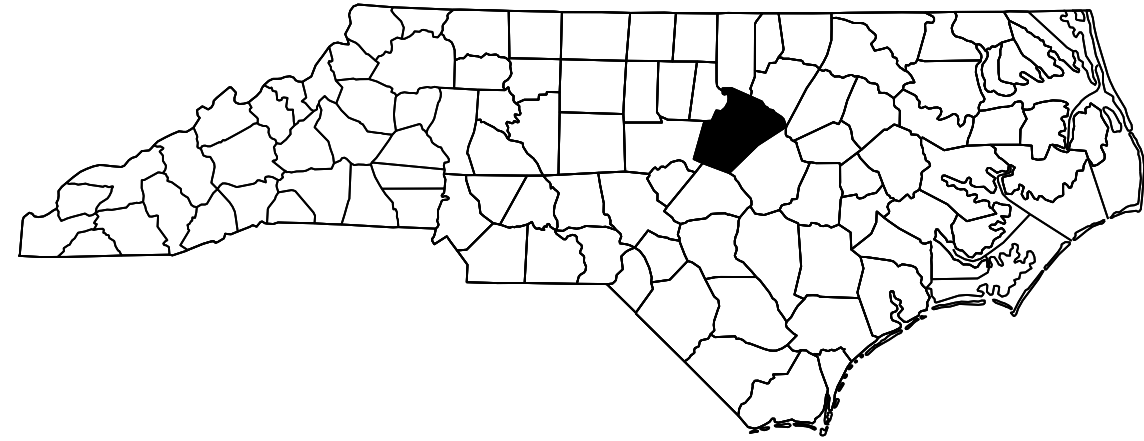
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PROJECT: I-5873

CONTRACT: C204277



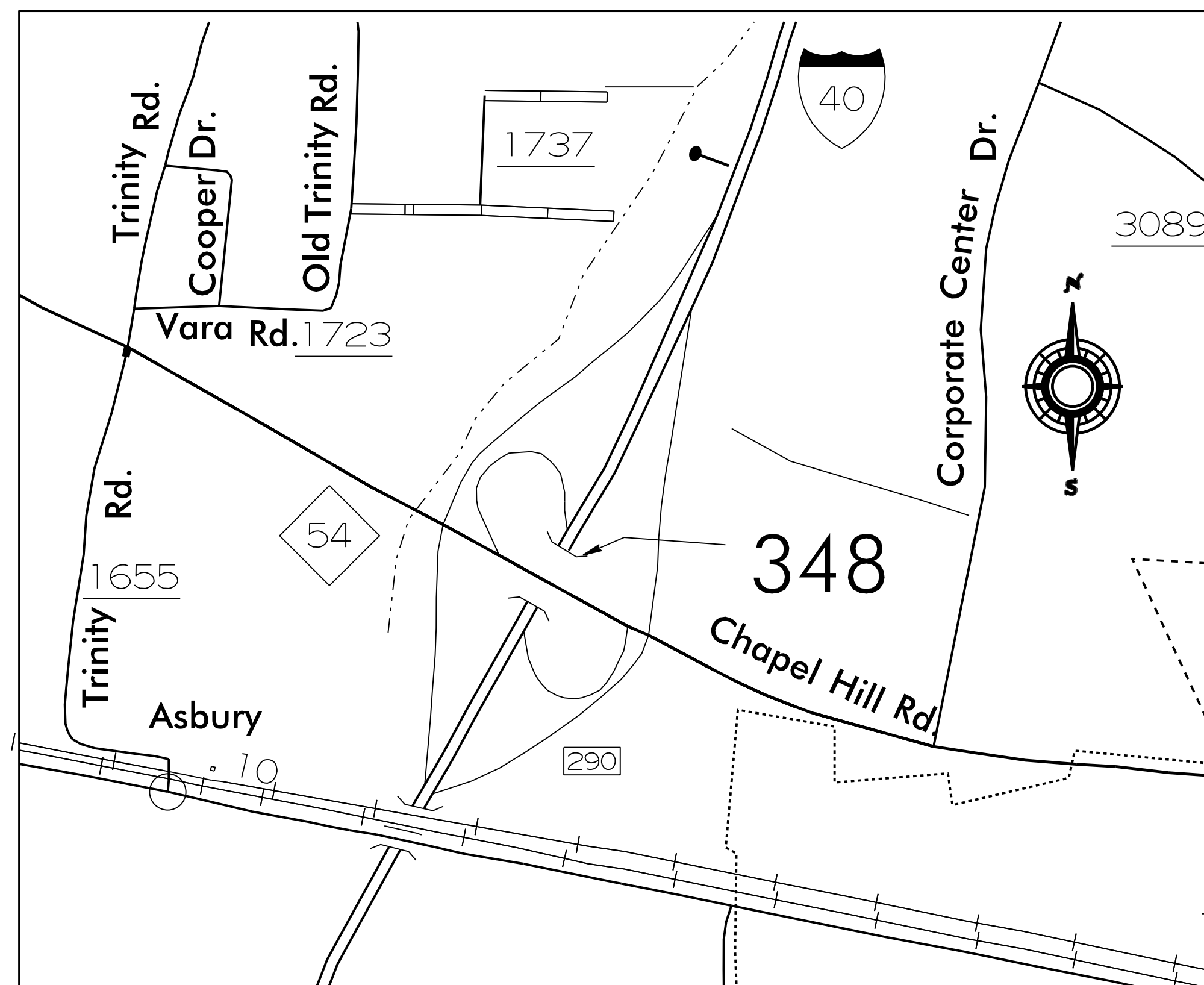
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

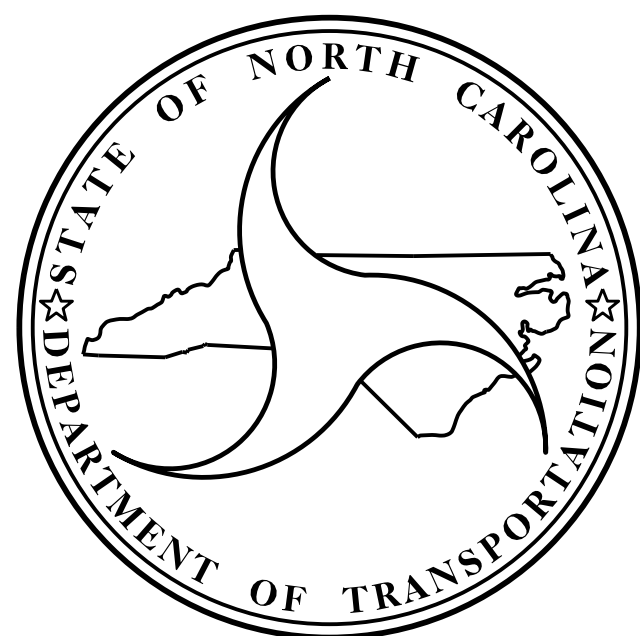
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5873		7
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
53074.1.1		P.E.	
53074.3.1		CONST.	

LOCATION: BRIDGE #348 ON NC 54 OVER I-40.

TYPE OF WORK: CONCRETE BRIDGE DECK REHABILITATION BY SCARIFICATION, SHOTBLASTING, AND PLACEMENT OF POLYESTER POLYMER CONCRETE; RECONSTRUCTION OF BRIDGE DECK JOINTS AND SEALS.



VICINITY MAP - WAKE CO.



DESIGN DATA

BRIDGE #348 ADT 2015 = 23,000

PROJECT LENGTH

BRIDGE #348 = 0.049 MILES

Prepared in the Office of:
**DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**
STRUCTURES MANAGEMENT UNIT - PRESERVATION & REPAIR GROUP
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

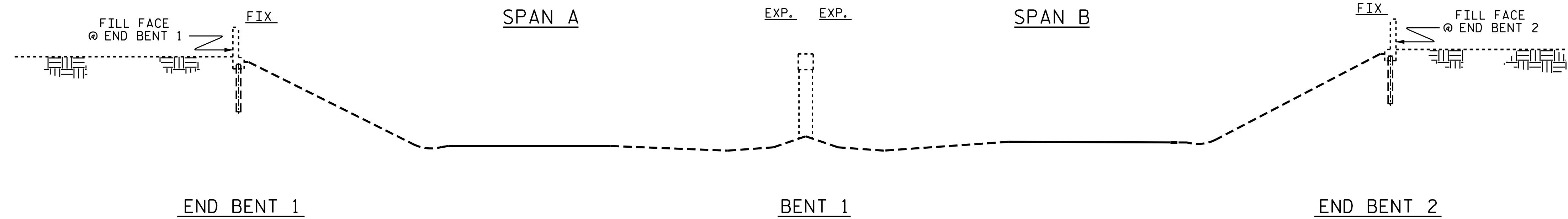
Kristy L. W. Alford, P.E.
PROJECT ENGINEER

