TIP PROJECT: B-4824

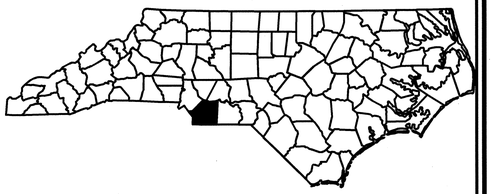
CONTRACT: C203084

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UNION COUNTY

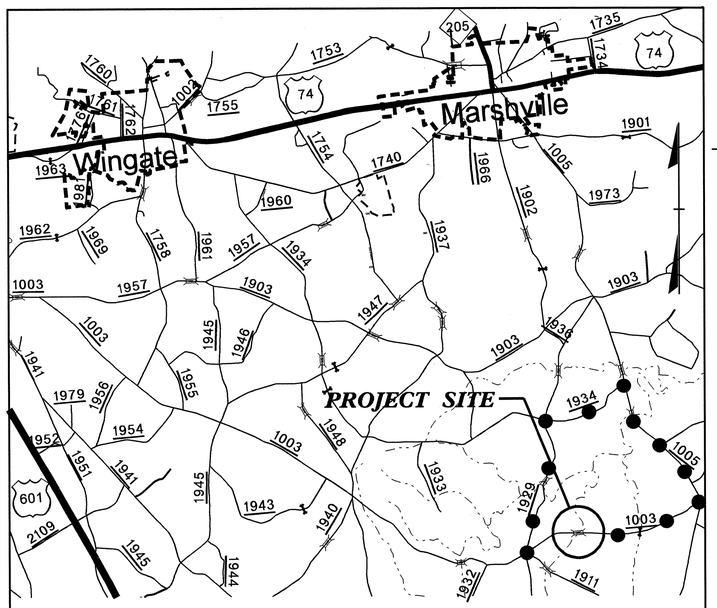
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4824		

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38594.1.1	BRSTP-1003(40)	PE
38594.2.1	BRSTP-1003(40)	ROW /UTL.
38594.3.1	BRSTP-1003(40)	CONST.



LOCATION: BRIDGE No. 453 ON SR 1003 (WHITE STORE RD.) OVER NORKETT BRANCH

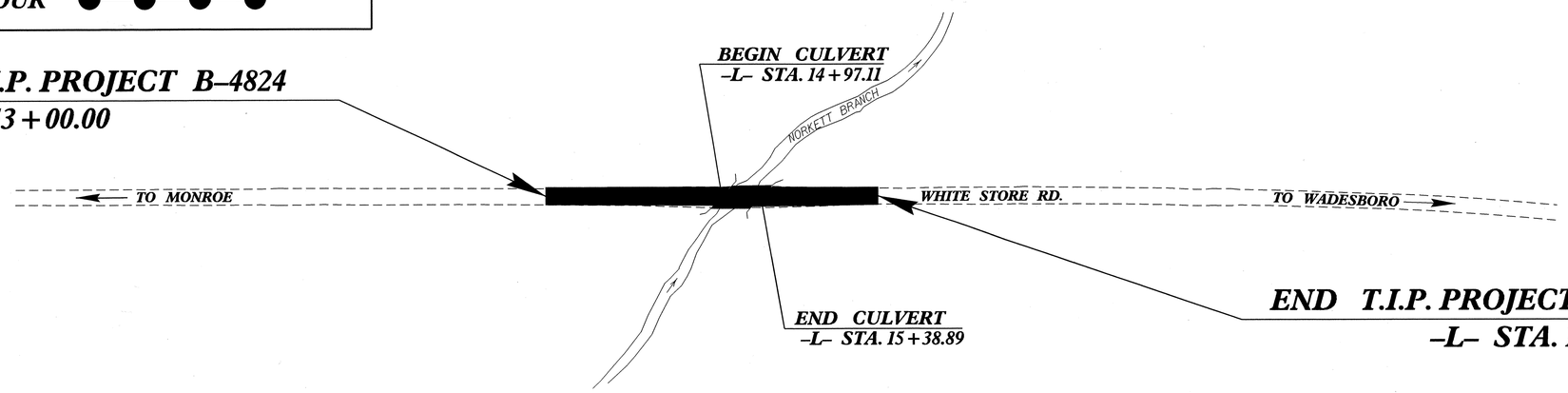
TYPE OF WORK: GRADING, DRAINAGE, PAVING & CULVERT



VICINITY MAP

OFF-SITE DETOUR

NC GRID
NAD 83/2001



CULVERT

DESIGN DATA

ADT 2013 = 656
ADT 2035 = 900
DHV = 13 %
D = 65 %
T = 8 % *
V = 50 MPH
* TTST 2% DUAL 6%
FUNC CLASS = RURAL COLL.
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY T.I.P. PROJECT = 0.077 MI.

LENGTH STRUCTURE T.I.P. PROJECT = 0.008 MI.

TOTAL LENGTH OF T.I.P. PROJECT = 0.085 MI.

