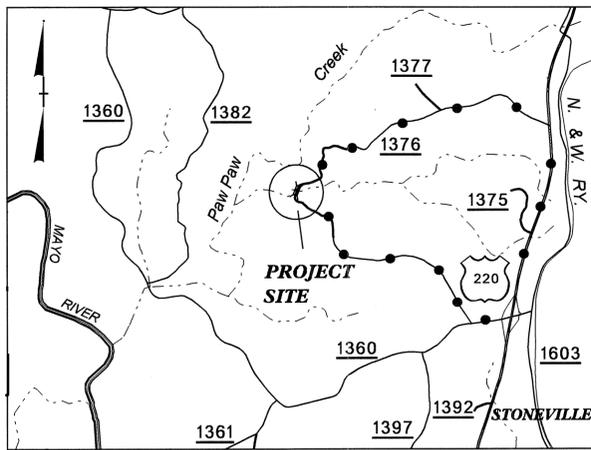


CONTRACT: C201583 TIP PROJECT: B-3900

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3900		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33336.1.1	BRZ-1376(1)	P.E.	
33336.2.1	BRZ-1376(1)	R/W & UTIL	
33336.3.1	BRZ-1376(1)	CONST.	



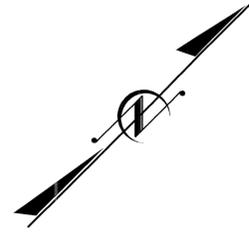
VICINITY MAP

---•--- DENOTES DETOUR

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY

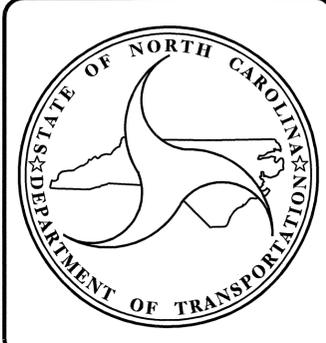
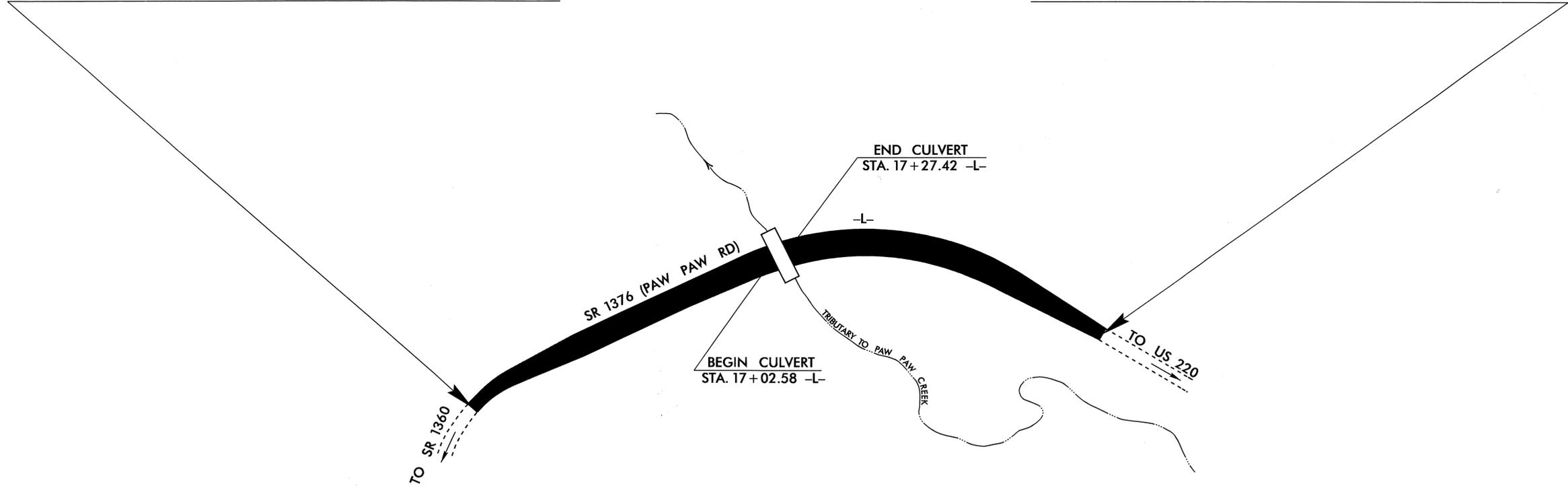
**LOCATION: BRIDGE NO. 165 OVER A CREEK ON
 SR 1376 (PAW PAW ROAD)**
TYPE OF WORK: GRADING, DRAINAGE, AND CULVERT



STA. 13+50.00 -L- BEGIN TIP PROJECT B-3900

STA. 20+50.00 -L- END TIP PROJECT B-3900

CULVERT



DESIGN DATA

ADT 2007 =	125
ADT 2027 =	208
DHV =	10 %
D =	60 %
T =	3 % *
**V =	60 MPH
* TTST 1% DUAL 2%	

FUNC. CLASS=LOCAL RURAL
 ** DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-3900 =	0.128 MILE
LENGTH OF STRUCTURE TIP PROJECT B-3900 =	0.005 MILE
TOTAL LENGTH OF TIP PROJECT B-3900 =	0.133 MILE