2018 STANDARD SPECIFICATIONS

LETTING DATE:
January 15, 2019

SCOPE OF WORK

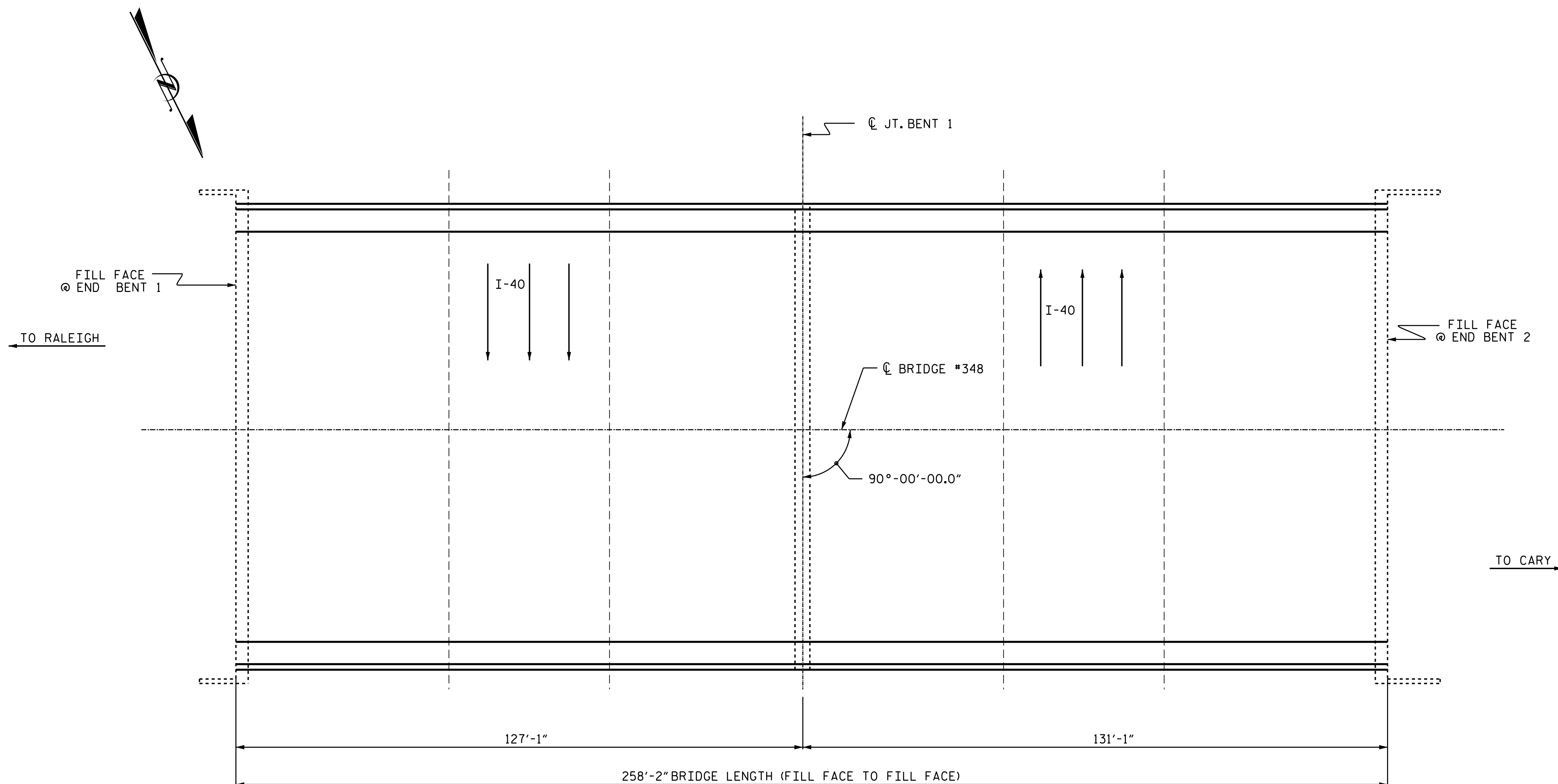
- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- PERFORM DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL SILICONE JOINT SEALS.
- GROOVE POLYESTER POLYMER CONCRETE.
- MILLING.
- PAVING.



ELEVATION
(SECTION ALONG C BRIDGE)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

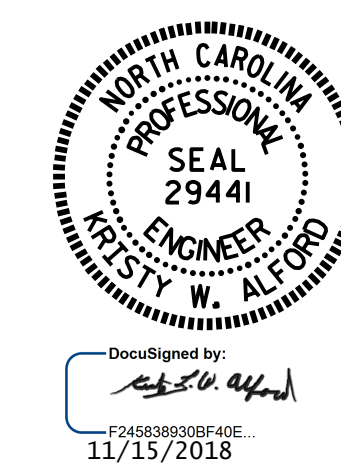
Resident Engineer _____ Date _____



PLAN
(COLUMNS & FOOTINGS NOT SHOWN IN PLAN FOR CLARITY)

PROJECT NO. I-5873
WAKE COUNTY
 BRIDGE NO. 348

SHEET 1 OF 2

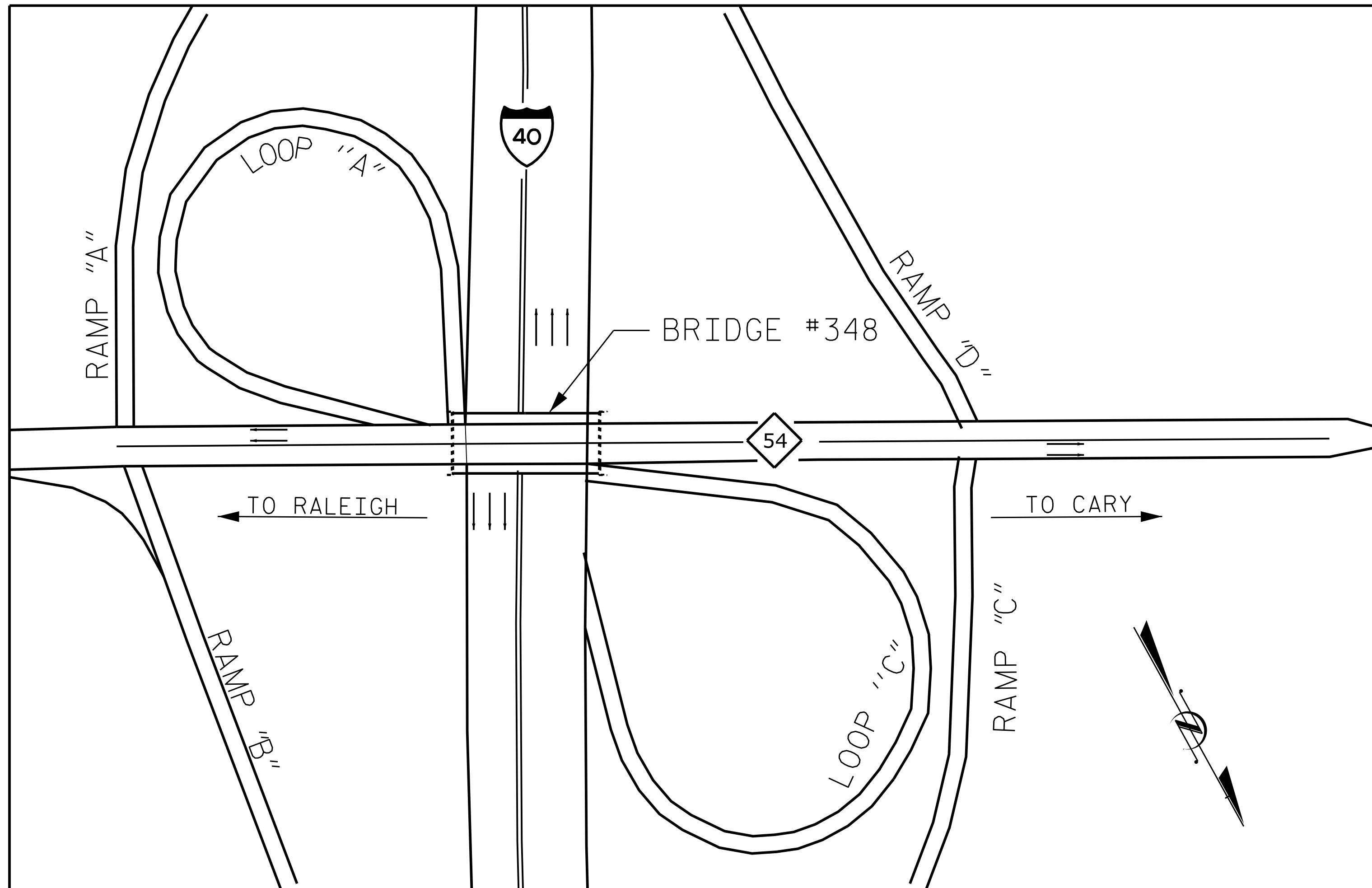


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER I-40
 ON NC 54 (CHAPEL HILL RD.)
 BETWEEN SR 1656
 (TRINITY RD.) AND SR 1656
 (NOWELL RD.)

DRAWN BY : S. T. SANDOR DATE : 08/2018
 CHECKED BY : W. C. SMITH DATE : 08/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			7



LOCATION SKETCH

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

NOTES:

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING THE BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR POLYESTER POLYMER CONCRETE OVERLAY, POLYESTER POLYMER CONCRETE MATERIALS AND PLACING AND FINISHING POLYESTER POLYMER CONCRETE OVERLAY, SEE "POLYESTER POLYMER CONCRETE BRIDGE DECK OVERLAY" SPECIAL PROVISION.

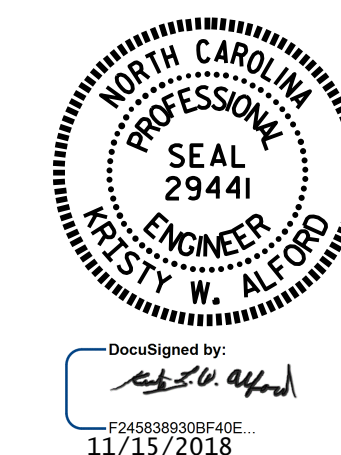
FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE "OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE" SPECIAL PROVISION.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL											
BRIDGE NO.	INCIDENTAL MILLING	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	ASPHALT BINDER FOR PLANT MIX	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	POURABLE SILICONE JOINT SEALANT	POLYESTER POLYMER CONCRETE MATERIALS	CONCRETE DECK REPAIRS FOR POLYESTER POLYMER CONCRETE OVERLAY	PLACING AND FINISHING POLYESTER POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK
	SO. YDS.	TON	TON	SO. FT.	SO. YDS.	LIN. FT.	CU. YDS.	SO. YDS.	SO. YDS.	SO. YDS.	SO. YDS.
348	845.0	68.9	4.1	19,125.0	6.4	313.5	65.5	6.4	2,356.0	2,356.0	2,356.0
TOTAL	845.0	68.9	4.1	19,125.0	6.4	313.5	65.5	6.4	2,356.0	2,356.0	2,356.0

PROJECT NO. I-5873
WAKE COUNTY
 BRIDGE NO. 348

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER I-40
 ON NC 54 (CHAPEL HILL RD.)
 BETWEEN SR 1656
 (TRINITY RD.) AND SR 1656
 (NOWELL RD.)

