

LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

GRADE DATA	
GRADE POINT EL. @ STA. 43+98.00 -L-	= 580.170
BED EL. @ STA. 43+98.00 -L-	= 568.560
ROADWAY SLOPES	= 2:1

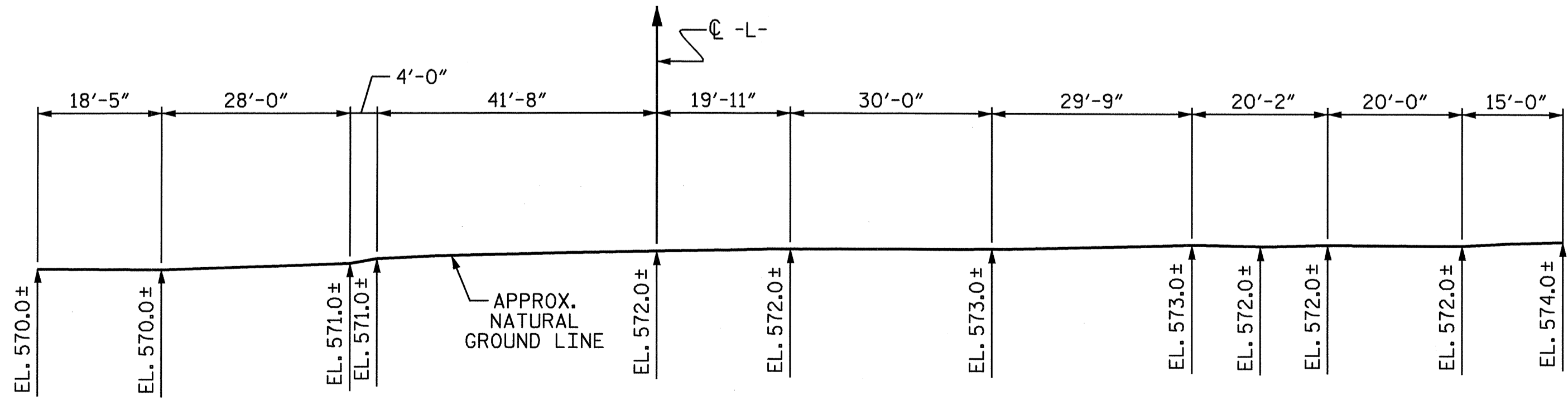
HYDRAULIC DATA	
DESIGN DISCHARGE	= 310 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 574.1
DRAINAGE AREA	= 0.153 SQ. MI.
BASIC DISCHARGE (Q100)	= 360 CFS
BASIC HIGH WATER ELEVATION	= 574.3

OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 750 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 576.3

NOTES

- ASSUMED LIVE LOAD HS20-44 OR ALTERNATE LOADING.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- DESIGN FILL = 5.70 FEET.
- FOR OTHER DESIGN DATA AND NOTES SEE SHEET SN.
- 3" DIA. WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 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.
- 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.
- AT THE CONTRACTORS OPTION THE VERTICAL CONSTRUCTION JOINT BETWEEN THE OUTLET WINGS AND THE BARREL MAYBE ELIMINATED AND THE 'C' BARS IN THE BARREL MAYBE EXTENDED TO REPLACE THE 'D' AND 'H' BARS IN THE WING AND SLAB.
- AT THE CONTRACTORS OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL ABOVE THE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS 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.
- TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FEET. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
- 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 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 EROSION CONTROL PLANS, SEE ROADWAY PLANS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- AT THE CONTRACTOR'S 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 AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT, SEE SPECIAL PROVISIONS.

TOTAL STRUCTURE QUANTITIES			
CULVERT EXCAVATION		LUMP SUM	
FOUNDATION COND. MAT'L		TONS	84
CLASS A CONCRETE			
BARREL & OUTLET WINGS	CU. YDS.		101.0
WINGS ETC.	CU. YDS.		8.2
TOTAL	CU. YDS.		109.2
REINFORCING STEEL			
BARRELS OUTLET WINGS	LBS.		15,334
WINGS ETC.	LBS.		469
TOTAL	LBS.		15,803



