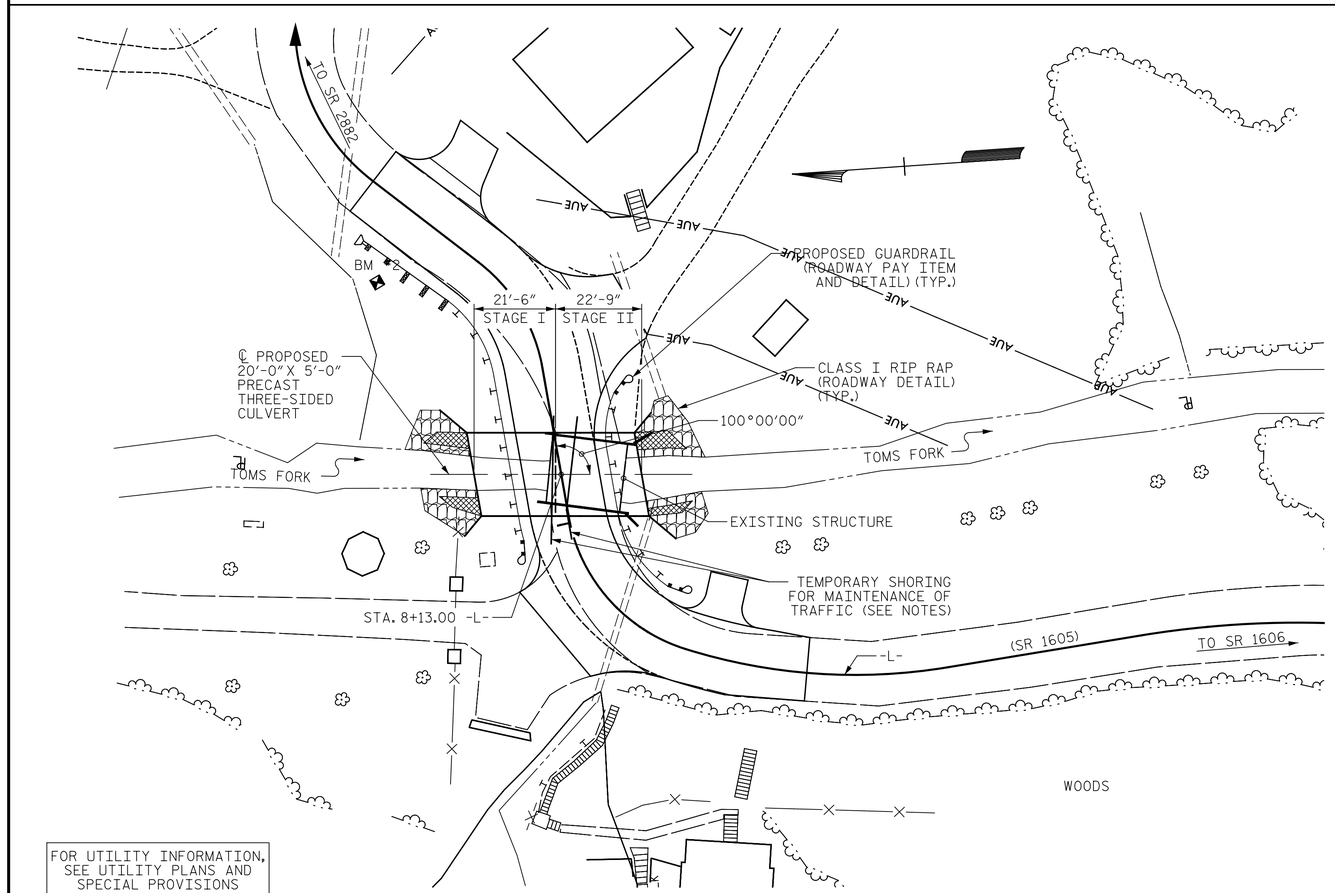
This electronic collection of documents is provided for the convenience of the user and is Not a Certified Document –

The documents contained herein were originally issued and sealed by the individuals whose names and license numbers appear on each page, on the dates appearing with their signature on that page.
This file or an individual page shall not be considered a certified document.