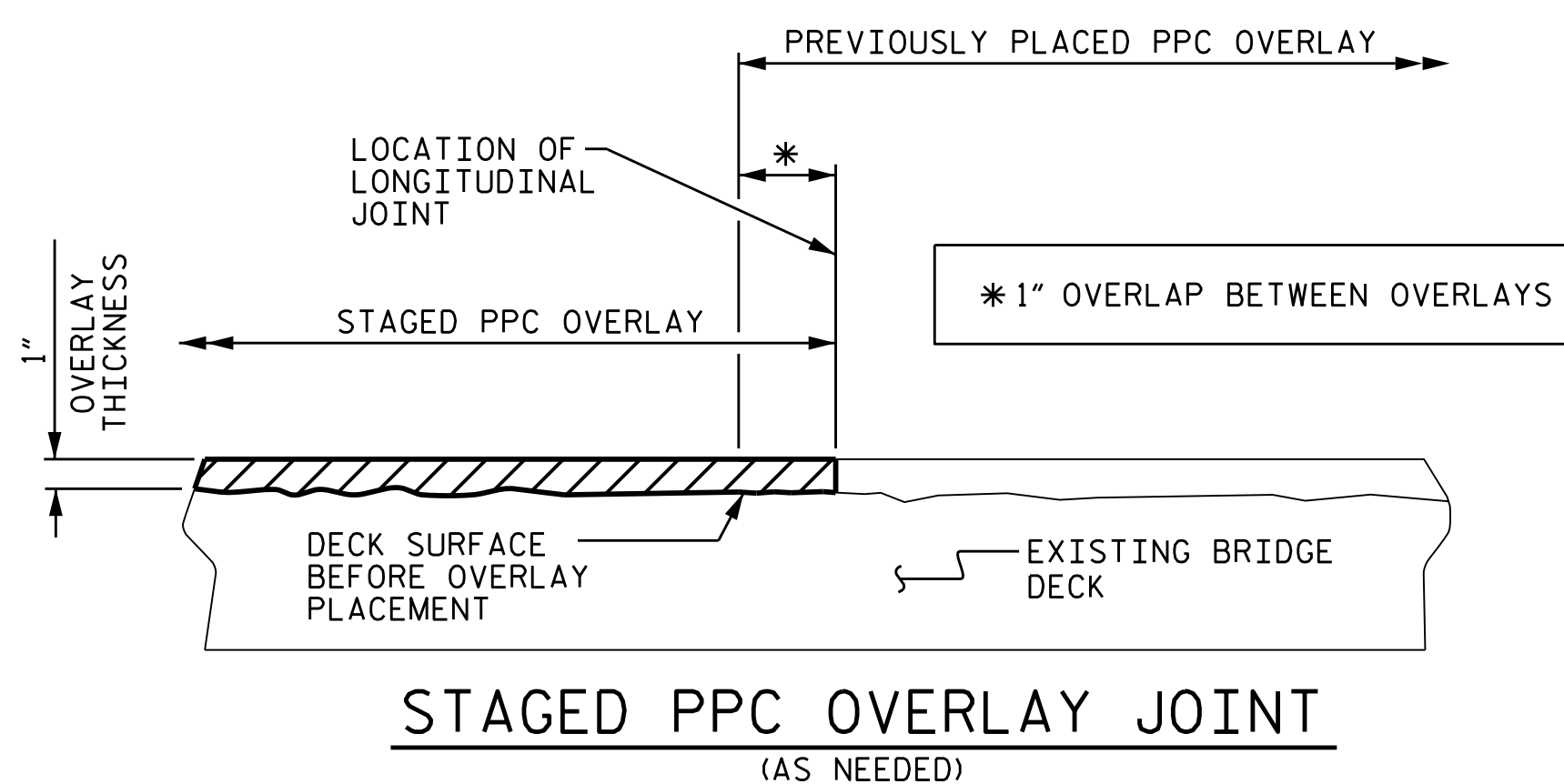
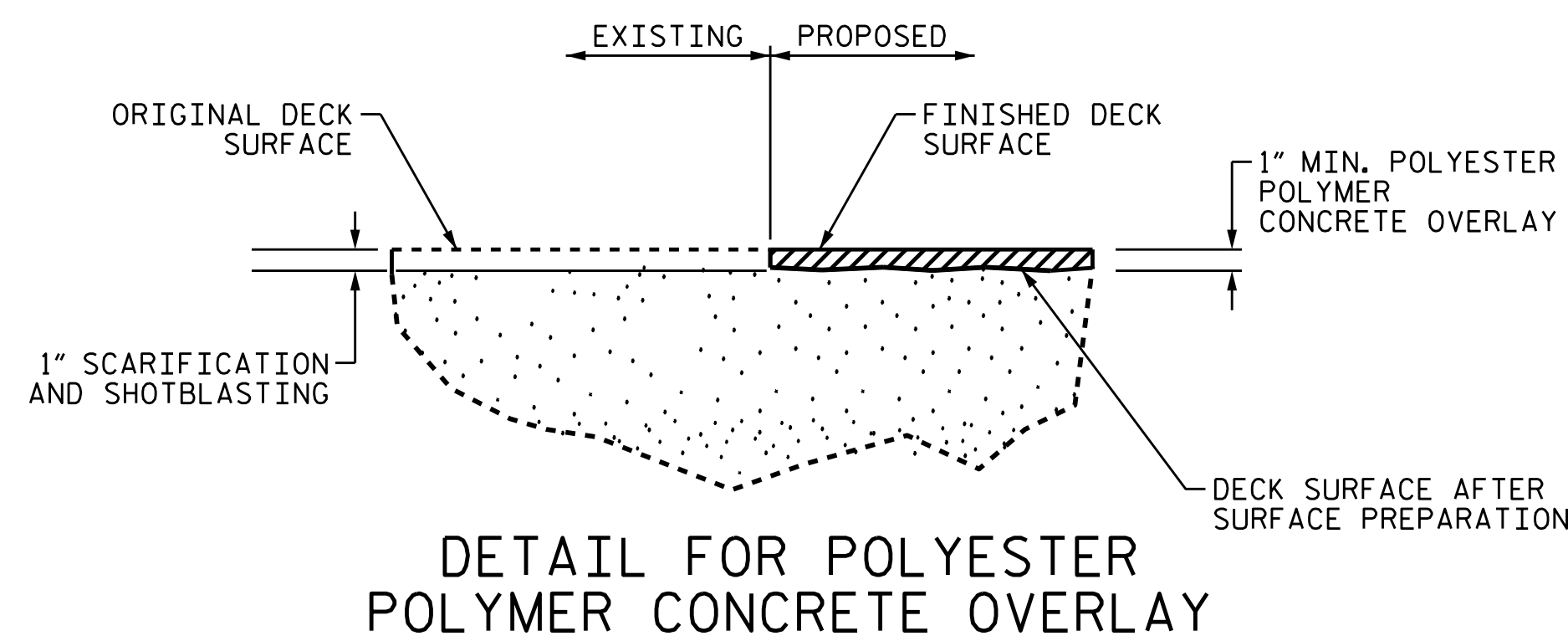
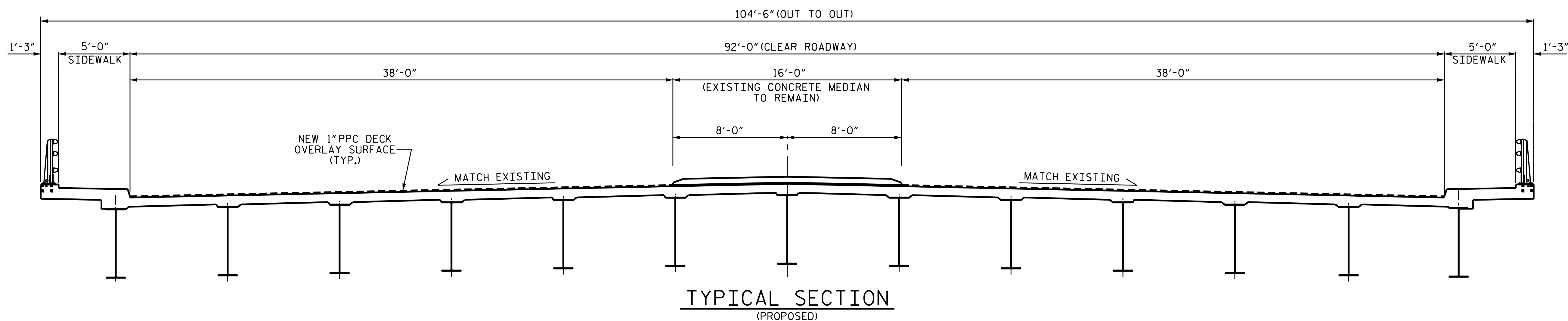
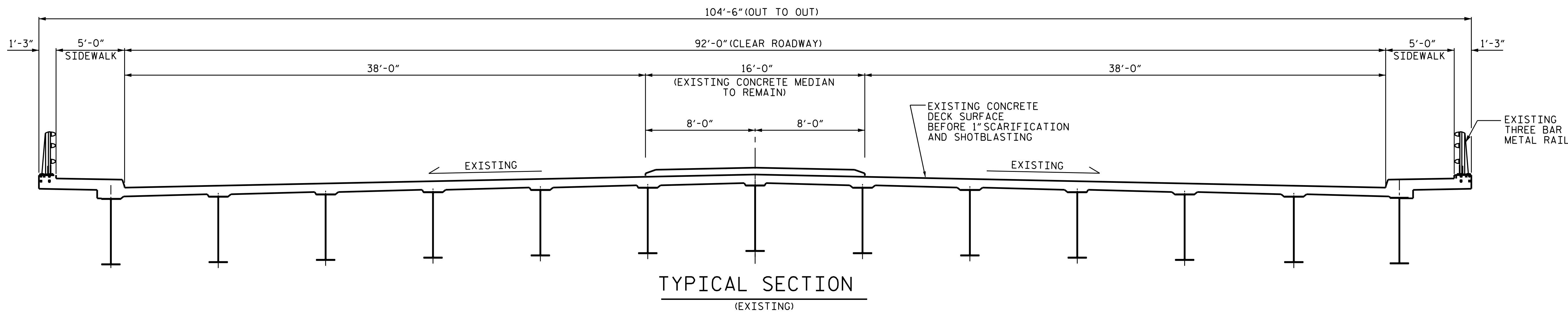
DRAWN BY : S. T. SANDOR DATE : 8/18
 CHECKED BY : W. C. SMITH DATE : 8/18

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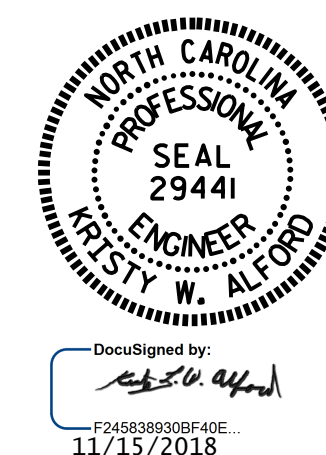
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			7

NOTES

SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYESTER POLYMER CONCRETE (PPC) SYSTEM AND SURFACE PREPARATION.