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

2012 STANDARD SPECIFICATIONS

LETTING DATE:
MARCH 19, 2013

B. C. HUNT, P. E.
PROJECT ENGINEER

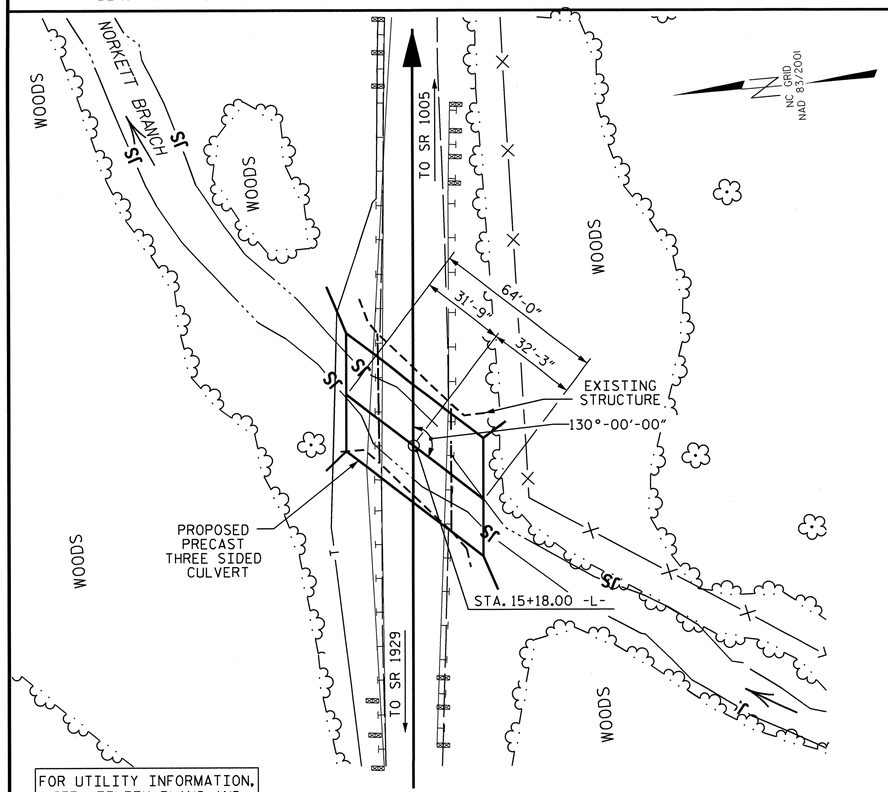
V. A. PATEL, P. E.
PROJECT DESIGN ENGINEER

STRUCTURES MANAGEMENT UNIT
1000 Birch Ridge Dr.
Raleigh, NC 27610

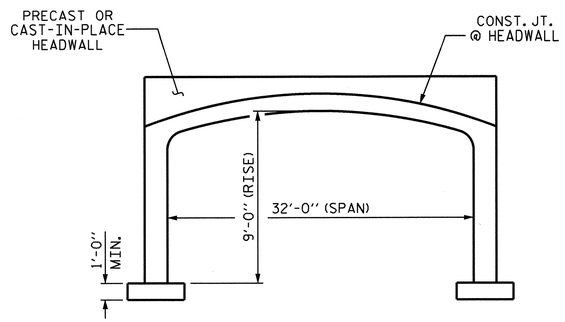
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

01-NOV-2012 10:56
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
ydot

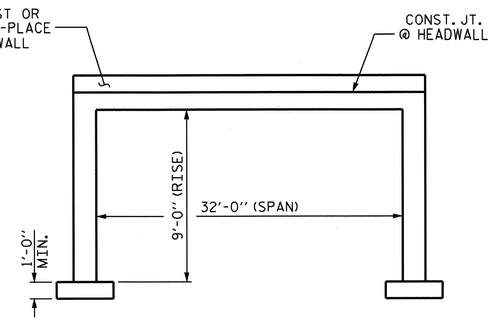
BENCH MARK #1 - RR SPIKE IN POWER POLE 46' LEFT OF -L- STA. 17+34.00, ELEV. 451.34



LOCATION SKETCH



ARCH ALTERNATE



FLAT TOPPED ALTERNATE

RIGHT ANGLE SECTION OF PRECAST CONCRETE THREE-SIDED CULVERT

MIN. REQUIRED WATERWAY OPENING = 314 SQ. FT.
MIN. LOW CHORD ELEV. = 448.3 @ ℄ CULVERT

ASSEMBLED BY : J. G. KHARVA DATE : 4/1/12
CHECKED BY : B. C. HUNT DATE : 10/2012

F.A. PROJECT NO.: BRSTP-1003(40)

NOTES

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

MAXIMUM DESIGN FILL---------- 5.7'

MINIMUM DESIGN FILL---------- 5.2'

FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTE SHEET.

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.

THE REQUIRED BEARING CAPACITY OF THE STRIP FOOTINGS IS 15 TSF. THE REQUIRED BEARING CAPACITY SHALL BE VERIFIED.

KEY FOOTINGS FOR THE THREE-SIDED CULVERT AT STATION 15+18.00 -L- AT LEAST 12 INCHES INTO ROCK WITH A MINIMUM THICKNESS AS SHOWN.

TO PROVIDE PROTECTION FROM POSSIBLE SCOUR, THE FOOTINGS SHALL NOT BE CONSTRUCTED AT AN ELEVATION HIGHER THAN SHOWN ON THE PLANS.

THE SCOUR CRITICAL ELEVATION IS THE AS BUILT BOTTOM OF FOOTING ELEVATION. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR BLASTING ADJACENT TO HIGHWAY STRUCTURES, SEE STANDARD SPECIFICATIONS ARTICLE 410-9.

THE BOTTOM OF FOOTING ELEVATIONS MAY BE LOWERED IN ORDER TO SATISFY BEARING CAPACITY AND MINIMUM ROCK EMBEDMENT REQUIREMENTS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18 "EVALUATING SCOUR AT BRIDGES", MAY 2001

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

THE EXISTING STRUCTURE CONSISTING OF 1-SPAN AT 46'-0" WITH AN ASPHALT WEARING SURFACE ON A TIMBER DECK AND STEEL GIRDERS AND A CLEAR ROADWAY WIDTH OF 24.5' SUPPORTED ON A SUBSTRUCTURE OF TIMBER CAPS, POSTS, CONCRETE SILLS, AND TIMBER POST AND STEEL CAP CRUTCH BENTS SHALL BE REMOVED.

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 SPECIFICATION.

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.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COST RESULTING FROM COMPLIANCE WITH APPLICABE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE."