BM #2 : NAIL IN BASE OF UTILITY POLE, 20.51' LEFT OF STA. 8+92.84 -L-, EL. 2482.46'



LOCATION SKETCH

HYDRAULIC DATA

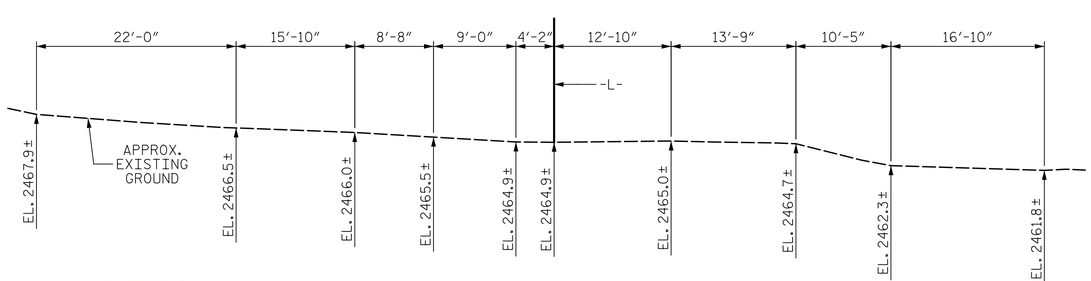
DESIGN DISCHARGE	= 550 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= 2470.7
DRAINAGE AREA	= 1.5 SQ. MI.
BASE DISCHARGE (Q100)	= 750 C.F.S.
BASE HIGH WATER ELEVATION	= 2471.5

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1100 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 500 YRS.
OVERTOPPING FLOOD ELEVATION	= 2472.6

GRADE DATA

GRADE POINT ELEV. @ STA. 8+13.00	= 2473.54
TOP OF STEM WALL @ STA. 8+13.00	= 2465.15
ROADWAY FILL SLOPES	= 2:1



PROFILE ALONG ℄ CULVERT

✳ FOUNDATION QUANTITIES ARE ESTIMATED AND PROVIDED FOR BID PURPOSES ONLY. FINAL QUANTITY WILL BE BASED ON CONTRACTOR DESIGN.

PLANS PREPARED BY:
Gannett Fleming
Excellence Delivered As Promised
2610 Wycliff Road
Suite 102
Raleigh NC 27607-3073
(919) 420-7660
NC Lic. No. F-0270

DRAWN BY : T.J. KIRSCHBUAM DATE : 12/17/14
CHECKED BY : R.F. WERTMAN DATE : 11/2/15
DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/2/15

NOTES

ASSUMED LIVE LOAD ---------- HL-93 OR ALTERNATE LOADING.

THIS CULVERT IS LOCATED IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

CULVERT IS TO BE DESIGNED FOR A MINIMUM FILL DEPTH OF 0'-3" AND A MAXIMUM OF 2'-8".

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 LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROLS PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

THE EXISTING STRUCTURE CONSISTING OF ONE 18'-6" SPAN WITH A CLEAR ROADWAY WIDTH OF 20.0' ON A TIMBER DECK WITH 20 LINES OF 6X12 TIMBER JOISTS ON A SUBSTRUCTURE CONSISTING OF TIMBER CAP END BENTS WITH TIMBER POSTS & SILLS AT THE SITE OF THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR THE LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE DURING THE CONSTRUCTION OF THE PROPOSED STRUCTURE, A LOAD LIMITATION MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

THE DETAILS SHOWN ARE FOR GENERAL LAYOUT ONLY. THE SUPPLIER SHALL PROVIDE DESIGNS AND DETAILS FOR THE PRECAST THREE-SIDED CULVERT, FOUNDATION, AND CAST-IN-PLACE HEADWALLS, WING WALLS AND FOOTINGS FOR REVIEW AND APPROVAL THAT MEET THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12, AND ARE SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

FOR PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT, SEE SPECIAL PROVISIONS.

NO PRECAST WING OR HEADWALL OPTION WILL BE ALLOWED.

THE ENTIRE COST OF THE WORK REQUIRED TO CONSTRUCT THE PRECAST THREE-SIDED CULVERT INCLUDING HEADWALLS AND WINGWALLS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR PRECAST THREE-SIDED CULVERT.