PROJECT NO. I-5873
 WAKE COUNTY
 BRIDGE NO. 348



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
 TYPICAL SECTION
 & PPC OVERLAY
 DETAILS

DRAWN BY : S. T. SANDOR DATE : 08/2018
 CHECKED BY : W. C. SMITH DATE : 08/2018

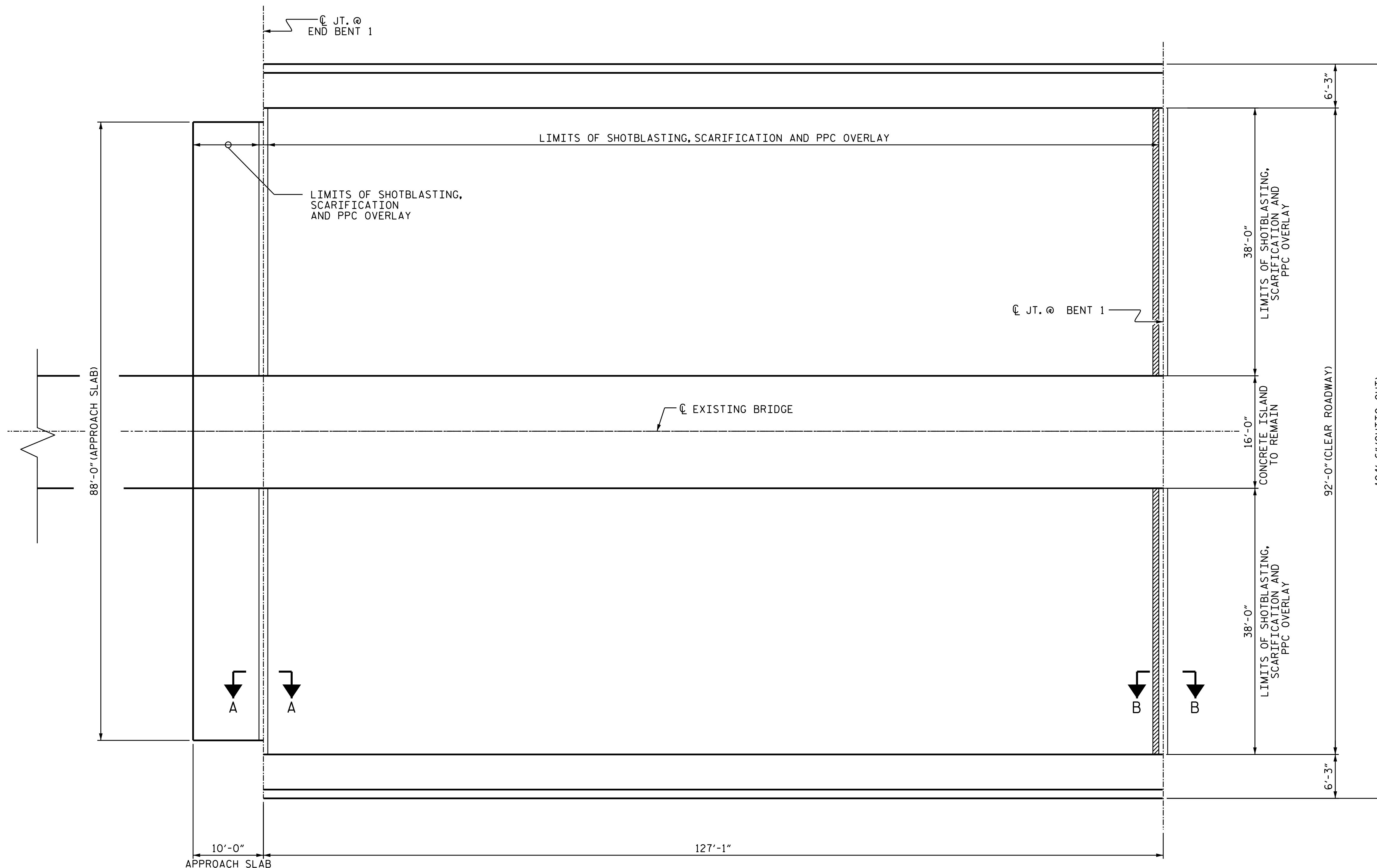
DOCUMENT NOT CONSIDERED
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-3
2			4			7

SUMMARY OF QUANTITIES

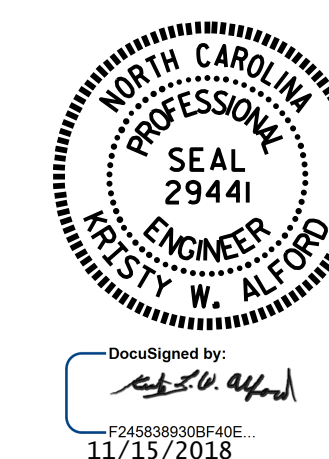
SPAN A & APPROACH SLAB 1

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,161.0 SY	
CLASS II SURFACE PREPARATION	3.2 SY	
SHOTBLASTING BRIDGE DECK	1,161.0 SY	
POLYSTER POLYMER CONCRETE MATERIALS	32.3 CY	
PLACING & FINISHING PPC OVERLAY	1,161.0 SY	
BRIDGE DECK GROOVING	9,500.0 SF	
CONCRETE DECK REPAIRS FOR PPC OVERLAY	3.2 SY	



- PPC OVERLAY
- CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIRS FOR PPC OVERLAY

PROJECT NO. I-5873
WAKE COUNTY
 BRIDGE No. 348



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY
-SPAN A-

PLAN OF SPAN A
 (FOR SECTIONS A-A AND B-B SEE
 "JOINT DETAILS" SHEET S-8)

DRAWN BY : S. T. SANDOR DATE : 08/2018
 CHECKED BY : W. C. SMITH DATE : 08/2018

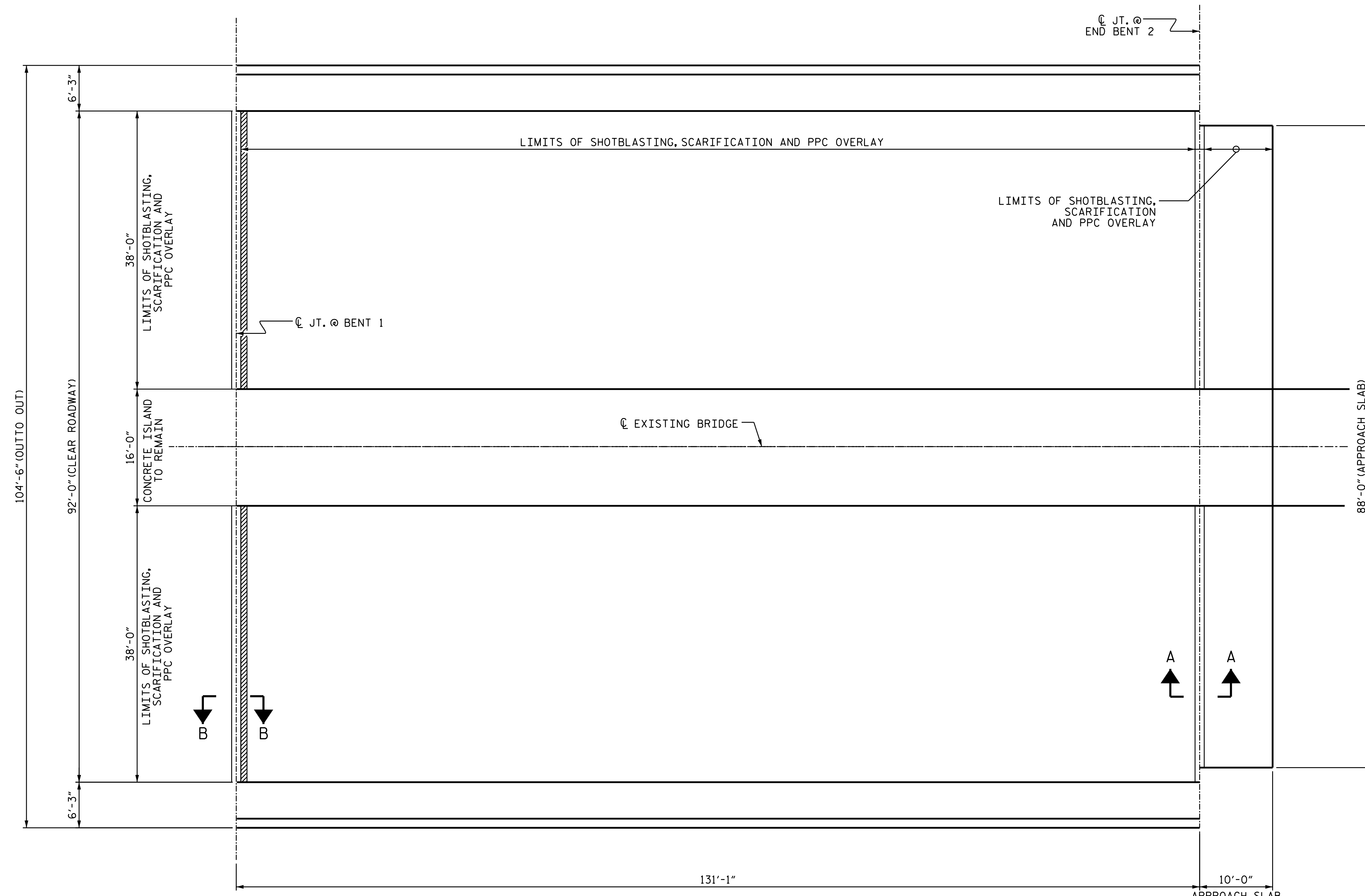
DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-4
2			4			7

SUMMARY OF QUANTITIES

SPAN B & APPROACH SLAB 2

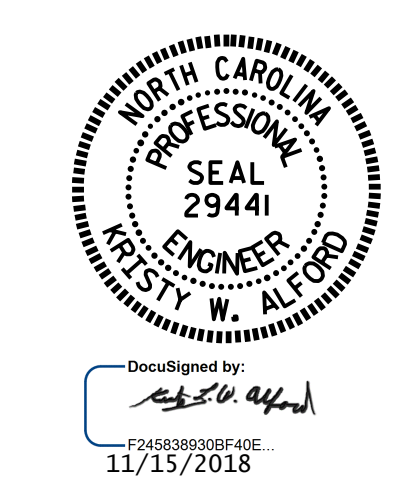
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,195.0 SY	
CLASS II SURFACE PREPARATION	3.2 SY	
SHOTBLASTING BRIDGE DECK	1,195.0 SY	
POLYSTER POLYMER CONCRETE MATERIALS	33.2 CY	
PLACING & FINISHING PPC OVERLAY	1,195.0 SY	
BRIDGE DECK GROOVING	9,625.0 SF	
CONCRETE DECK REPAIRS FOR PPC OVERLAY	3.2 SY	



PPC OVERLAY
 CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIRS FOR PPC OVERLAY

PLAN OF SPAN B
 (FOR SECTIONS A-A AND B-B SEE "JOINT DETAILS" SHEET S-8)