Prepared In the Office of:
**DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS**
 1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

LETTING DATE: JULY 17, 2007	B. S. COX, P.E. PROJECT ENGINEER
	D. E. PETREY, PE PROJECT DESIGN ENGINEER

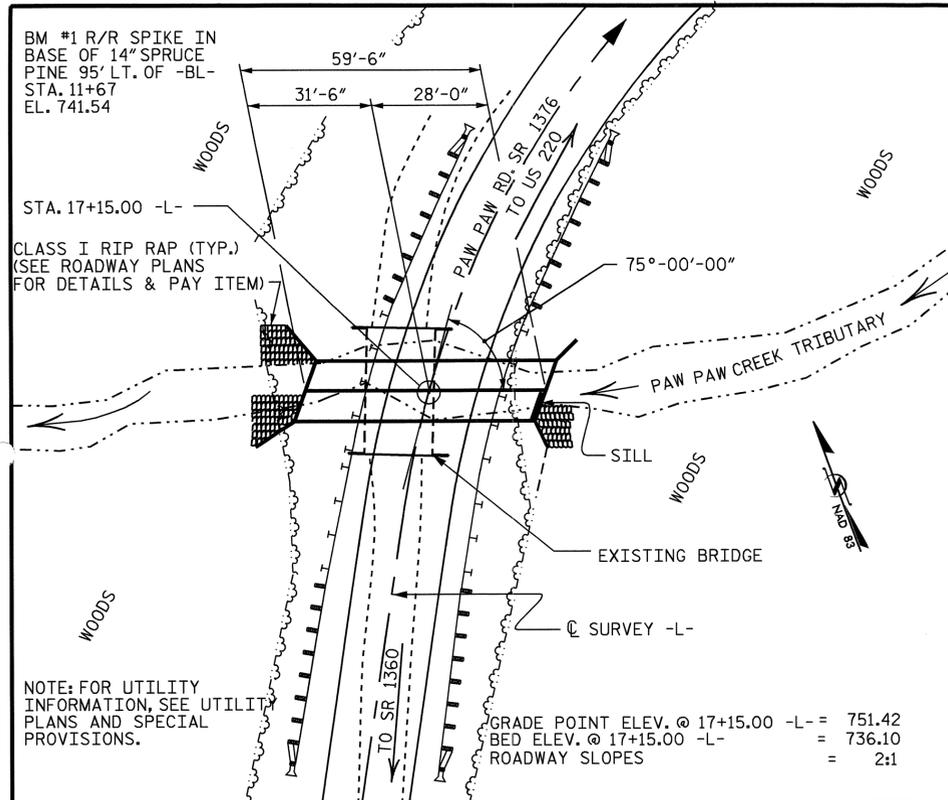
STRUCTURE DESIGN UNIT

6-1-07

**DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA**

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

APPROVED _____ DATE _____
 DIVISION ADMINISTRATOR



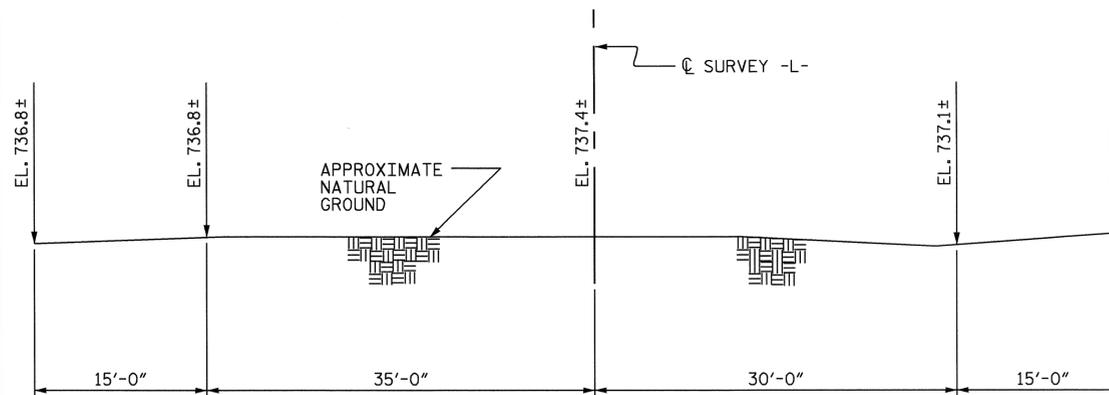
LOCATION SKETCH

HYDROGRAPHIC DATA

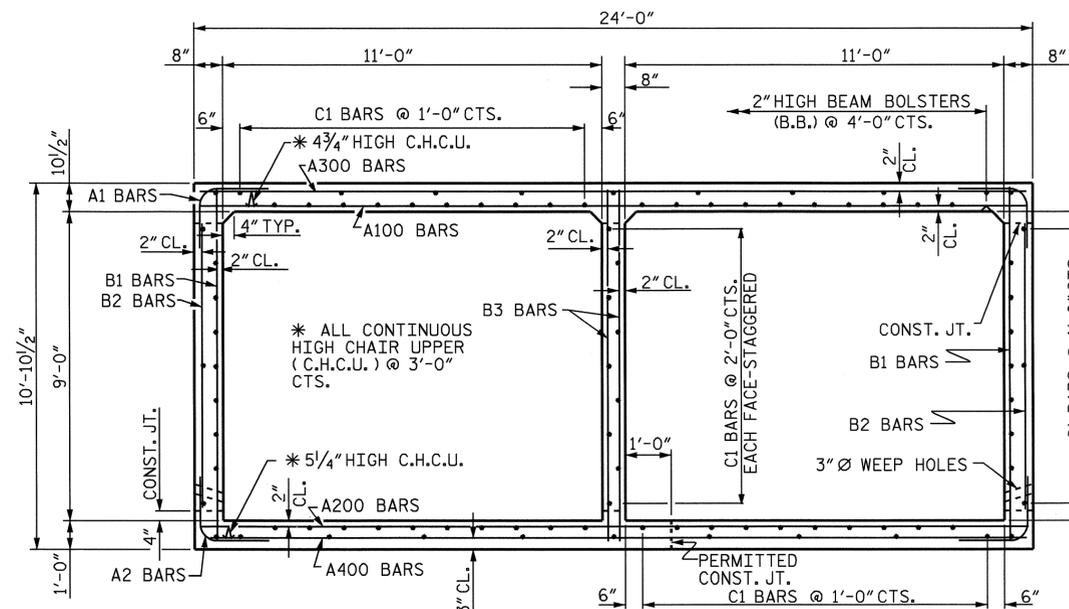
DESIGN DISCHARGE	= 650 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 743.49
BASE DISCHARGE (Q100)	= 1000 CFS
BASE HW ELEVATION	= 744.97
DRAINAGE AREA	= 1.6 SQ. MI.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1800 CFS
OVERTOPPING FREQUENCY	= 500 YR+
OVERTOPPING ELEVATION	= 748.52



PROFILE ALONG CL CULVERT



RIGHT ANGLE SECTION OF BARREL

THERE ARE 91 "C" BARS IN SECTION OF BARREL.

NOTES:

- ASSUMED LIVE LOAD, HS20-44 OR ALTERNATE LOADING.
- DESIGN FILL -----6.50'.
- FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
- 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 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.
- DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.
- CONCRETE IN CULVERT TO BE POURED IN THE FOLLOWING ORDER:
 1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
 2. THE REMAINING PORTIONS OF WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.
- STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES WILL BE PAID FOR BY THE CONTRACTOR.
- AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