THE PRECAST CULVERT SECTIONS AND CAST-IN-PLACE WINGS SHALL BE DESIGNED TO HANDLE FULL DEPTH HYDROSTATIC PRESSURE IF WEEP HOLES ARE NOT UTILIZED. IF PROVIDED, WEEP HOLES IN ACCORDANCE WITH THE SPECIFICATIONS SHALL BE LOCATED A MINIMUM HEIGHT OF 6" ABOVE THE NORMAL FLOW LINE AND HAVE A MAXIMUM SPACING OF 10 FT.

CAST-IN-PLACE CONCRETE SHALL BE POURED IN THE FOLLOWING ORDER:
1. FOOTINGS
2. STEMWALL
3. HEADWALLS, WINGWALLS

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES."

THE DOWNSTATION (WEST) SPREAD FOOTING IS DESIGNED FOR A FACTORED RESISTANCE OF 10 KSF. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE OF 23 KSF JUST BEFORE PLACING CONCRETE.

THE UPSTATION (EAST) SPREAD FOOTING IS DESIGNED FOR A FACTORED RESISTANCE OF 3 KSF. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE OF 7 KSF JUST BEFORE PLACING CONCRETE.

KEY DOWNSTATION (WEST) SPREAD FOOTING AT LEAST 12" INTO ROCK OR WEATHERED ROCK WITH A MINIMUM THICKNESS AS SHOWN ON THE PLANS.

THE SCOUR CRITICAL ELEVATION IS THE BOTTOM OF UPSTATION AND DOWNSTATION FOOTING ELEVATION. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

BACKFILL CULVERT WITH NATIVE MATERIAL TO PROVIDE A CONTINUOUS LOW FLOW CHANNEL. NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM BED AT THE PROJECT SITE DURING CONSTRUCTION. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

PLACEMENT OF BACKFILL MATERIAL SHALL BE INCLUDED IN THE LUMP SUM PAYMENT FOR "PRECAST REINFORCED CONCRETE THREE SIDED CULVERT @ STA. 8+13.00". WHERE THERE IS NOT AN ADEQUATE QUANTITY OF SUITABLE BACKFILL MATERIAL AVAILABLE FROM EXCAVATION, USE CHANNEL SUBSTRATE MATERIAL. FOR CHANNEL SUBSTRATE MATERIAL, SEE SPECIAL PROVISIONS.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

TOTAL STRUCTURE QUANTITIES

PRECAST REINFORCED CONCRETE THREE SIDED CULVERT @ STA. 8+13.00 ---------- LUMP SUM		
REMOVAL OF EXISTING STRUCTURE ---------- LUMP SUM		
ASBESTOS ASSESSMENT ---------- LUMP SUM		
UNCLASSIFIED STR. EXCAVATION @ STA. 8+13.00 ----- LUMP SUM		
	STAGE I	STAGE II
✳ CLASS A CONCRETE	53 CU. YD.	57 CU. YD.
✳ REINFORCING STEEL	4,805 LB.	5,085 LB.
CLASS I RIP RAP	30 TONS	42 TONS
GEOTEXTILE FABRIC	44 SQ. YD.	60 SQ. YD.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037180 ENGINEER RICHARD F. WERTMAN
12/7/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. B-6022
HENDERSON COUNTY
STATION: 8+13.00 -L-