PROJECT NO. I-5873
WAKE COUNTY
 BRIDGE No. 348

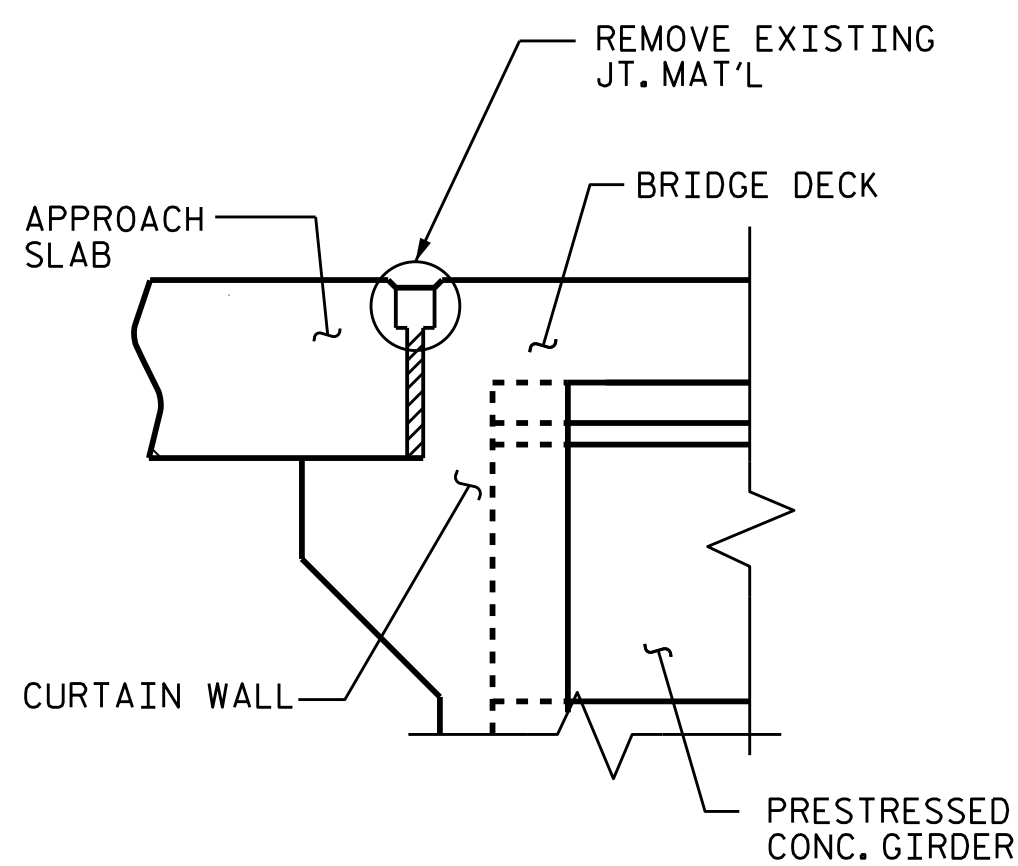


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUPERSTRUCTURE
SURFACE PREPARATION
& PPC OVERLAY
-SPAN B-

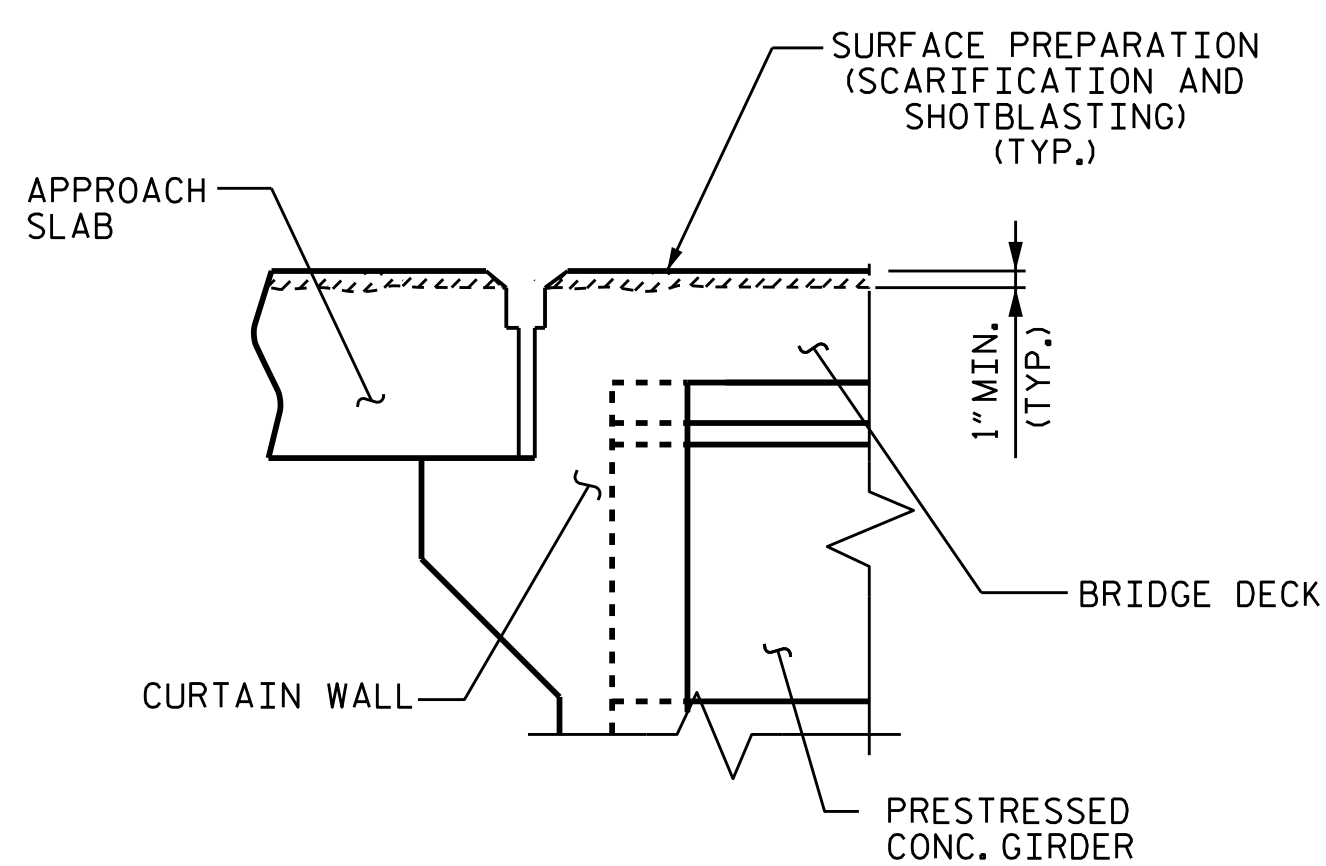
DRAWN BY : S. T. SANDOR DATE : 08/2018
 CHECKED BY : W. C. SMITH DATE : 08/2018

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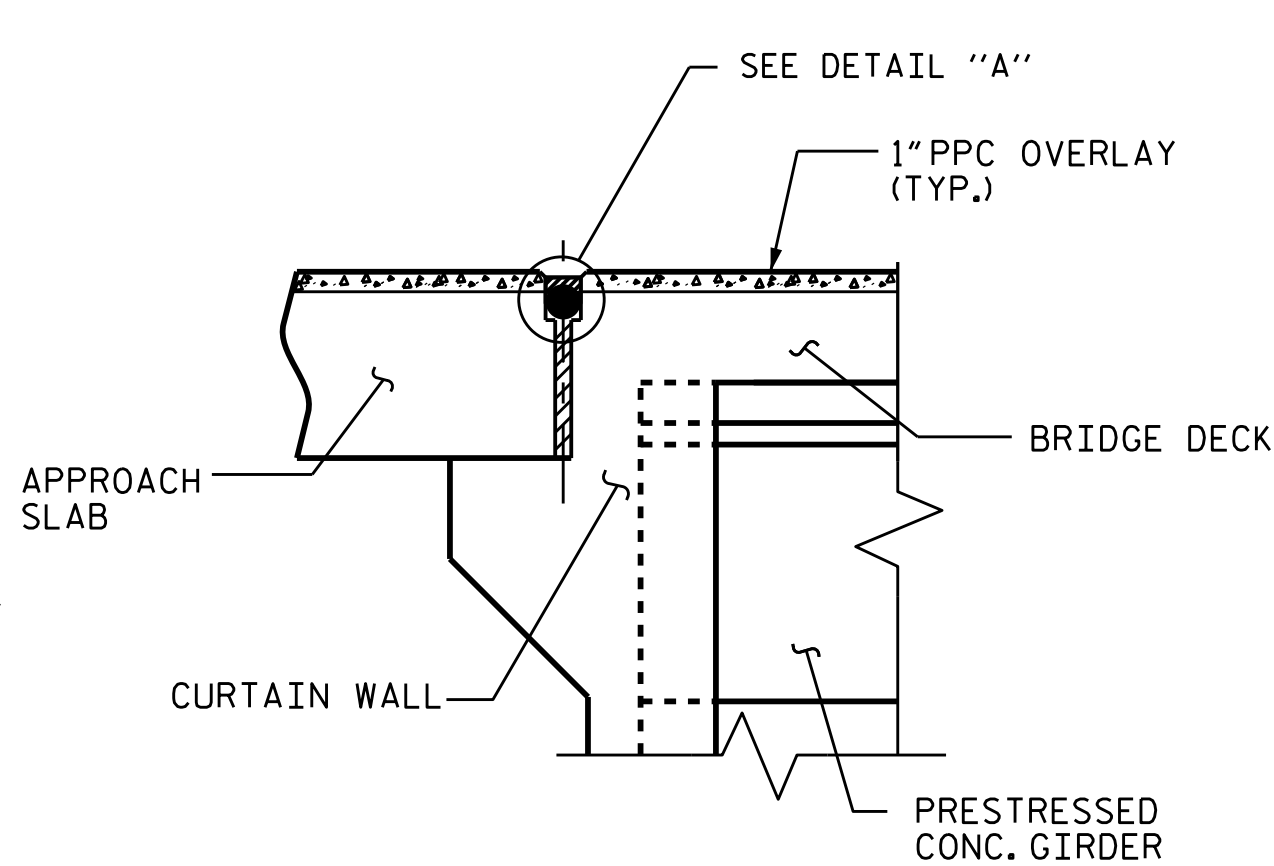
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			7