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. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

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.

HYDRAULIC DATA

DESIGN DISCHARGE	= 1300 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= 446.6
DRAINAGE AREA	= 4.22 SQ. MI.
BASE DISCHARGE (Q100)	= 1857 C.F.S.
BASE HIGH WATER ELEVATION	= 448.3

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 4000 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 453.7

GRADE DATA

GRADE POINT ELEVATION @ STA. 15+18.00 -L-	= 453.87
BED ELEVATION @ STA. 15+18.00 -L-	= 439.3±
ROADWAY FILL SLOPES	= 2:1

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURE	LUMP SUM	
PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT @ STA. 15+18.00 -L-	LUMP SUM	
CLASS A CONCRETE		
FOOTINGS	19.0	CU.YDS.
WINGS	36.1	CU.YDS.
TOTAL	55.1	CU.YDS.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

NORTH CAROLINA PROFESSIONAL SEAL 24097 ENGINEER BUCK CHARLES HUNT

1/14/13

PROJECT NO. B-4824

UNION COUNTY

STATION: 15+18.00 -L-

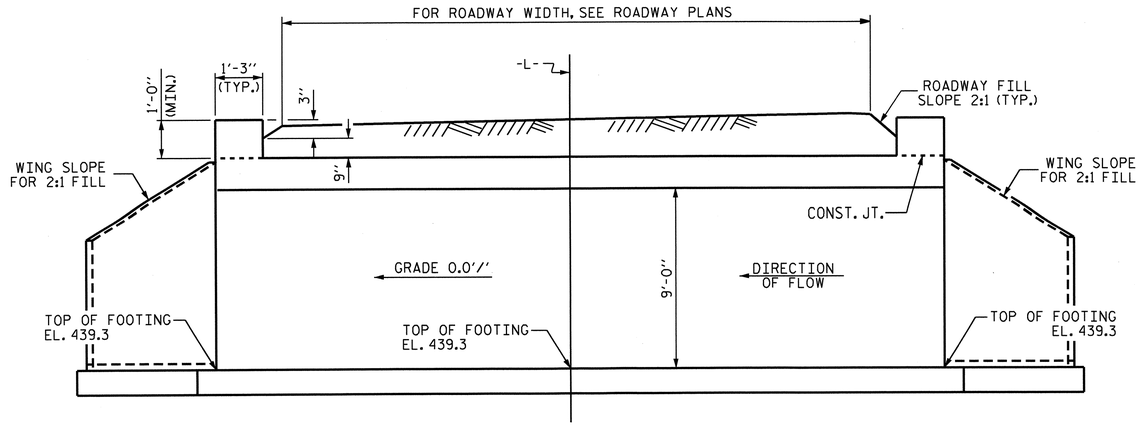
SHEET 1 OF 4 REPLACES BRIDGE NO. 453

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

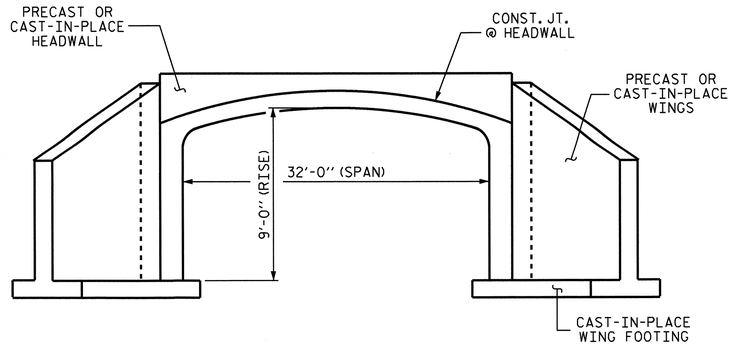
PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT

130° SKEW

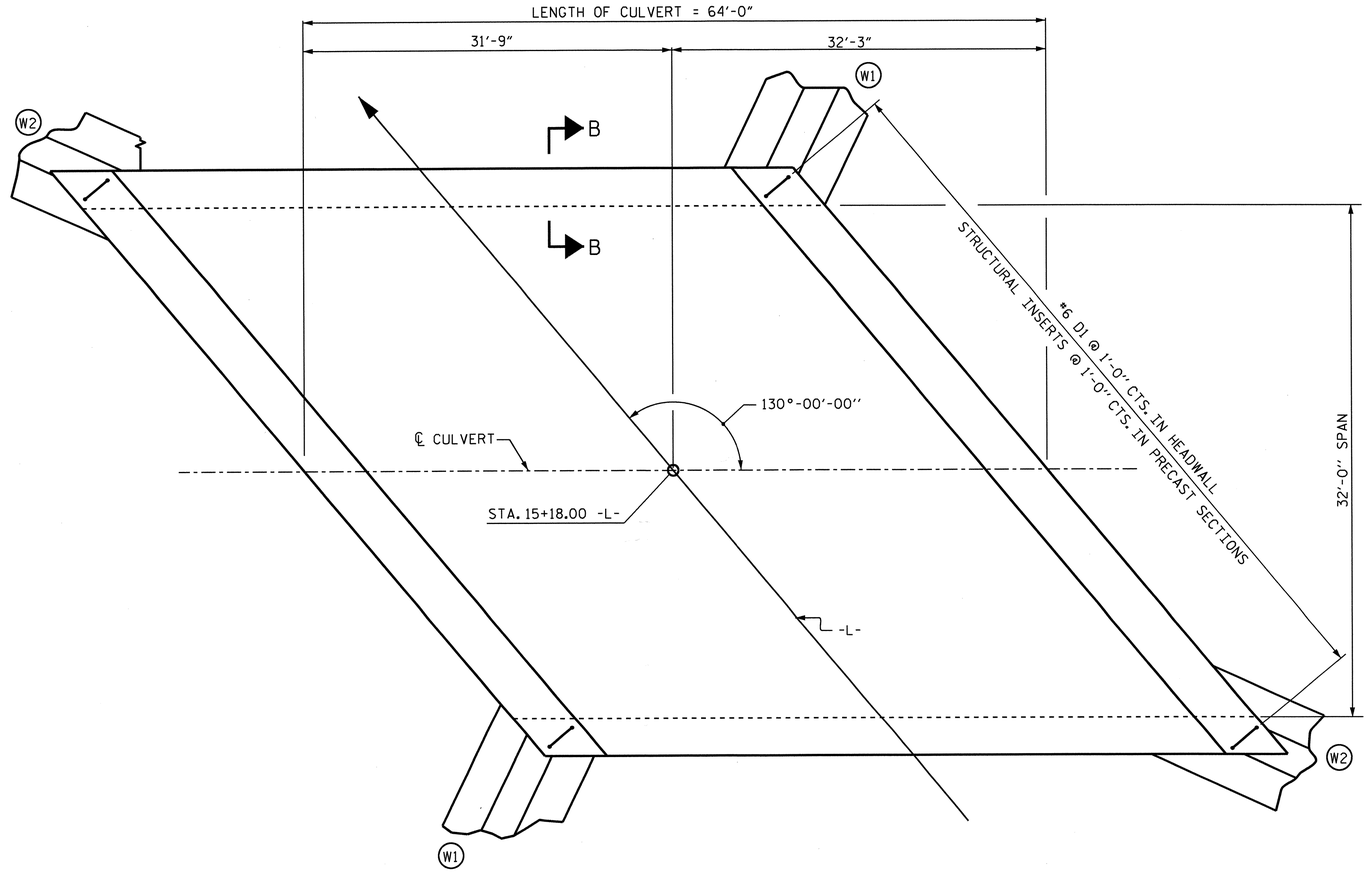
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			4