THE EXISTING STRUCTURE CONSISTING OF TWO 17'-9" SPANS WITH TIMBER DECK WITH ASPHALT WEARING SURFACE ON TIMBER JOISTS; 19.2 FOOT CLEAR ROADWAY WIDTH ON TIMBER CAPS, POSTS, SILLS AND TIMBER BULKHEADS AND LOCATED AT THE SITE OF THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION 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 CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

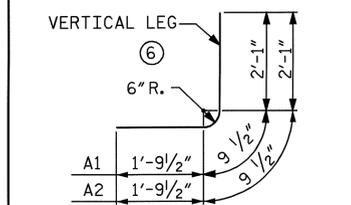
- FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CONSTRUCTION OF CULVERT, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

AT THE CONTRACTORS OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AND SILL AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

EXISTING BED MATERIAL WILL BE STOCK PILED ON SITE AND REUSED AS BACK FILL MATERIAL INSIDE THE CULVERT TO BURY THE BOTTOM OF THE CULVERT THE REQUIRED 1'-0".

SPLICE LENGTH CHART

BAR	SIZE	SPLICE LENGTH
A200	5	1'-9"
A400	7	3'-1"
B1	4	1'-9"
B3	4	1'-9"
C1	4	1'-11"



BAR TYPE

BAR DIMENSIONS ARE OUT TO OUT

REINFORCING STEEL BAR SCHEDULE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
A100	91	5	STR	23'-7"	2238	A400	91	7	STR	23'-7"	4387	
A101	4	5	STR	18'-9"	78	A401	4	7	STR	18'-9"	153	
A102	4	5	STR	14'-5"	60	A402	4	7	STR	14'-5"	118	
A103	4	5	STR	10'-1"	42	A403	4	7	STR	10'-1"	82	
A104	4	5	STR	5'-8"	24	A404	4	7	STR	5'-8"	46	
A200	91	5	STR	23'-7"	2238	A1	204	5	6	4'-8"	993	
A201	4	5	STR	18'-9"	78	A2	204	5	6	4'-8"	993	
A202	4	5	STR	14'-5"	60	B1	120	4	STR	10'-4"	828	
A203	4	5	STR	10'-1"	42	B2	204	4	STR	8'-4"	1136	
A204	4	5	STR	5'-8"	24	B3	120	4	STR	10'-4"	828	
A300	91	7	STR	23'-7"	4387	C1	273	4	STR	21'-2"	3860	
A301	4	7	STR	18'-9"	153	D1	3	6	STR	2'-7"	12	
A302	4	7	STR	14'-5"	118	G1	8	5	STR	24'-6"	204	
A303	4	7	STR	10'-1"	82	S1	12	8	STR	24'-6"	785	
A304	4	7	STR	5'-8"	46							
REINFORCING STEEL											LBS.	24,095