EXISTING JOINT



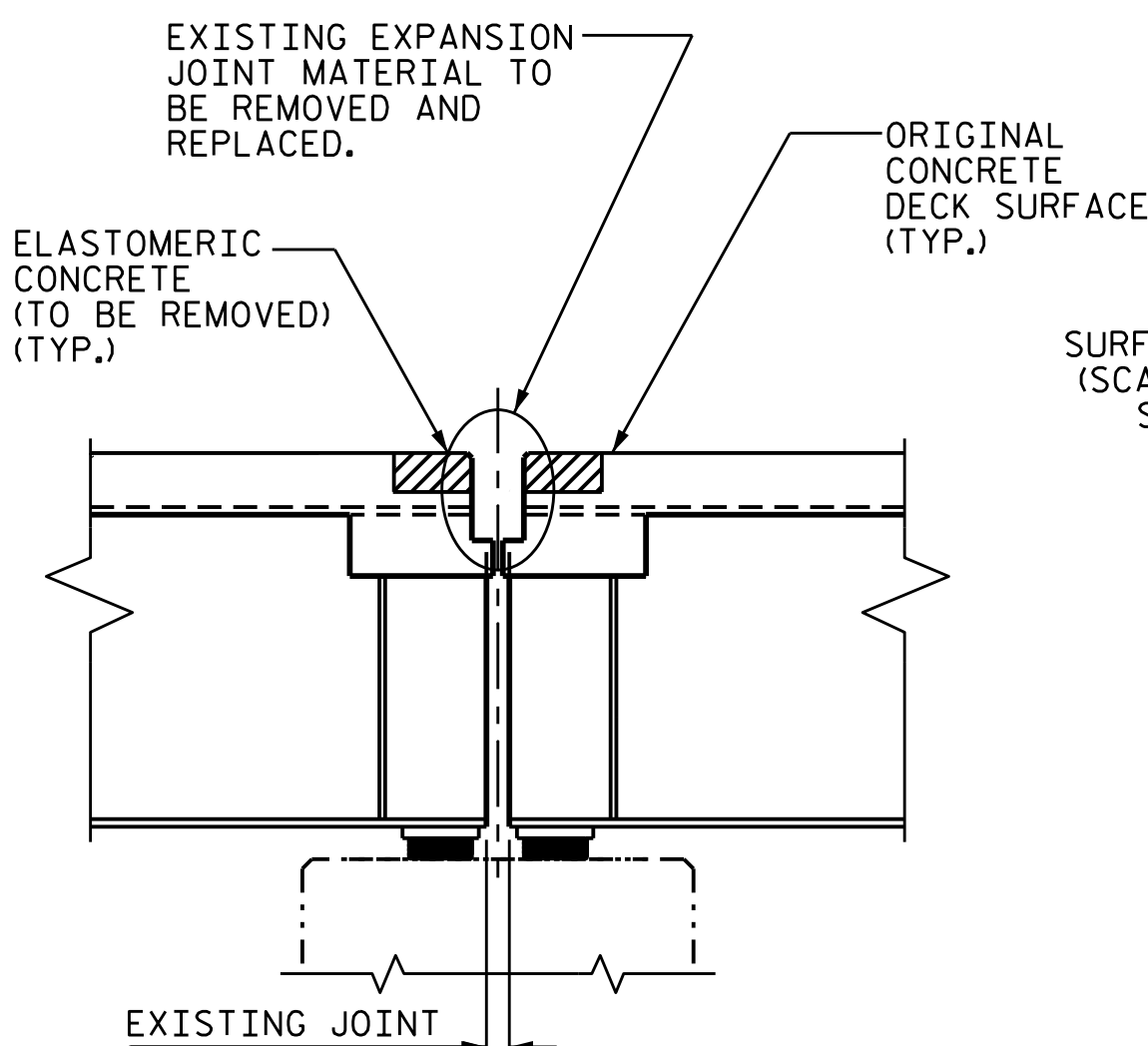
MINIMUM EXISTING JOINT REMOVAL



PROPOSED JOINT

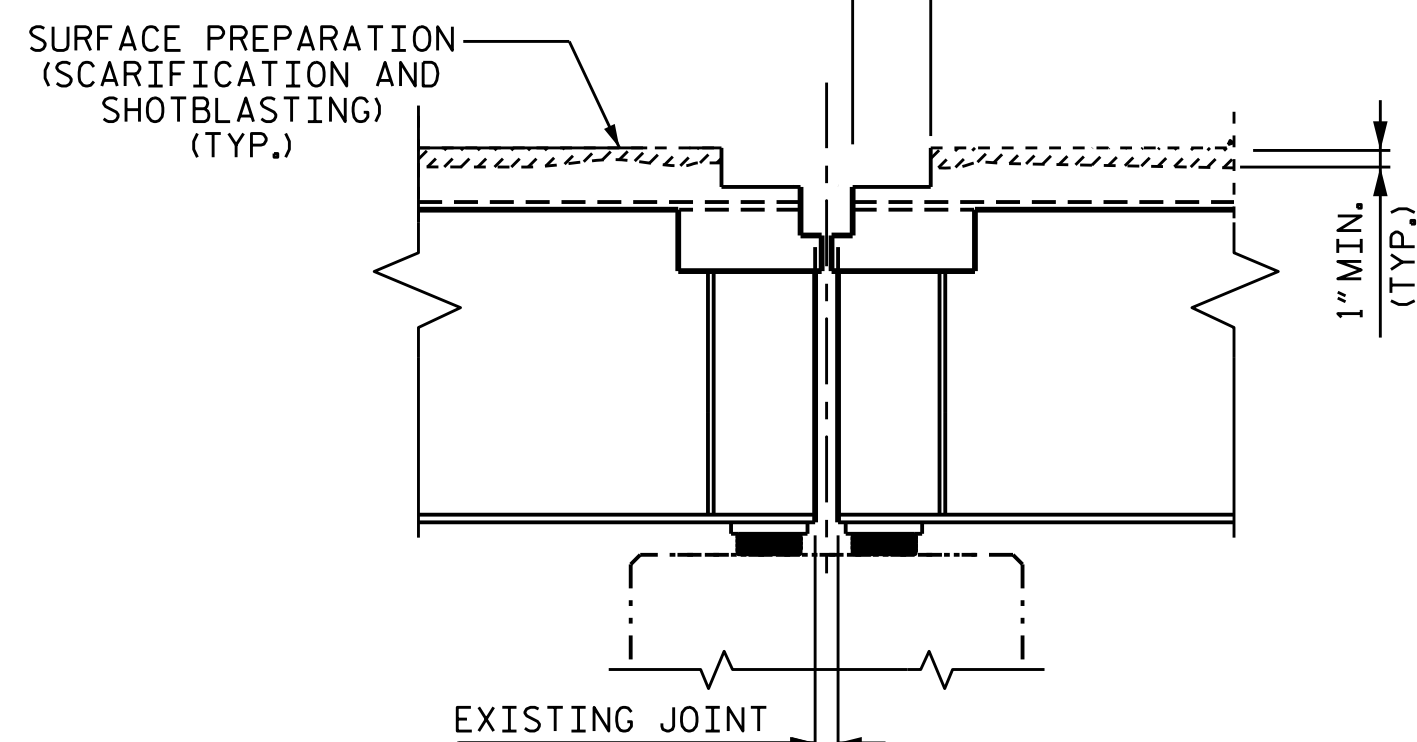
JOINT INSTALLATION SEQUENCE AT END BENTS

SECTION A-A

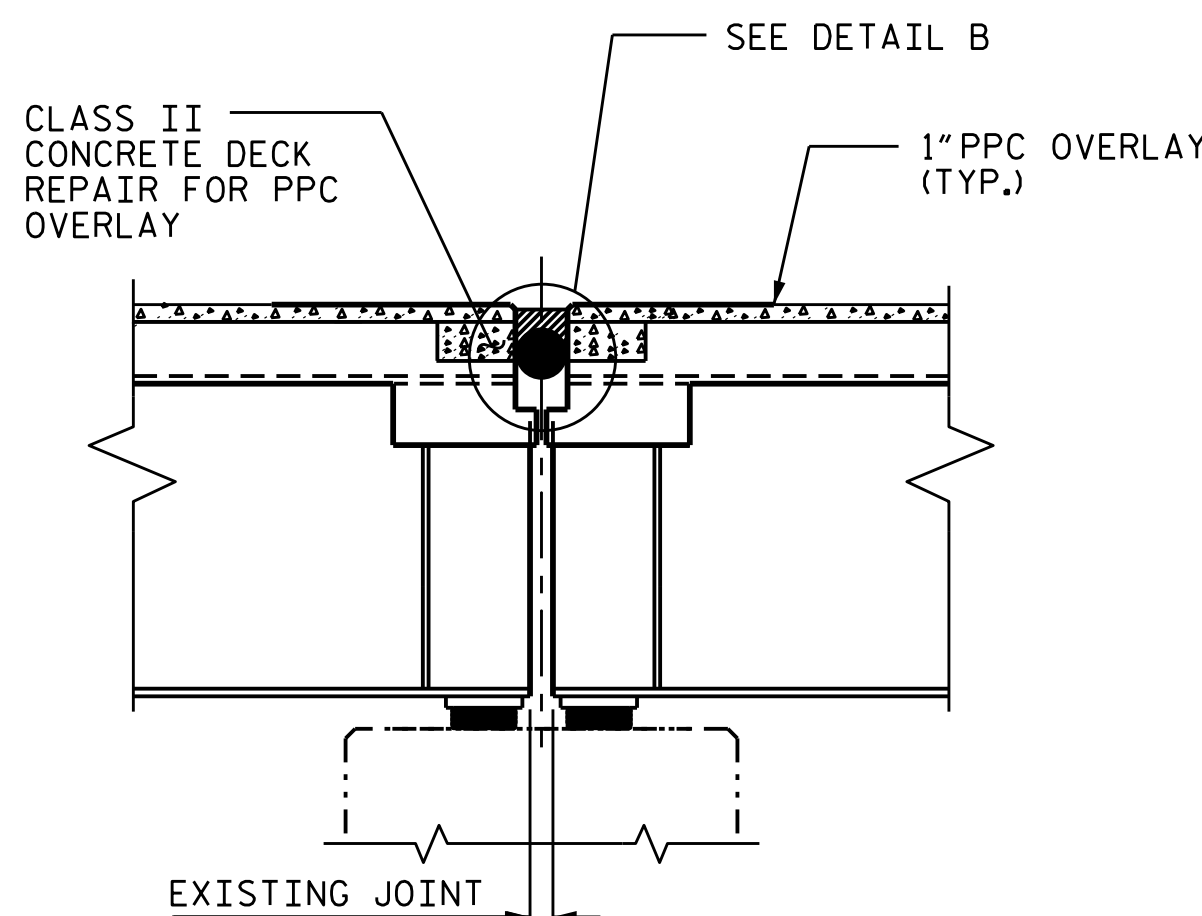


EXISTING JOINT

* CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PPC OVERLAY.