CULVERT SECTION NORMAL TO ROADWAY

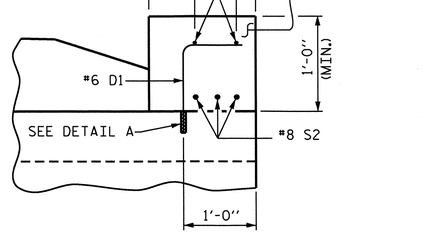


END ELEVATION



LENGTH FOR PRECAST THREE-SIDED CULVERT

(SEE SHEET 3 OF 3 FOR SECTION B-B)



SECTION THRU HEADWALL

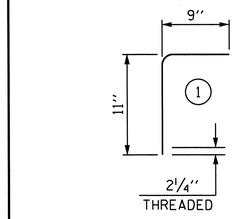
DETAIL A

** APPROVED GALVANIZED CONCRETE INSERTS HAVING A MINIMUM WORKING LOAD TENSION CAPACITY OF 2.5 KIPS.
DIA. = ¾", NO. REQUIRED 90

BAR SCHEDULE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
D1	90	6	1	1'-8"	225
G1	4	5	STR	48'-2"	201
S2	6	8	STR	48'-2"	772
TOTAL				LBS.	1198

BAR TYPE



PROJECT NO. B-4824

UNION COUNTY

STATION: 15+18.00 -L-

SHEET 2 OF 4

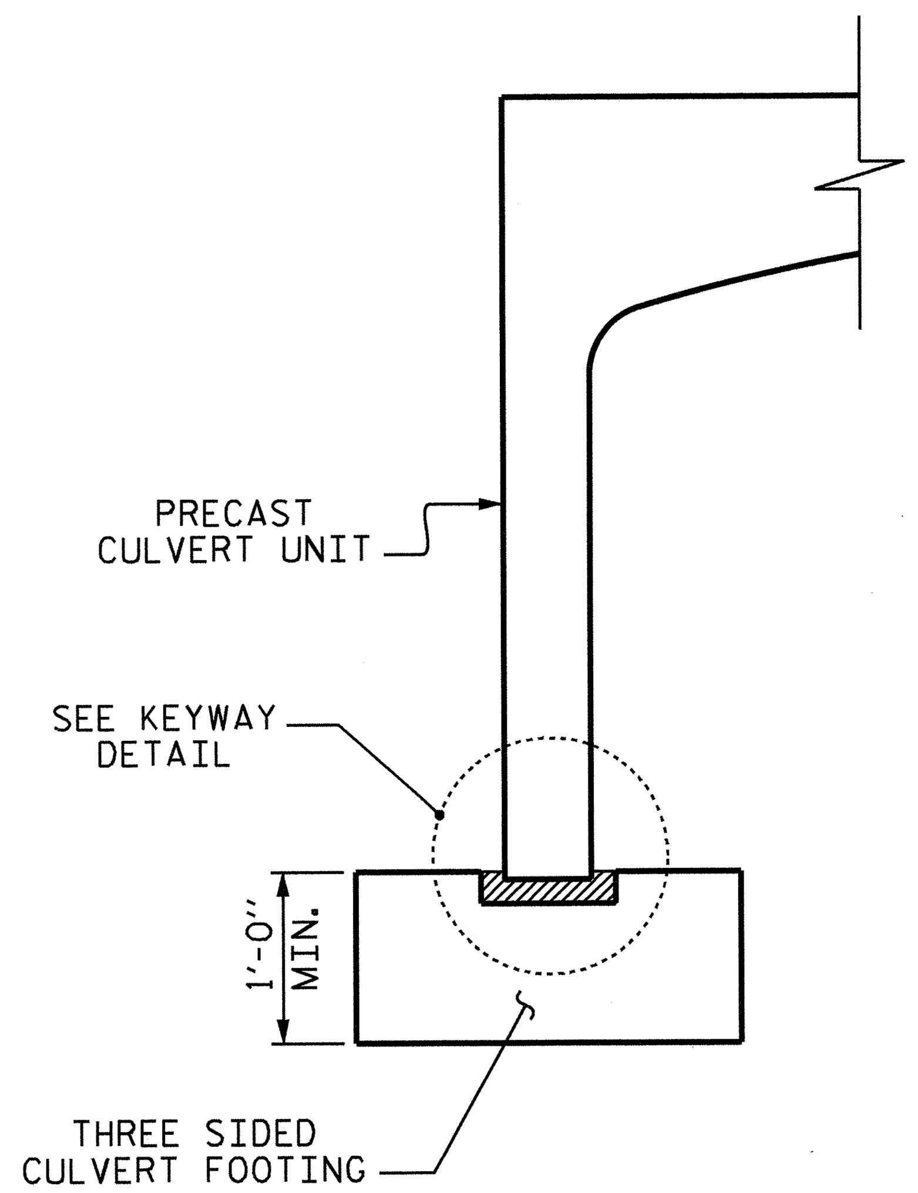
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT 130° SKEW