STRUCTURE QUANTITIES

CLASS A CONCRETE	
BARREL @ 2.342 CY/FT	139.3 C.Y.
CONCRETE SILL	0.8 C.Y.
WINGS ETC.	32.6 C.Y.
TOTAL	172.7 C.Y.
REINFORCING STEEL	
BARREL	24,095 LBS.
WINGS ETC.	1,957 LBS.
TOTAL	26,052 LBS.
FOUNDATION CONDITIONING MAT'L.	101 TONS
CULVERT EXCAVATION	LUMP SUM

TOTAL BILL OF MATERIAL

CONSTRUCTION OF CULVERT	LUMP SUM
REMOVAL OF EXISTING STRUCTURE	LUMP SUM

PROJECT NO. B-3900
ROCKINGHAM COUNTY
STATION: 17+15.00 -L-

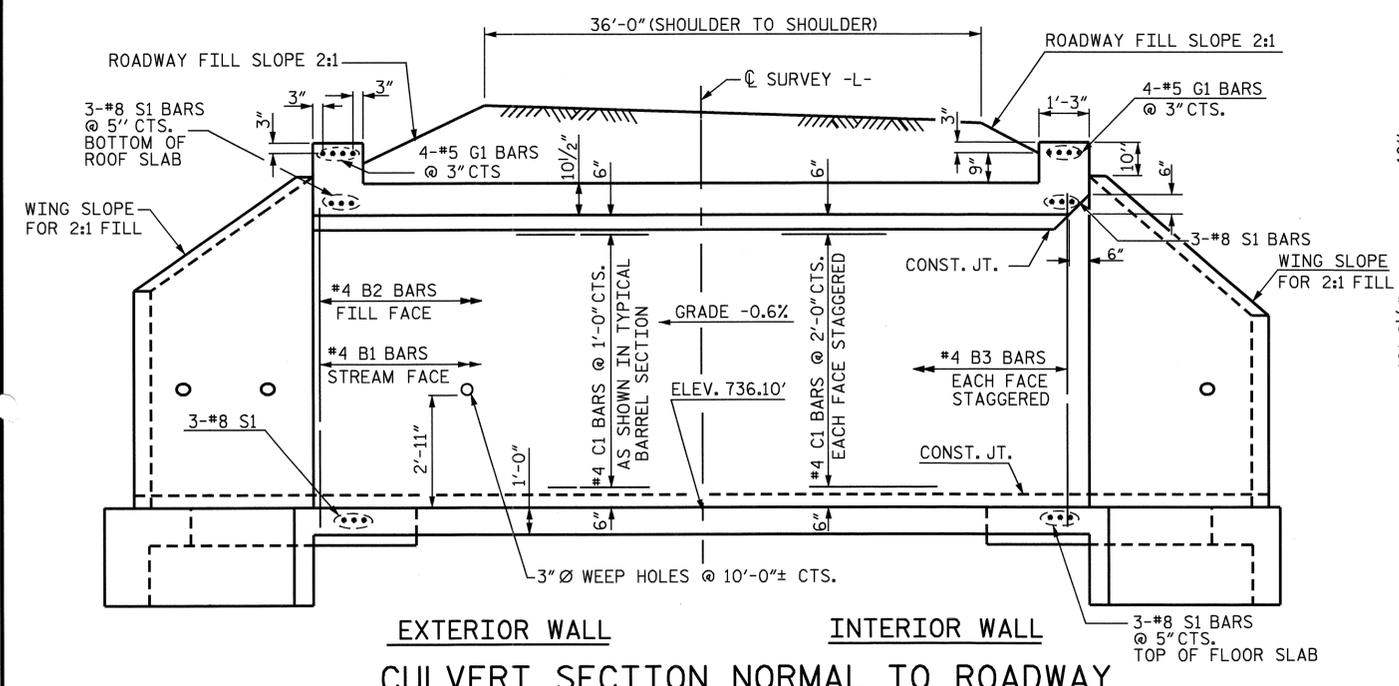
SHEET 1 OF 3 REPLACES BRIDGE No. 165



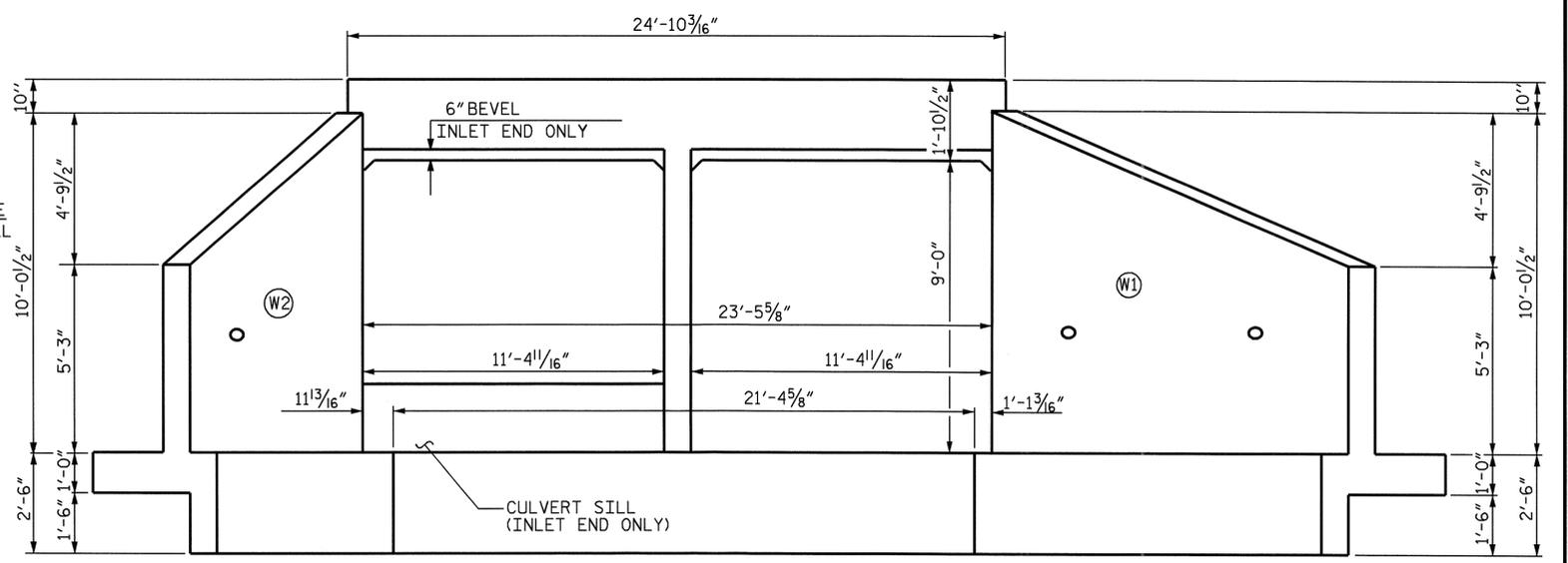
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
DOUBLE 11 FT. X 9 FT.
CONCRETE BOX CULVERT
75° SKEW