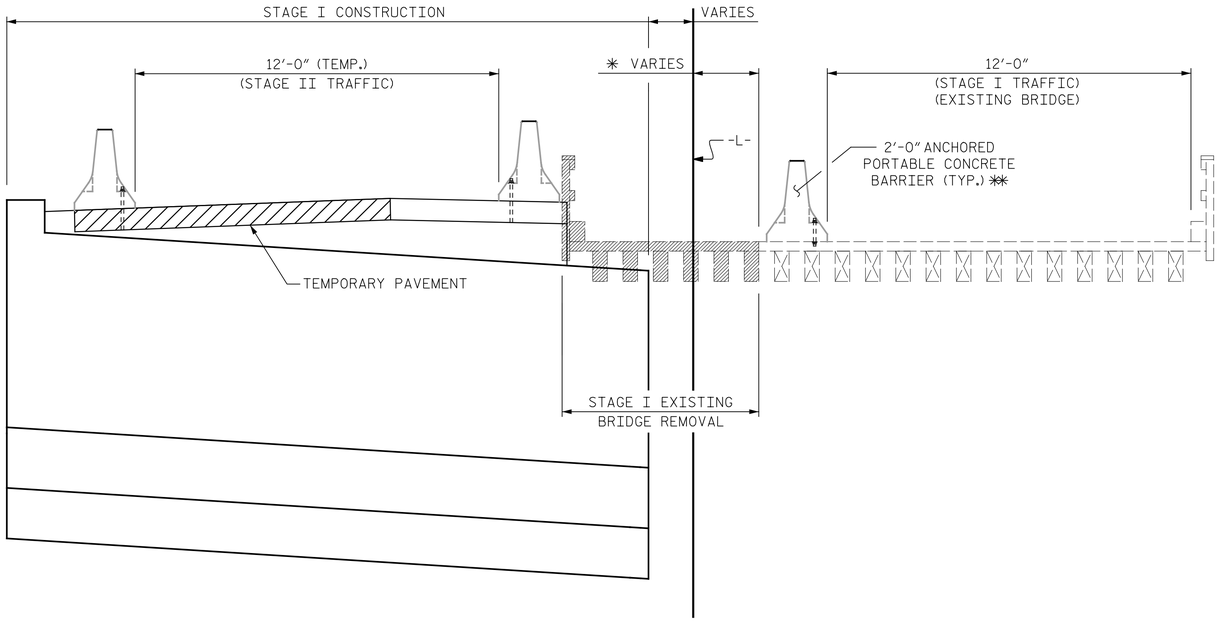
SHEET 1 OF 4 REPLACES BR. #215

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

20'-0" X 5'-0" PRECAST REINFORCED CONCRETE THREE SIDED CULVERT 100° SKEW

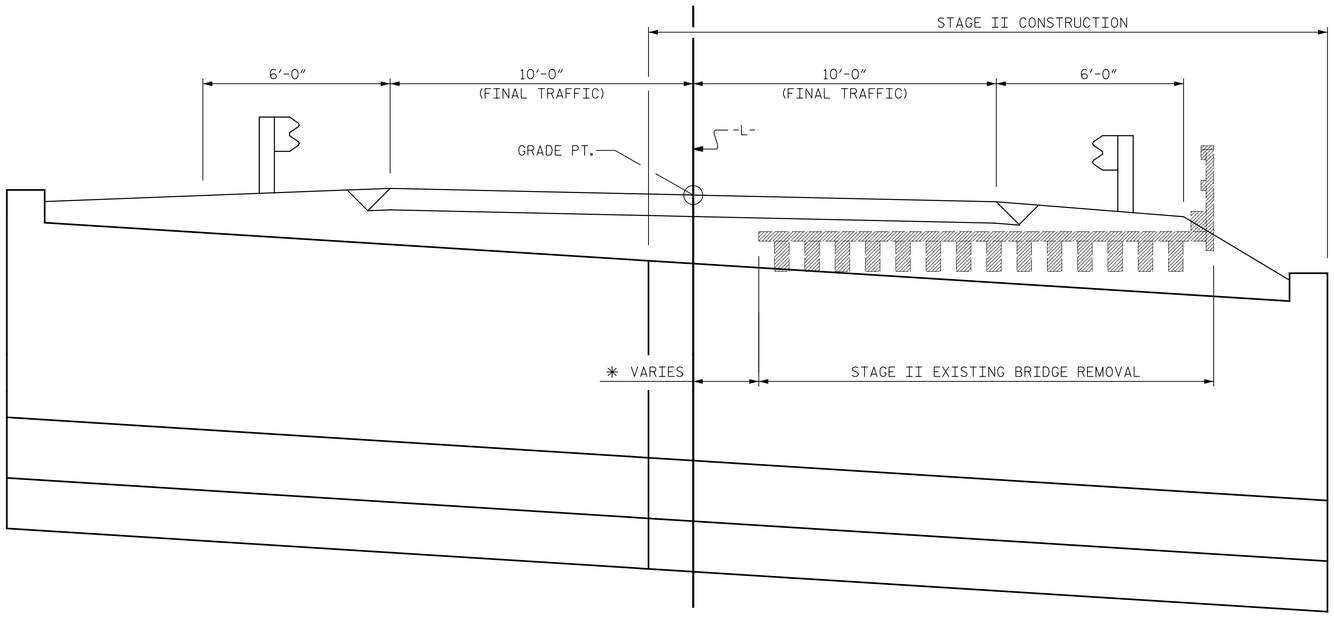
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			4