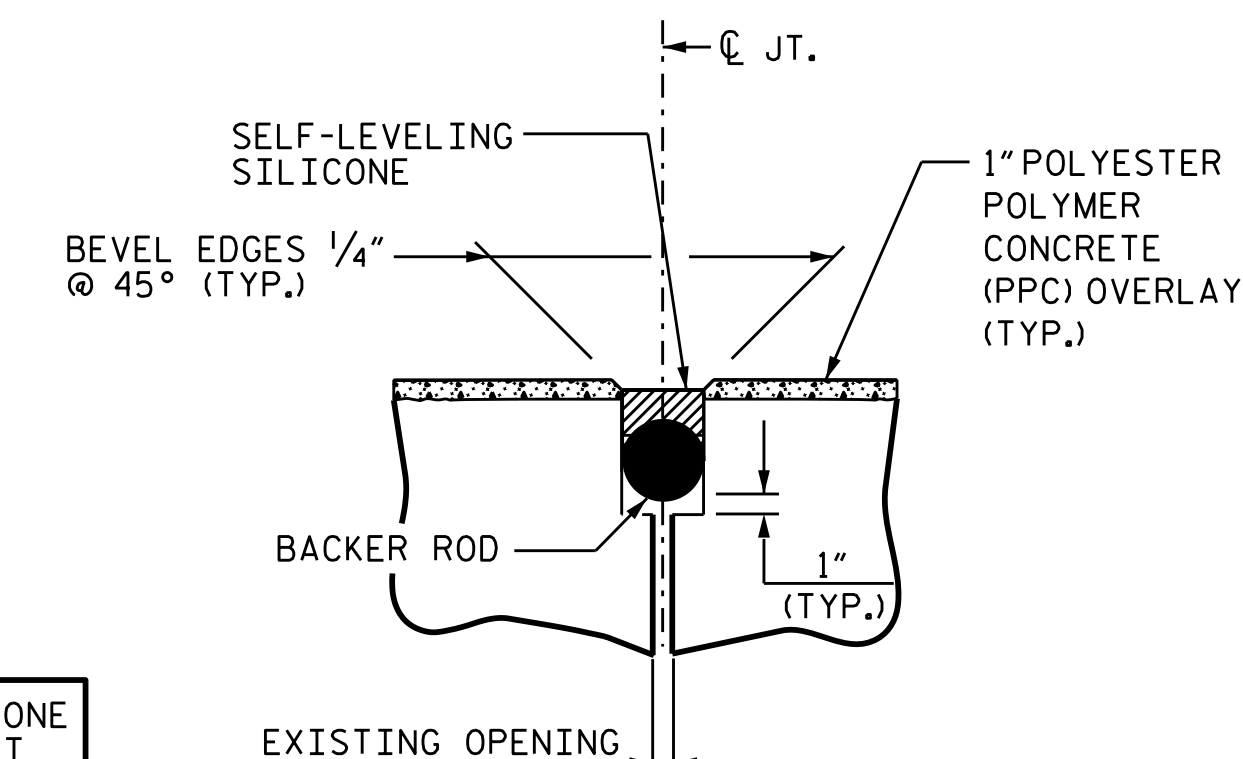


MINIMUM EXISTING JOINT REMOVAL

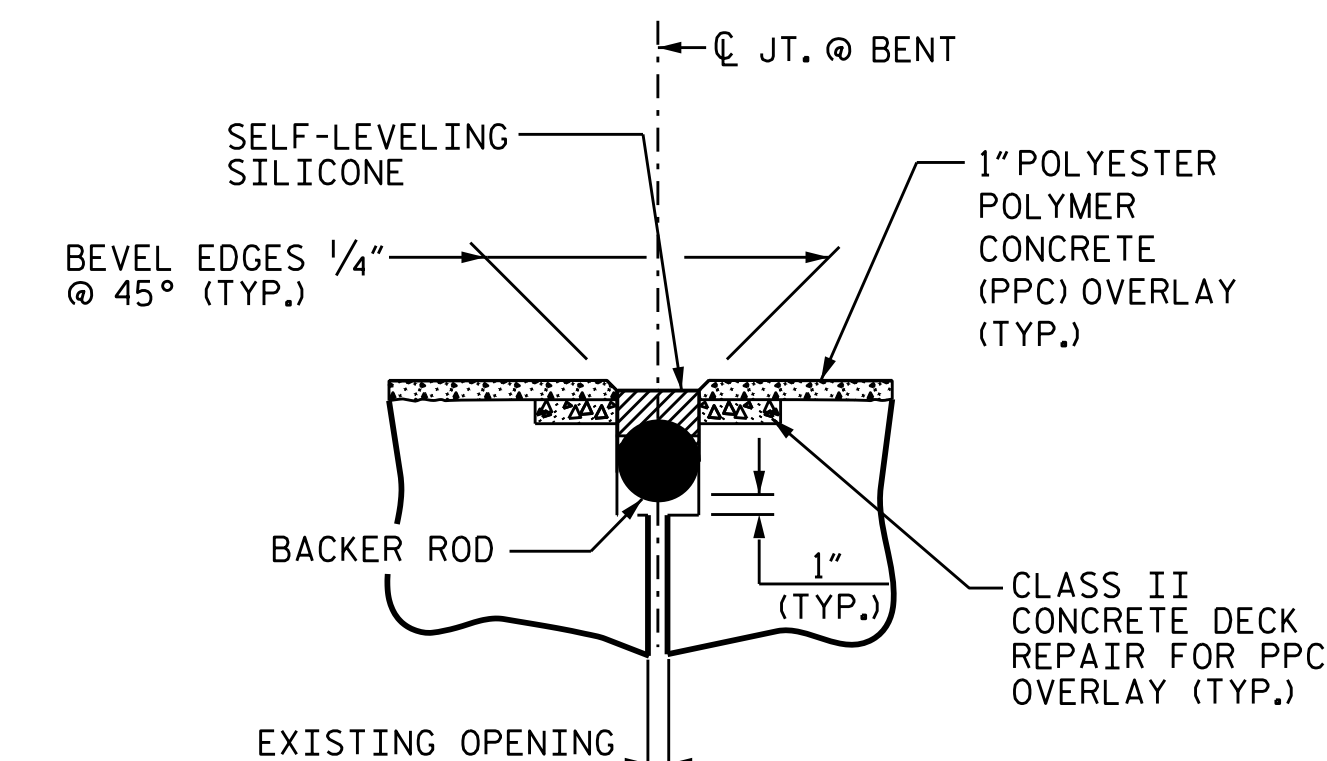


PROPOSED JOINT

EXISTING BRIDGE JOINT REMOVAL	POURABLE SILICONE JOINT SEALANT
LIN. FT.	LIN. FT.
313.5	313.5



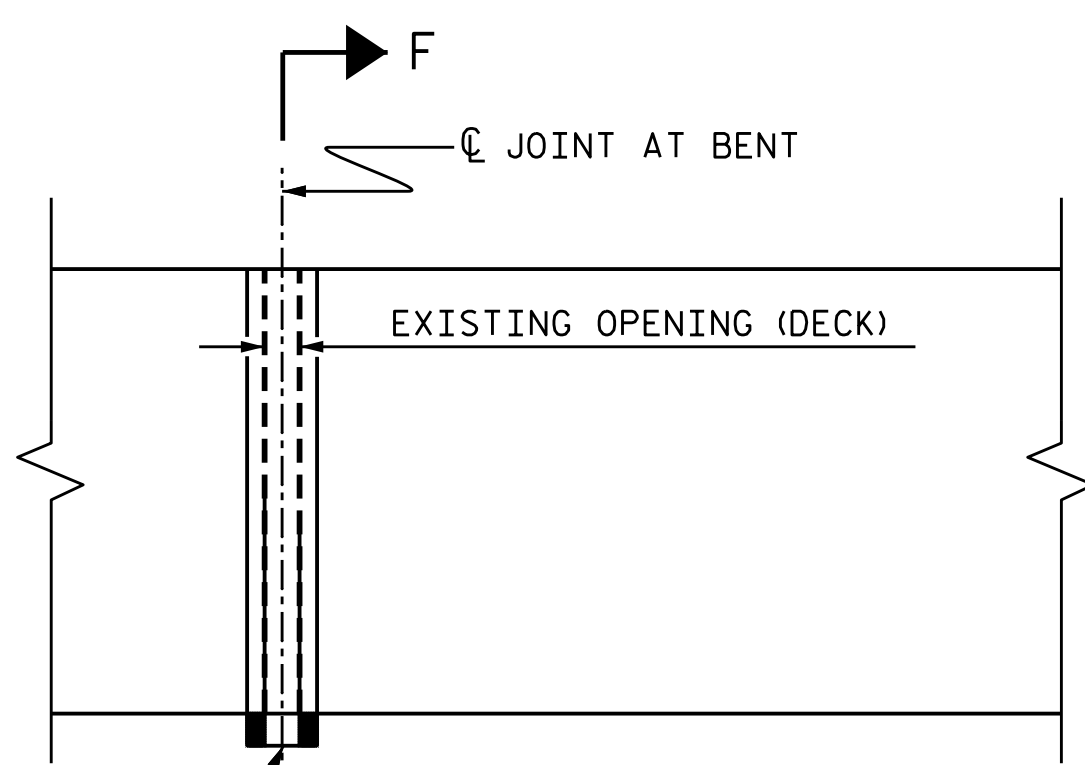
DETAIL A (PROPOSED)