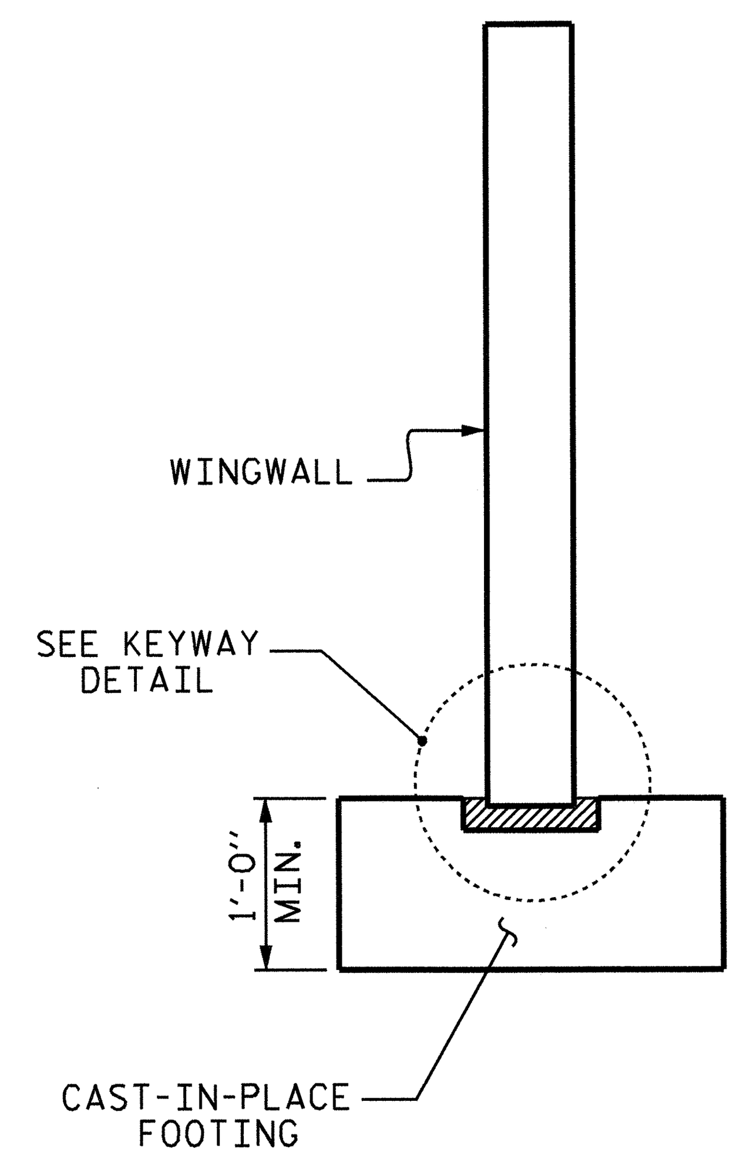
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-2
1			3			TOTAL SHEETS
2			4			4