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

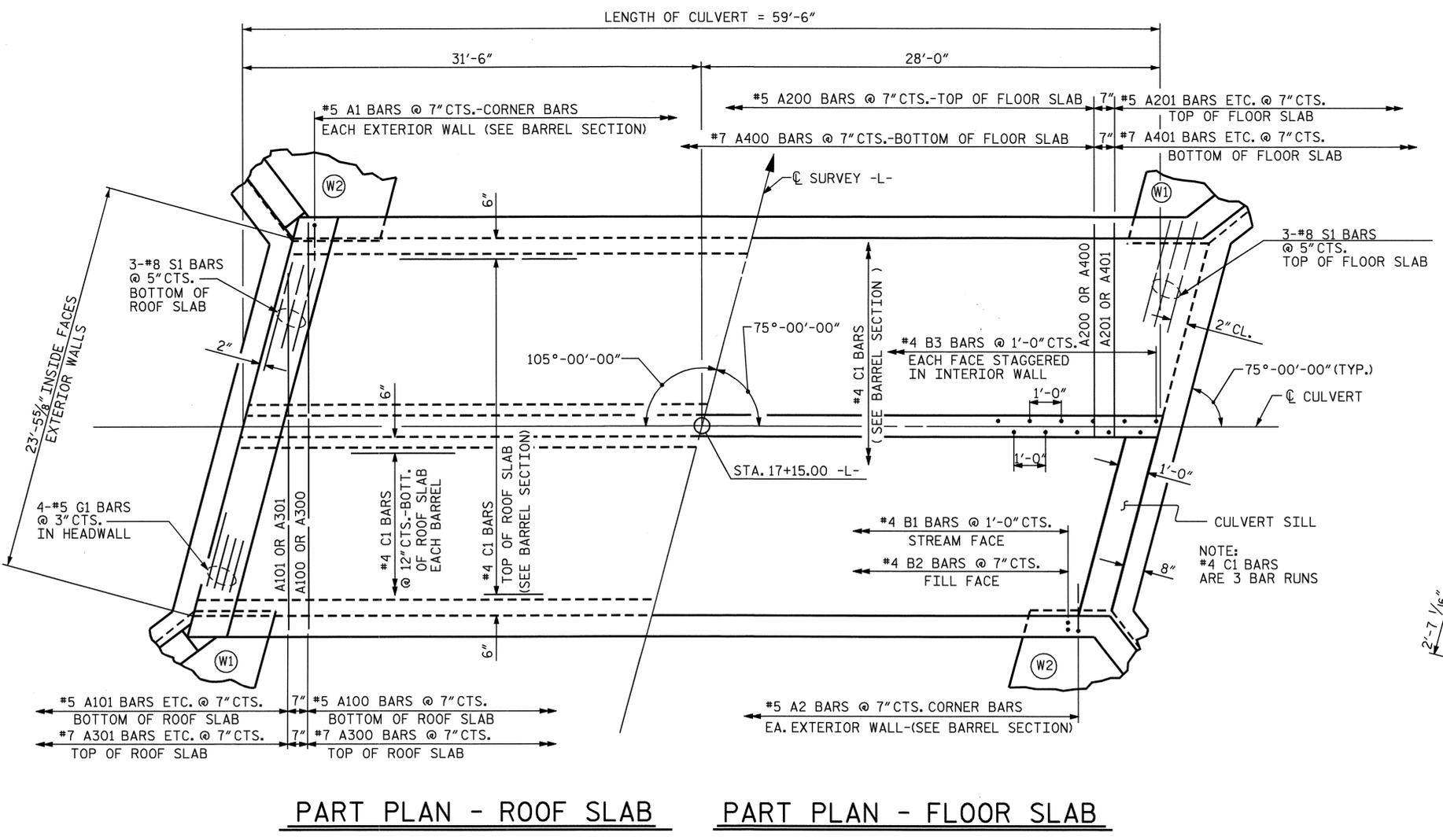
DRAWN BY: RGE/MLB DATE: 12/06
CHECKED BY: B.N. GRADY DATE: 12/06



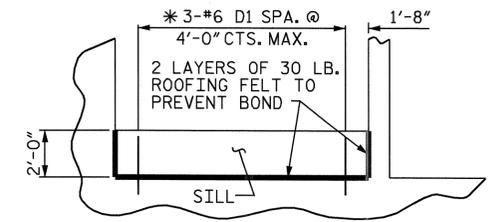
EXTERIOR WALL **INTERIOR WALL**
CULVERT SECTION NORMAL TO ROADWAY



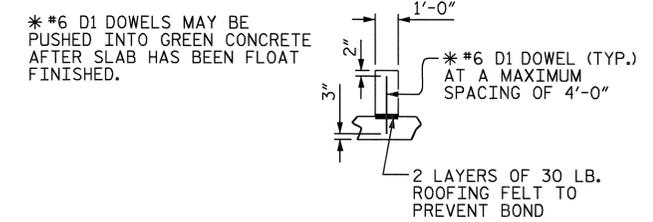
END ELEVATION NORMAL TO SKEW
 (INLET END SHOWN)



PART PLAN - ROOF SLAB **PART PLAN - FLOOR SLAB**

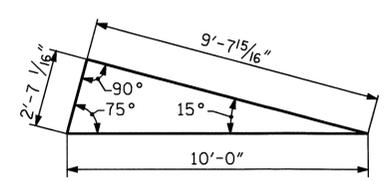