CUL. #215



STAGE I CONSTRUCTION

(NORMAL TO -L-)



STAGE II CONSTRUCTION

(NORMAL TO -L-)

NOTES

✳ THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

✳✳ SEE THE TRAFFIC CONTROL PLANS FOR LOCATION AND PAY LIMITS OF ANCHORED PORTABLE CONCRETE BARRIER.

PROJECT NO. B-6022

HENDERSON COUNTY

STATION: 8+13.00 -L-

SHEET 2 OF 4

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037180 ENGINEER RICHARD F. WERTMAN

11/12/2018 12:07:31 PM PST

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CONSTRUCTION SEQUENCE

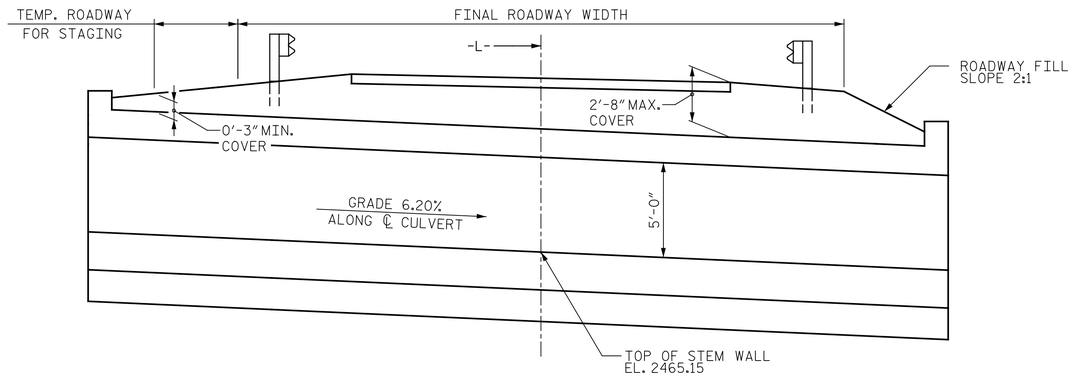
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-2
1			3			TOTAL SHEETS
2			4			4

DRAWN BY : T.J. KIRSCHBUAM DATE : 5/11/15
CHECKED BY : R.F. WERTMAN DATE : 11/2/15
DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/2/15

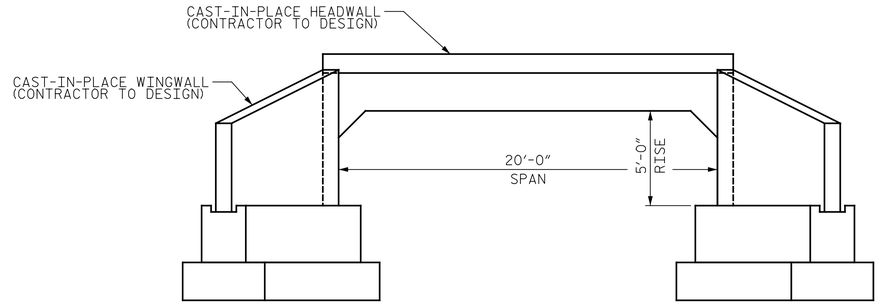
PLANS PREPARED BY:
Gannett Fleming
Excellence Delivered As Promised
2610 Wycliff Road
Suite 102
Raleigh NC 27607-3073
(919) 420-7660
NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