ASSEMBLED BY : J. G. KHARVA DATE : 4/02/12
CHECKED BY : B. C. HUNT DATE : 10/2012

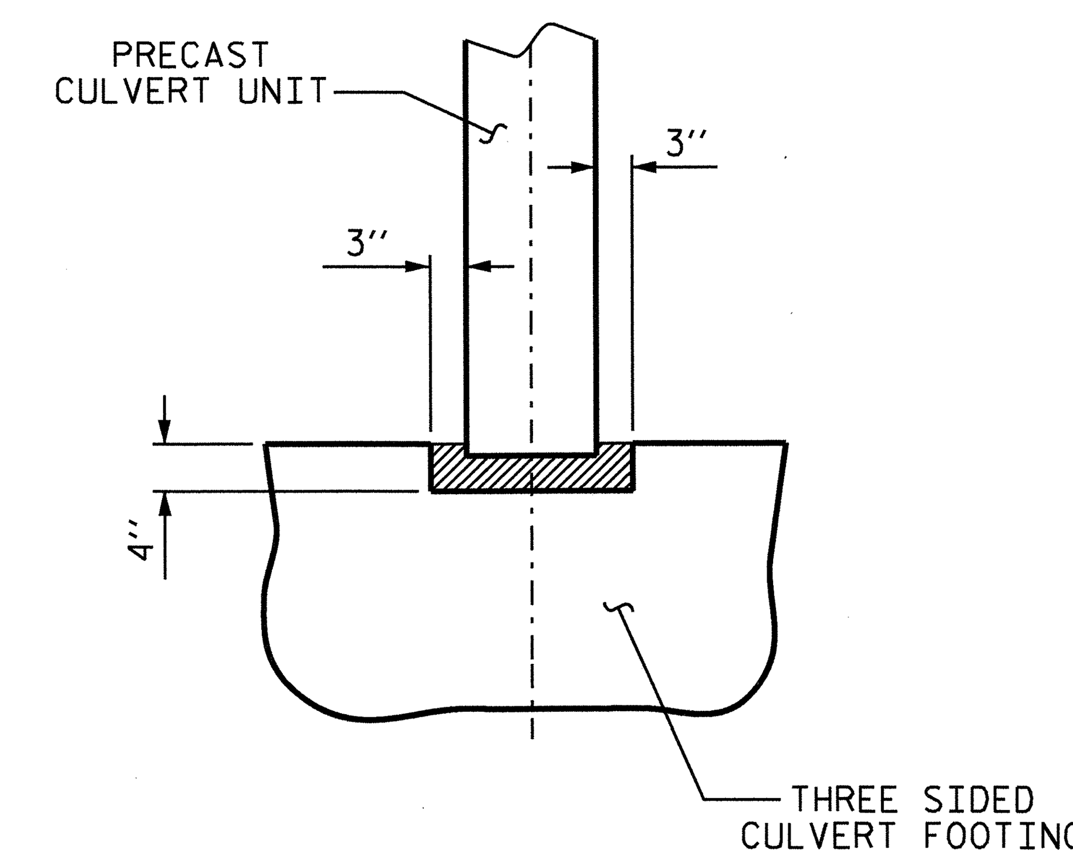
NORTH CAROLINA PROFESSIONAL SEAL 14009 ENGINEER BUCK CHARLES HUNT
1/14/13



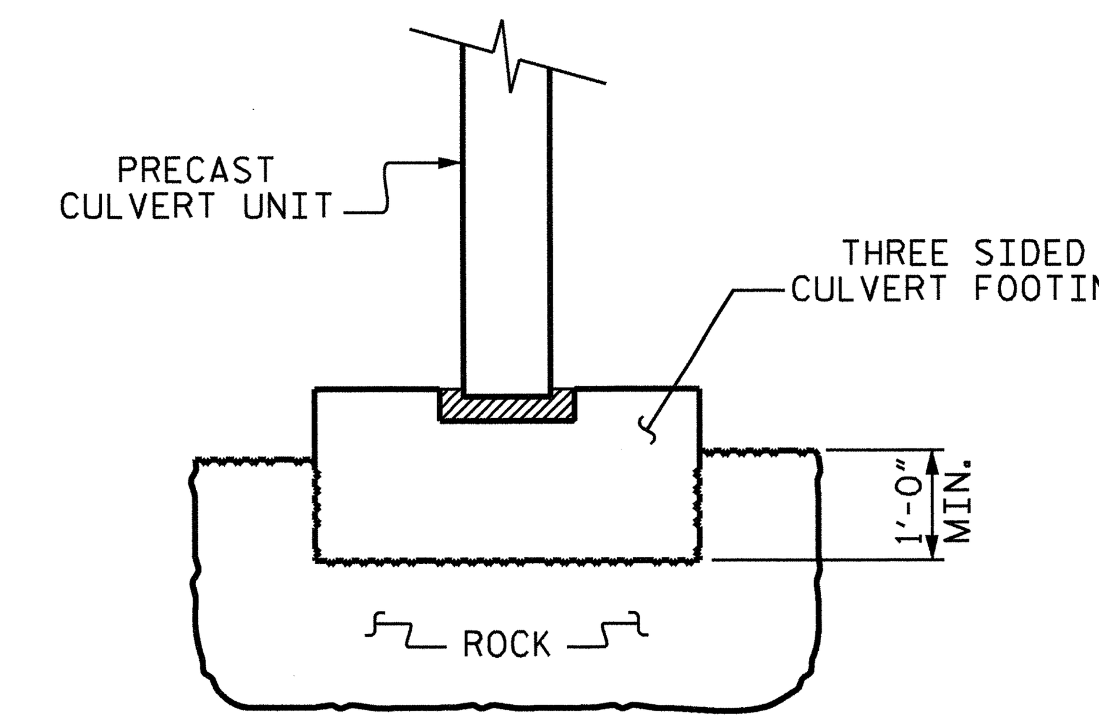
SECTION B-B



SECTION THRU WINGWALL

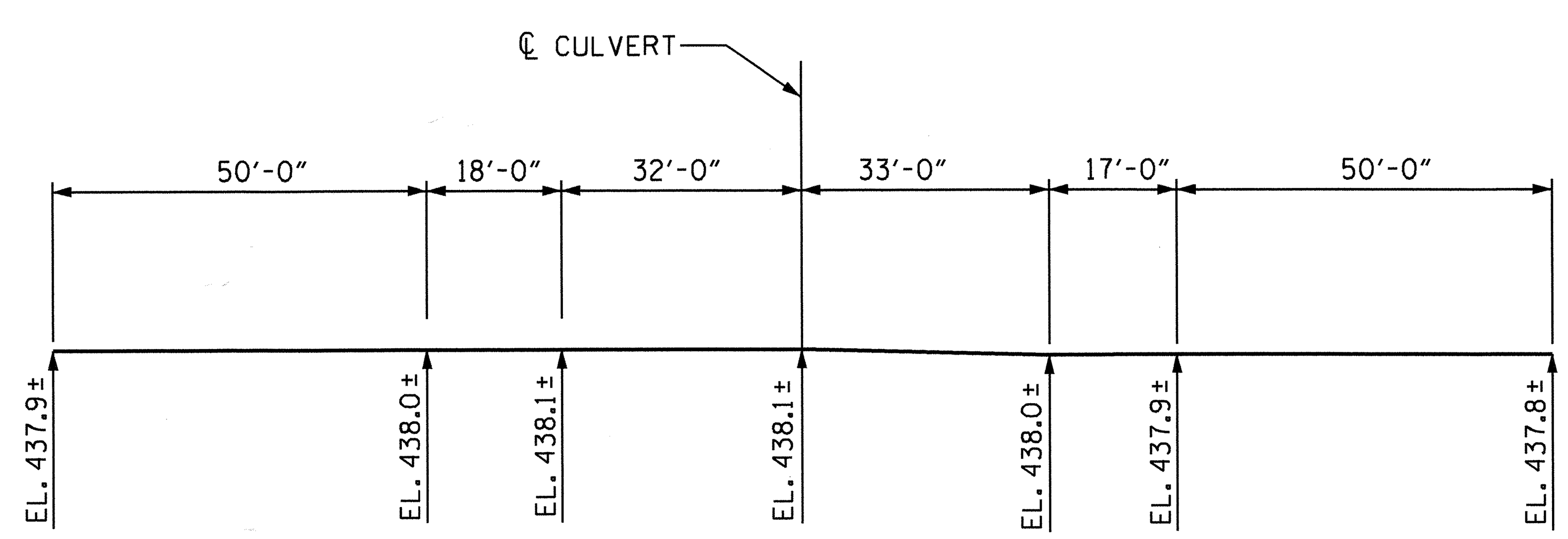


KEYWAY DETAIL



KEYED FOOTING DETAIL

SIDES OF FOOTING SHALL BE IN CONTACT WITH UNDISTURBED MATERIAL FOR MINIMUM DIMENSION SHOWN



PROFILE ALONG ℄ CULVERT