ELEVATION



SECTION THRU SILL

CULVERT SILL DETAILS



SKEW TRIANGLE

PROJECT NO. B-3900
ROCKINGHAM COUNTY
 STATION: 17+15.00 -L-

SHEET 2 OF 3

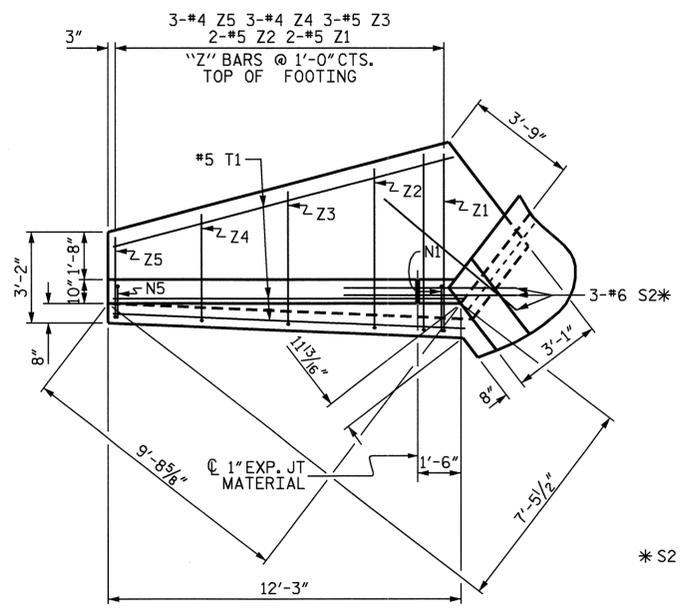
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
BARREL STANDARD
DOUBLE 11 FT. X 9 FT.
CONCRETE BOX CULVERT
75° SKEW
 1971



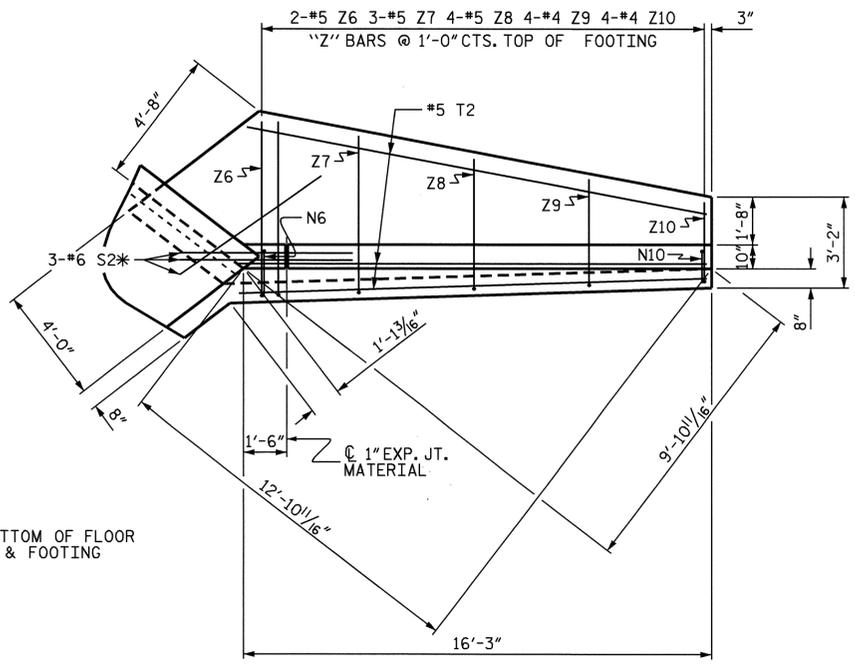
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	C-2	
1			3			TOTAL SHEETS	
2			4			3	