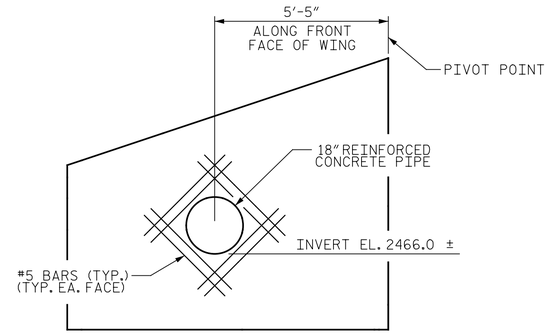
CUL. #215



CULVERT SECTION NORMAL TO ROADWAY

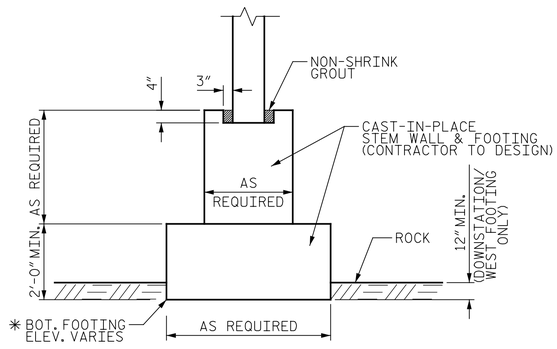


END ELEVATION
(INLET AND OUTLET)



PIPE IN WINGWALL

PLAN VIEW



FOOTING DETAIL
(CULVERT AND WINGWALL)
(* SEE GEOTECHNICAL REPORT)

NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL
037180
ENGINEER
RICHARD F WERTMAN

11/12/2018 12:07:31 PM PST

PROJECT NO. B-6022
HENDERSON COUNTY
STATION: 8+13.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

20'-0" X 5'-0" PRECAST REINFORCED CONCRETE THREE SIDED CULVERT 100° SKEW

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

CUL. #215

DRAWN BY : T.J. KIRSCHBUAM DATE : 12/17/14
CHECKED BY : R.F. WERTMAN DATE : 11/2/15
DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/2/15

PLANS PREPARED BY:
Gannett Fleming
Excellence Delivered As Promised
2610 Wycliff Road
Suite 102
Raleigh NC 27607-3073
(919) 420-7660
NC Lic. No. F-0270