PROJECT NO. B-4824

UNION COUNTY

STATION: 15+18.00 -L-

SHEET 3 OF 4

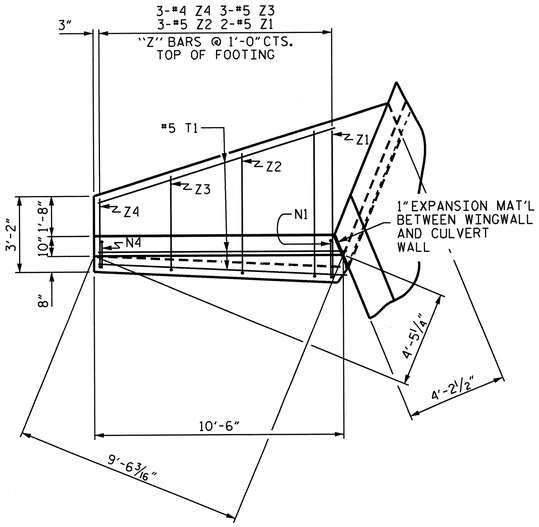
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT

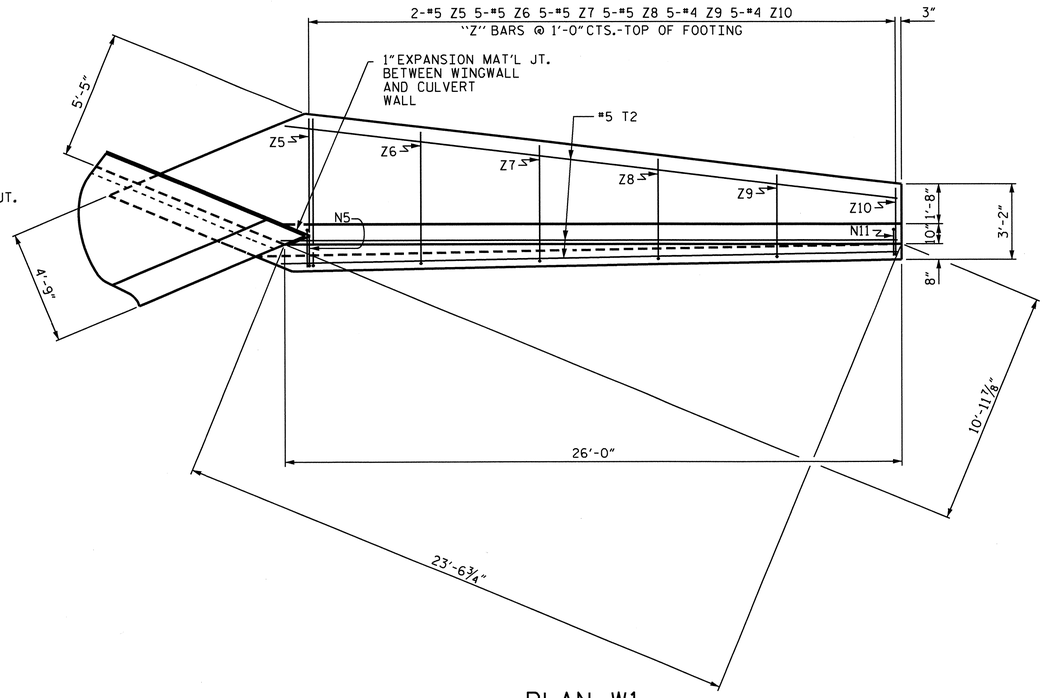
130° SKEW

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

ASSEMBLED BY : J. G. KHARVA DATE : 4/02/12
CHECKED BY : B. C. HUNT DATE : 10/2012



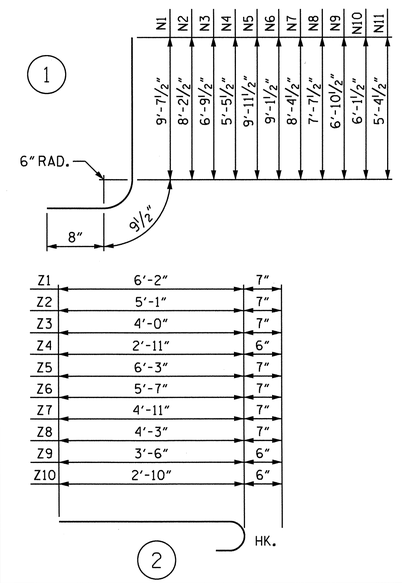
PLAN W2



PLAN W1

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.