REVISED 11-19-99 BY M.M. CHECKED BY R.M.W.
 REDRAWN NOV. 1990 BY T.S.S. CHECKED BY ARB

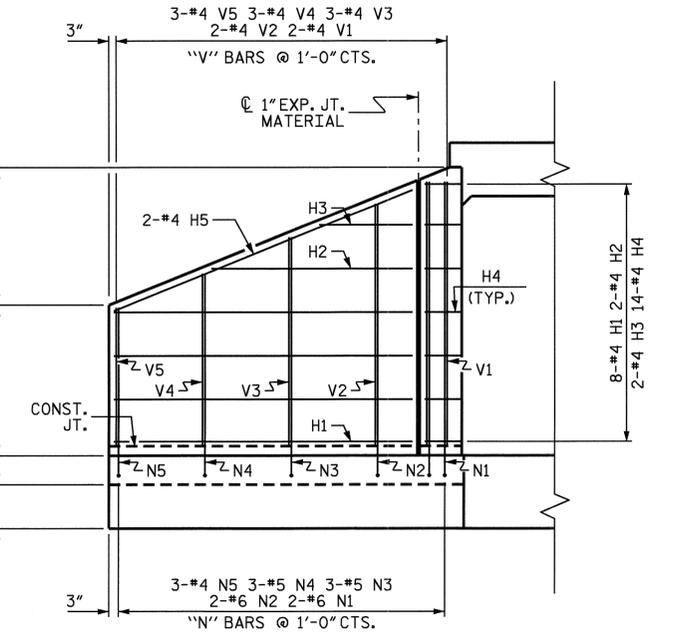
ASSEMBLED BY : <u>RGE/MLB</u> DATE : <u>12/06</u>	SPECIAL
CHECKED BY : <u>B. N. GRADY</u> DATE : <u>12/06</u>	
DRAWN BY : <u>W. BRYAN STALEY II</u> DATE : <u>SEPT. 21/97</u>	STANDARD
CHECKED BY : <u>JOEL A. JOHNSON</u> DATE : <u>NOV. 12/97</u>	