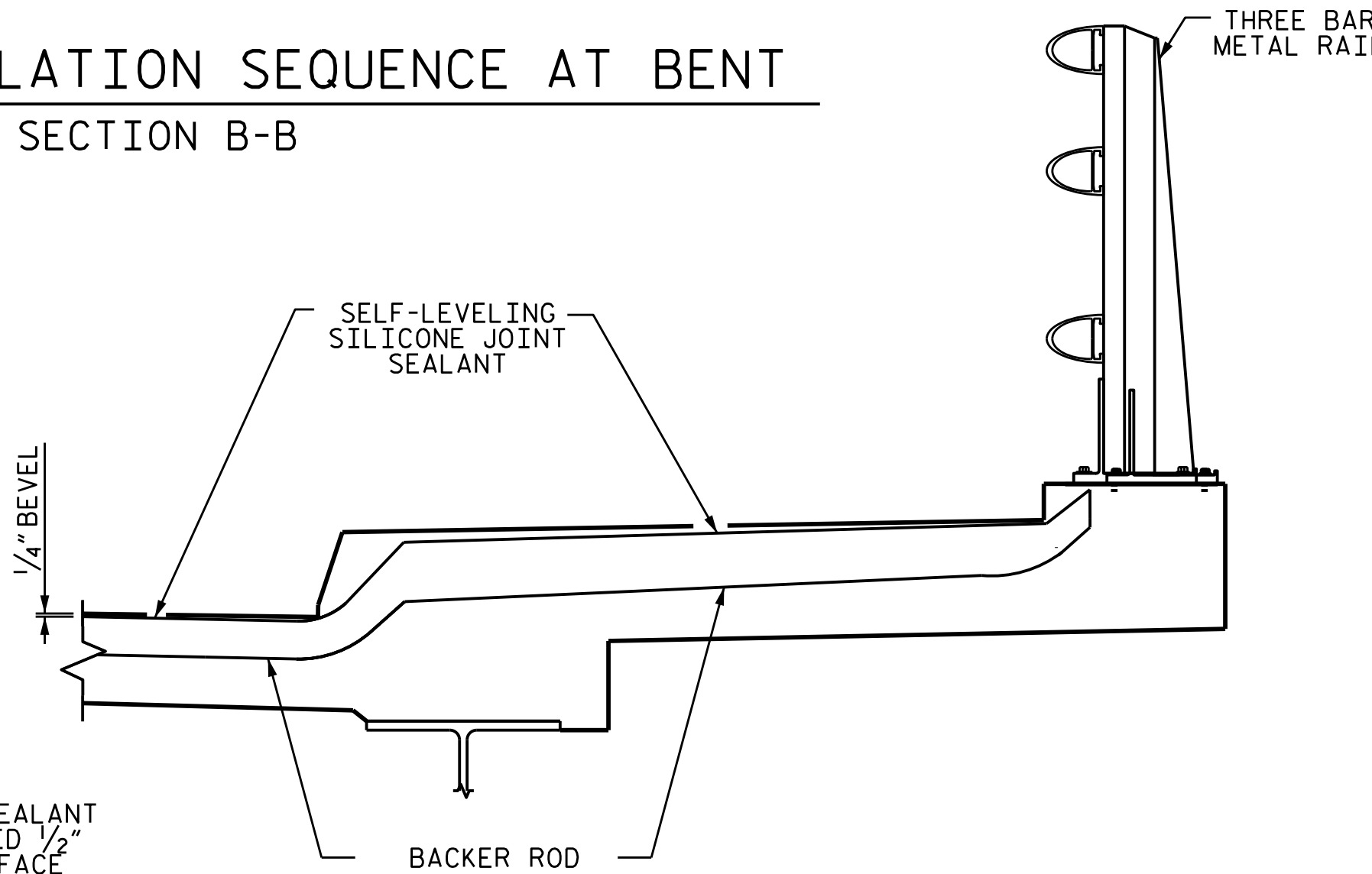
DETAIL B (PROPOSED)

JOINT INSTALLATION SEQUENCE AT BENT

SECTION B-B



PLAN



SECTION F-F

SILICONE JOINT SEALANT SHALL BE RECESSED 1/2" BELOW DECK SURFACE

PROVIDE WATERTIGHT SEAL AT END OF SILICONE JOINT SEAL AS RECOMMENDED BY MANUFACTURER

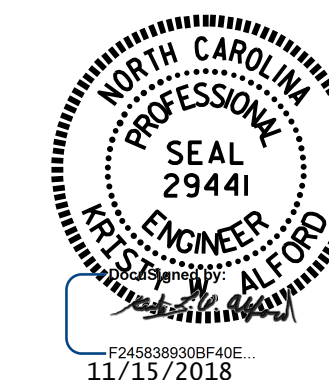
NOTES:

- CONTRACTOR SHALL FIELD VERIFY THE EXISTING FORMED OPENING PRIOR TO OBTAINING JOINT MATERIAL.
- UNLESS NOTED OTHERWISE RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.
- SILICONE JOINT SEALANT SHALL BE RECESSED 1/2" BELOW DECK SURFACE.
- SILICONE JOINT SEALANT AND BACKER ROD SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.
- FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.
- THE INSTALLED SILICONE JOINT SEALANT SHALL BE WATER TIGHT.
- THE SILICONE JOINT SEALANT SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
- THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.
- EXISTING BRIDGE JOINT REMOVAL SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THIS REMOVAL.

PROJECT NO. I-5873
 WAKE COUNTY
 BRIDGE NO. 348

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 JOINT DETAILS



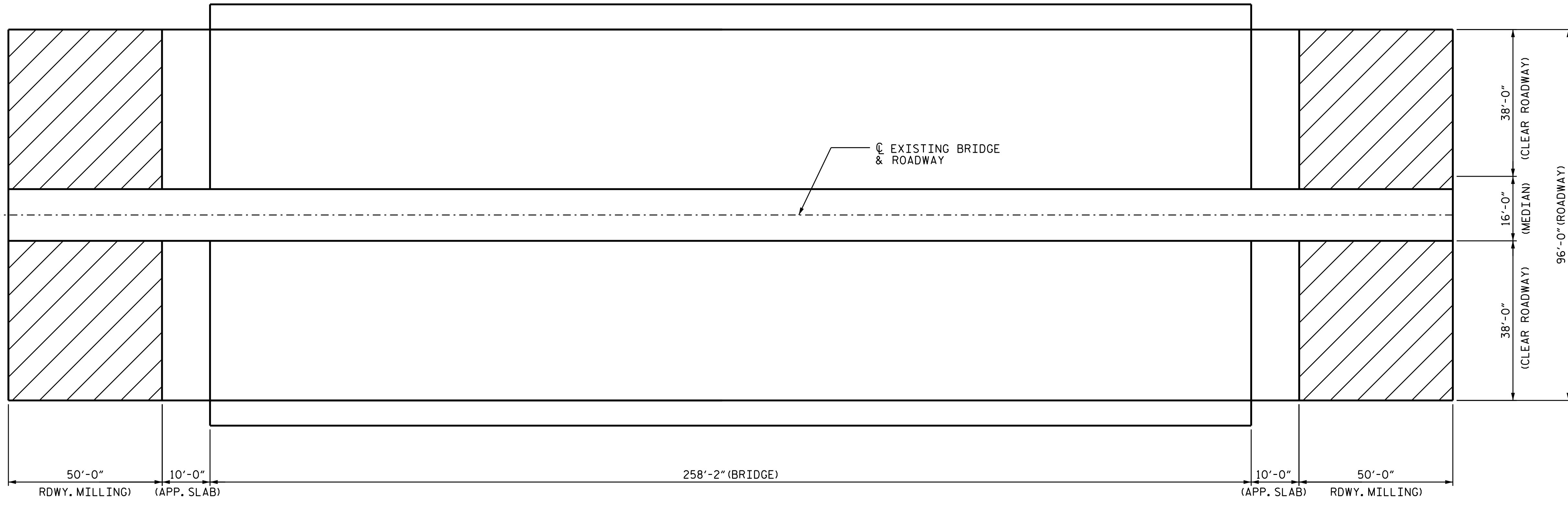
DRAWN BY : S. T. SANDOR DATE : 08/2018
 CHECKED BY : W. C. SMITH DATE : 08/2018

JOINT SEAL DETAILS AT BENT

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1			3			TOTAL SHEETS
2			4			7

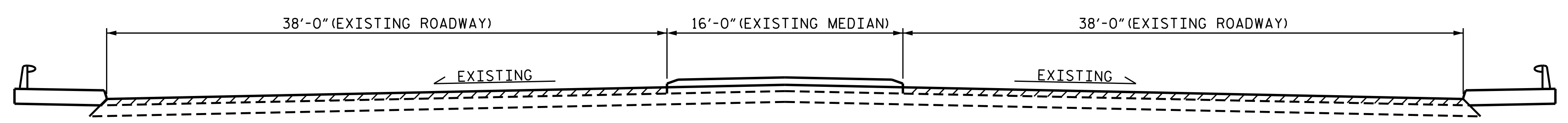
NOTES:
 INCIDENTAL MILLING - EXISTING APPROACH ASPHALT PAVING TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1 1/2" DEPTH OF NEW ASPHALT PAVING. PROVIDE NEW ASPHALT PAVING THICKNESS TO CREATE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE DECK. NEW ASPHALT PAVING THICKNESS MAY EXCEED 1 1/2" DUE TO SETTLEMENT OF THE EXISTING APPROACH ASPHALT PAVING.



INCIDENTAL MILLING

PLAN

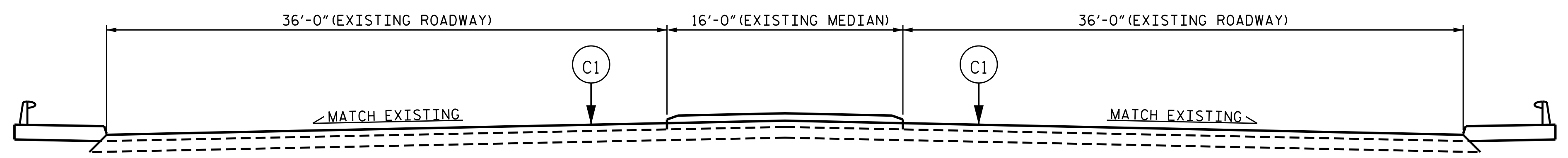
SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
INCIDENTAL MILLING	845.0 SQ. YDS.	
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	68.9 TONS	
ASPHALT BINDER FOR PLANT MIX	4.1 TONS	



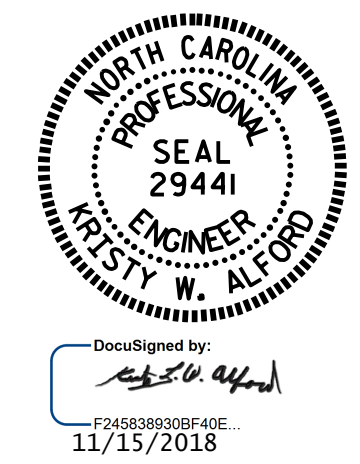
TYPICAL ROADWAY MILLING SECTION

C1 PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.

PROJECT NO. I-5873
 WAKE COUNTY
 BRIDGE NO. 348



TYPICAL PROPOSED ROADWAY SECTION



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

APPROACH MILLING AND TYPICAL ROADWAY SECTIONS

DRAWN BY : S. T. SANDOR DATE : 08/2018
 CHECKED BY : W. C. SMITH DATE : 08/2018

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-7
2			4			TOTAL SHEETS 7

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 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 $\frac{3}{4}$ " WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO $1\frac{1}{2}$ " RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A $\frac{1}{4}$ " 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 $\frac{1}{4}$ " 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 $\frac{1}{8}$ " \emptyset SHEAR STUDS FOR THE $\frac{3}{4}$ " \emptyset STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - $\frac{1}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF $\frac{1}{8}$ " \emptyset STUDS ALONG THE BEAM AS SHOWN FOR $\frac{3}{4}$ " \emptyset STUDS BASED ON THE RATIO OF 3 - $\frac{1}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset 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 $\frac{3}{16}$ " 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 $\frac{1}{16}$ " 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.

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