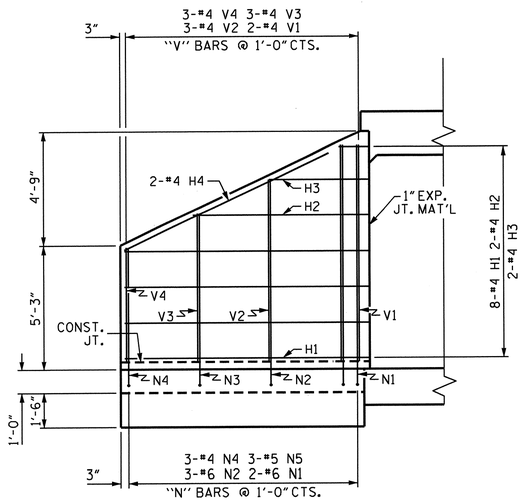


BILL OF MATERIAL

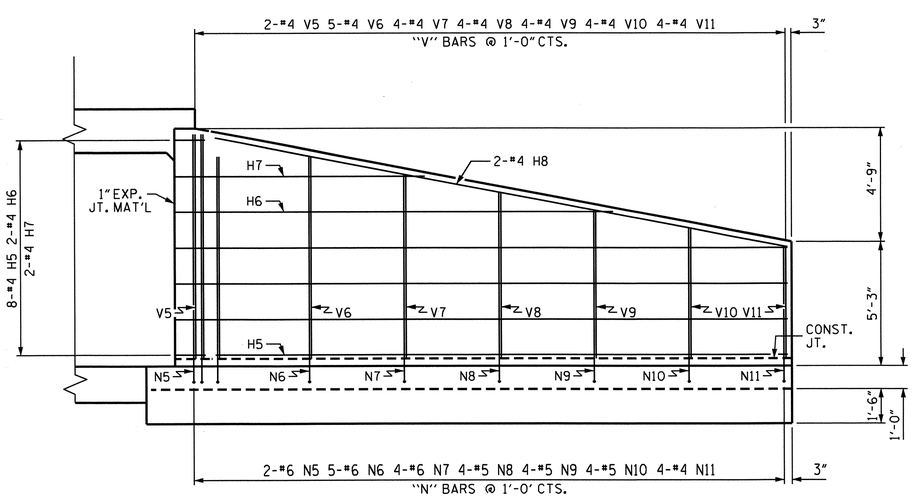
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	16	#4	STR	8'-7"	92
H2	4	#4	STR	5'-8"	15
H3	4	#4	STR	2'-6"	7
H4	4	#4	STR	9'-6"	25
H5	16	#4	STR	24'-1"	257
H6	4	#4	STR	16'-9"	45
H7	4	#4	STR	8'-10"	24
H8	4	#4	STR	24'-6"	65
N1	4	#6	1	11'-1"	67
N2	6	#6	1	9'-8"	87
N3	6	#5	1	8'-3"	52
N4	6	#4	1	6'-11"	28
N5	4	#6	1	11'-5"	69
N6	10	#6	1	10'-7"	159
N7	8	#6	1	9'-10"	118
N8	8	#5	1	9'-1"	76
N9	8	#5	1	8'-4"	70
N10	8	#5	1	7'-7"	63
N11	8	#4	1	6'-10"	37
T1	6	#5	STR	10'-6"	66
T2	6	#5	STR	26'-0"	163
V1	4	#4	STR	9'-1"	24
V2	6	#4	STR	7'-8"	31
V3	6	#4	STR	6'-3"	25
V4	6	#4	STR	4'-10"	19
V5	4	#4	STR	9'-5"	25
V6	10	#4	STR	8'-6"	57
V7	8	#4	STR	7'-9"	41
V8	8	#4	STR	7'-0"	37
V9	8	#4	STR	6'-3"	33
V10	8	#4	STR	5'-6"	29
V11	8	#4	STR	4'-9"	25
Z1	4	#5	2	6'-9"	28
Z2	6	#5	2	5'-8"	35
Z3	6	#5	2	4'-7"	29
Z4	6	#4	2	3'-5"	14
Z5	4	#5	2	6'-10"	29
Z6	10	#5	2	6'-2"	64
Z7	10	#5	2	5'-6"	57
Z8	10	#5	2	4'-10"	50
Z9	10	#4	2	4'-0"	27
Z10	10	#4	2	3'-4"	22

REINFORCING STEEL FOR 4 WINGS 2286 LBS

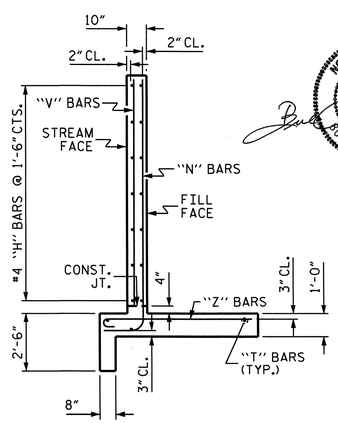
CLASS A CONCRETE 4 WINGS 36.1 CY



ELEVATION W2



ELEVATION W1



TYPICAL WING SECTION

PROJECT NO. B-4824

UNION COUNTY

STATION: 15+18.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

WINGS FOR CONCRETE BOX CULVERT

H = 9'-0" SLOPE = 2:1

130° SKEW

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

DRAWN BY : B.C. HUNT DATE : 4/2012
CHECKED BY : V.A. PATEL DATE : 4/2012

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 2012 "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 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. 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.

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.

ENGLISH

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