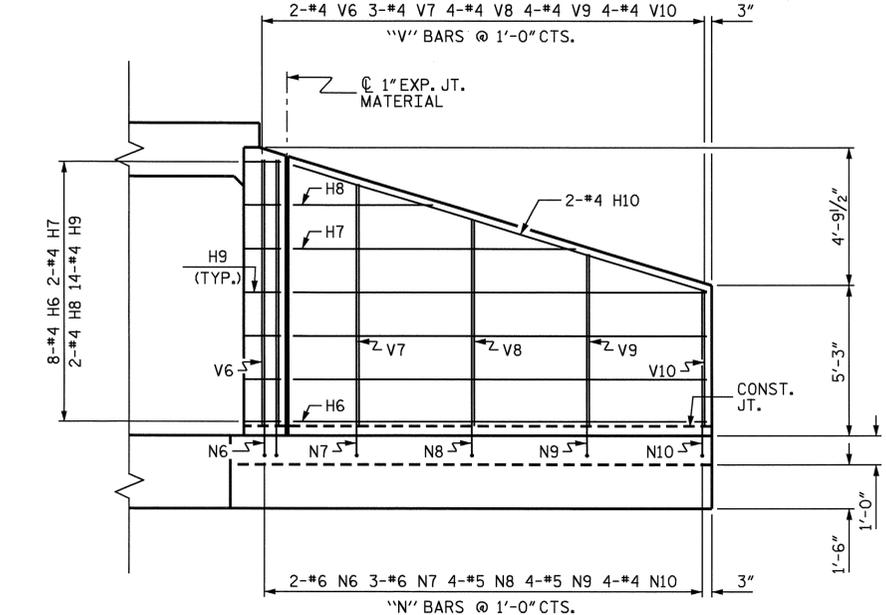
PLAN W2



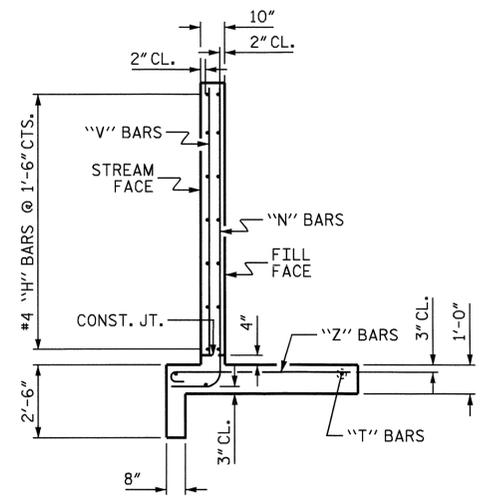
PLAN W1



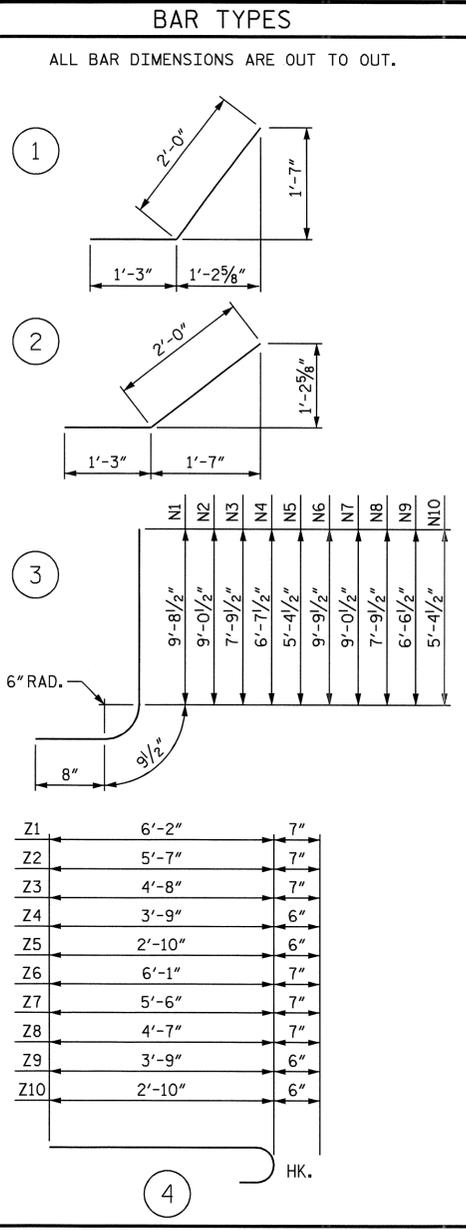
ELEVATION W2



ELEVATION W1



TYPICAL WING SECTION



BILL OF MATERIAL					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	16	#4	STR	10'-4"	110
H2	4	#4	STR	6'-11"	18
H3	4	#4	STR	3'-3"	9
H4	28	#4	1	3'-3"	61
H5	4	#4	STR	11'-2"	30
H6	16	#4	STR	14'-4"	153
H7	4	#4	STR	9'-10"	26
H8	4	#4	STR	4'-10"	13
H9	28	#4	2	3'-3"	61
H10	4	#4	STR	15'-0"	40
N1	4	#6	3	11'-2"	67
N2	4	#6	3	10'-6"	63
N3	6	#5	3	9'-3"	58
N4	6	#5	3	8'-1"	51
N5	6	#4	3	6'-10"	27
N6	4	#6	3	11'-3"	68
N7	6	#6	3	10'-6"	95
N8	8	#5	3	9'-3"	77
N9	8	#5	3	8'-0"	67
N10	8	#4	3	6'-10"	37
S2	12	#6	STR	6'-0"	108
T1	6	#5	STR	12'-3"	77
T2	6	#5	STR	16'-3"	102
V1	4	#4	STR	9'-2"	24
V2	4	#4	STR	8'-5"	22
V3	6	#4	STR	7'-3"	29
V4	6	#4	STR	6'-0"	24
V5	6	#4	STR	4'-10"	19
V6	4	#4	STR	9'-3"	25
V7	6	#4	STR	8'-5"	34
V8	8	#4	STR	7'-2"	38
V9	8	#4	STR	6'-0"	32
V10	8	#4	STR	4'-9"	25
Z1	4	#5	4	6'-9"	28
Z2	4	#5	4	6'-2"	26
Z3	6	#5	4	5'-3"	33
Z4	6	#4	4	4'-3"	17
Z5	6	#4	4	3'-4"	13
Z6	4	#5	4	6'-8"	28
Z7	6	#5	4	6'-1"	38
Z8	8	#5	4	5'-2"	43
Z9	8	#4	4	4'-3"	23
Z10	8	#4	4	3'-4"	18
REINFORCING STEEL FOR 4 WINGS					1957 LBS
CLASS A CONCRETE					
4 WINGS					27.7 CY
2 HEADWALLS					2.3 CY
2 END CURTAIN WALLS					2.6 CY
TOTAL					32.6 CY

PROJECT NO. B-3900
 ROCKINGHAM COUNTY
 STATION: 17+15.00 -L-

SHEET 3 OF 3
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD WINGS
 FOR
 CONCRETE BOX CULVERT
 H = 9'-0" SLOPE = 2:1
 75° SKEW



ASSEMBLED BY: RGE/MLB DATE: 12/06
 CHECKED BY: B. N. GRADY DATE: 12/06
 DRAWN BY: CCJ 01/00
 CHECKED BY: RWW 03/00

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

STD. NO. CW7509

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