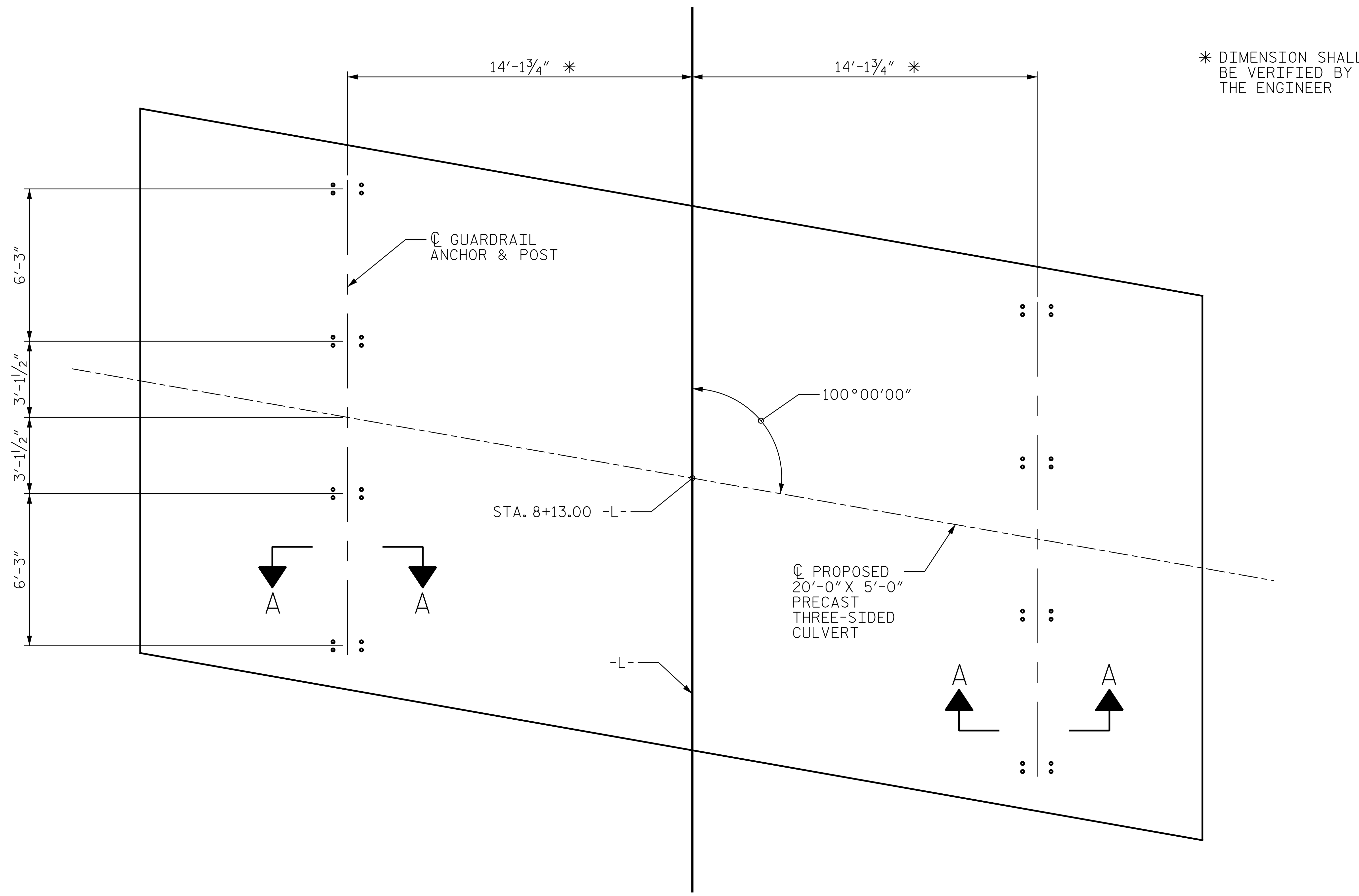
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES

ALL GUARDRAIL ATTACHMENTS SHALL BE MADE USING ADHESIVELY ANCHORED ANCHOR BOLTS. LEVEL TWO FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4"Ø BOLT IS 12.8 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

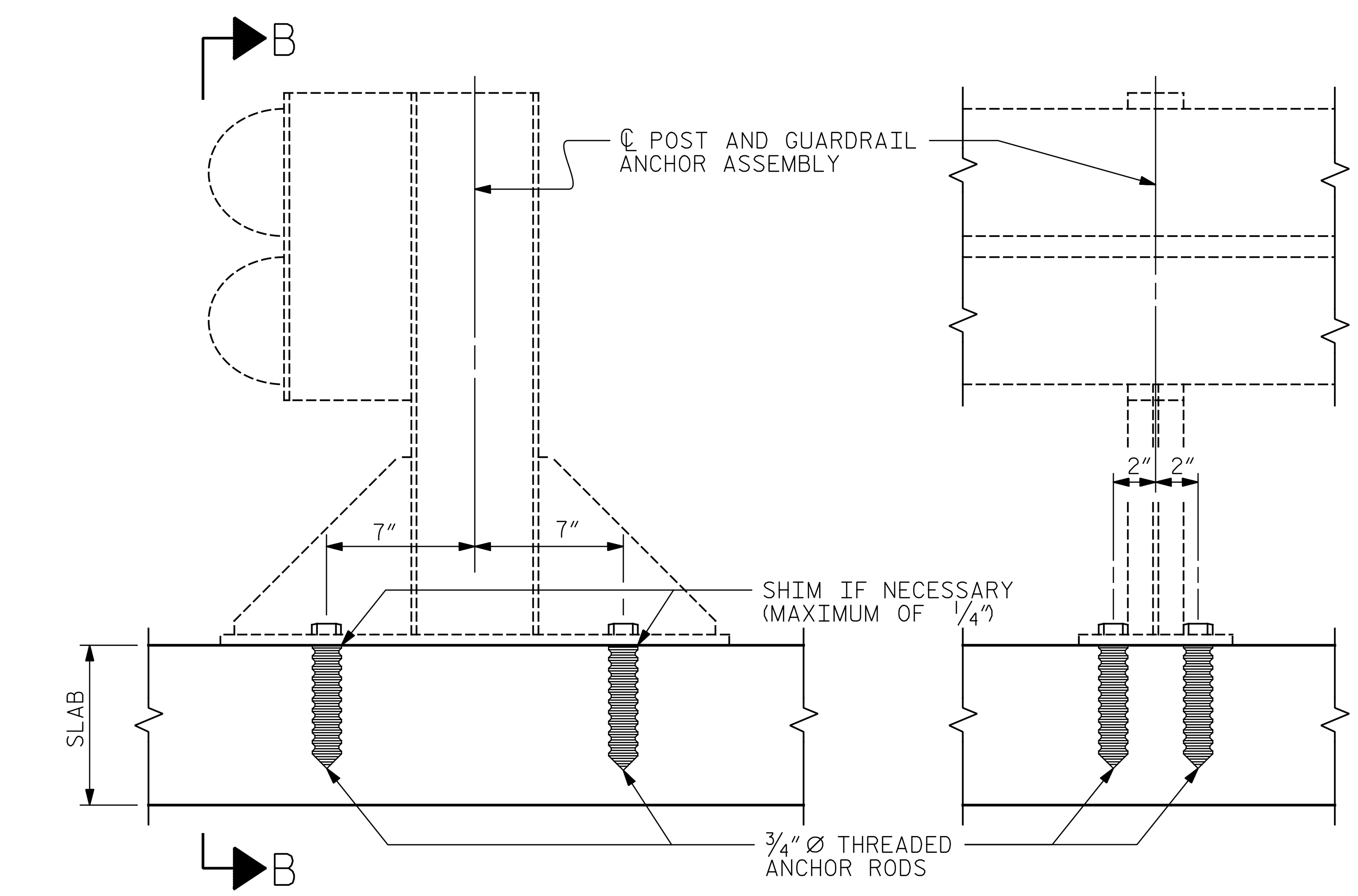
ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE ¾"Ø AND MEET THE REQUIREMENTS OF ASTM A325. BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

PAYMENT FOR GUARDRAIL, POST, AND POST BASE PLATES IS INCLUDED IN ROADWAY PAY ITEMS.



PLAN

NOTE: GUARDRAIL POSTS PLACEMENT AS SHOWN. GUARDRAIL POSTS AND THREADED ANCHOR RODS MUST CLEAR ALL JOINTS OF PRECAST CONCRETE CULVERT UNITS.



SECTION A-A

SECTION B-B

PROJECT NO. B-6022
HENDERSON COUNTY
STATION: 8+13.00 -L-

SHEET 4 OF 4

SEAL 037180 ENGINEER RICHARD F WERTMAN

11/12/2018 12:07:31 PM PST

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

20'-0" X 5'-0" PRECAST REINFORCED CONCRETE THREE SIDED CULVERT 100° SKEW

DRAWN BY : T.J. KIRSCHBUAM	DATE : 5/11/15
CHECKED BY : R.F. WERTMAN	DATE : 11/2/15
DESIGN ENGINEER OF RECORD : R.F. WERTMAN	DATE : 11/2/15

PLANS PREPARED BY: Gannett Fleming — Excellence Delivered As Promised
2610 Wycliff Road, Suite 102, Raleigh NC 27607-3073, (919) 420-7660, NC Lic. No. F-0270

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

CUL. #215

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 ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" 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 ¼" 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 ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞" Ø STUDS FOR 4 - ¾" 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.

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.

DocuSigned by:
Richard F. Vick
08901A86EBF6470...

11/12/2018 12:07:31 PM PST

ENGLISH

JANUARY, 1990

STD. NO. SN

REV. 6-16-95	EEM	(/) RGW	REV. 5-7-03	RWW	(/) JTE	REV. 10-1-11	MAA	(/) GM
REV. 8-16-99	RWW	(/) LES	REV. 5-1-06	TLA	(/) GM	REV. 12-17	MAA	(/) THC