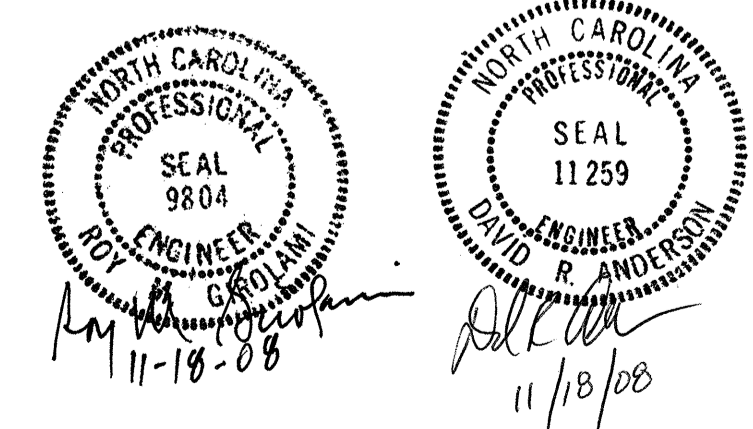
PROFILE ALONG CULVERT

DRAWN BY : J.A. TILLMAN DATE : 9/02/08
 CHECKED BY : R.G. EMERSON DATE : 9/22/08

18-NOV-2008 12:18
 P:\structures\U3300b\j\Tillman\micrstation\culvert\1\U3300b.ed.cu.01.dgn
 danderson

PROJECT NO. U-3300B
 STANLY COUNTY
 STATION: 43+98.00 -L-

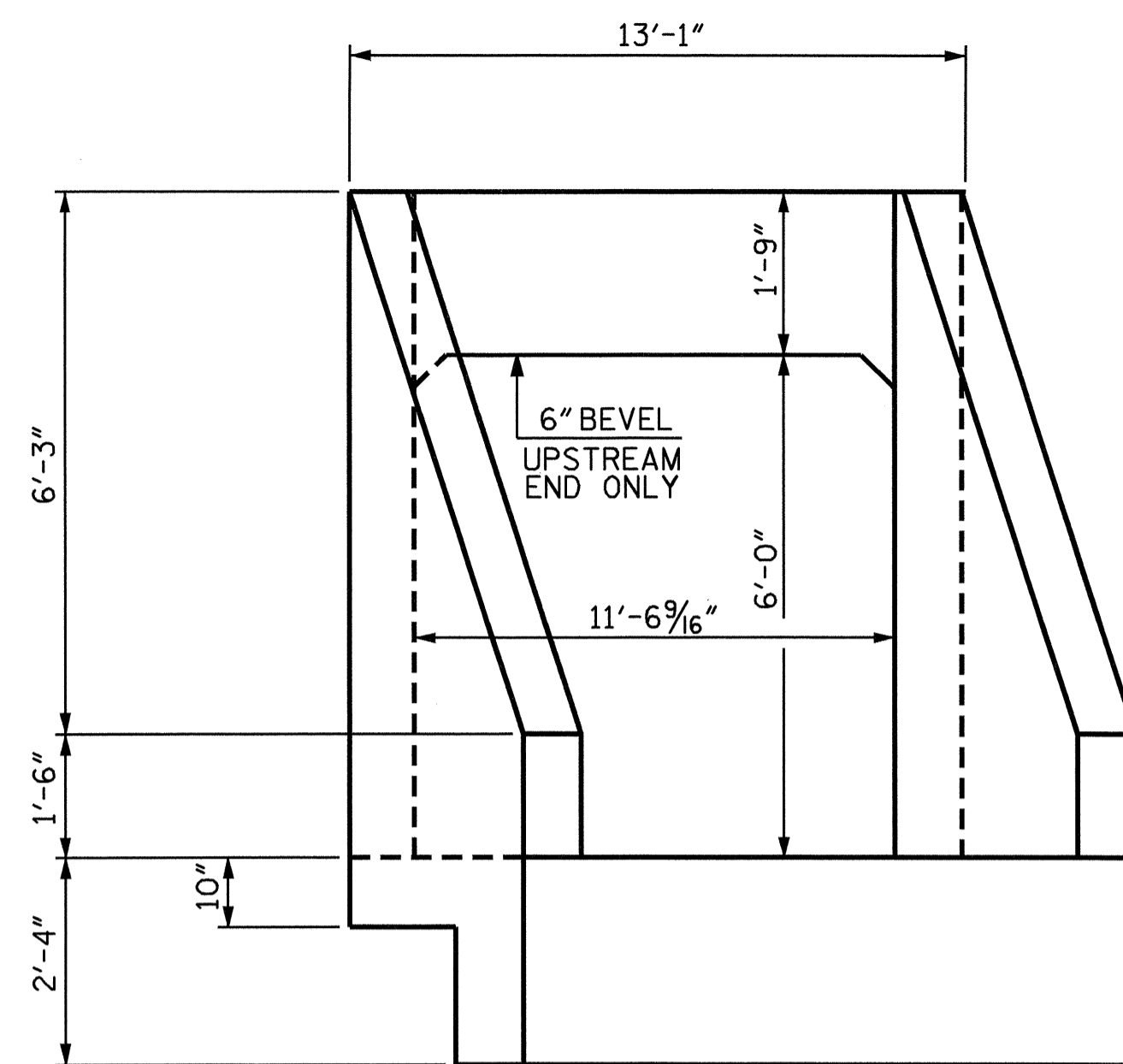
SHEET 1 OF 5



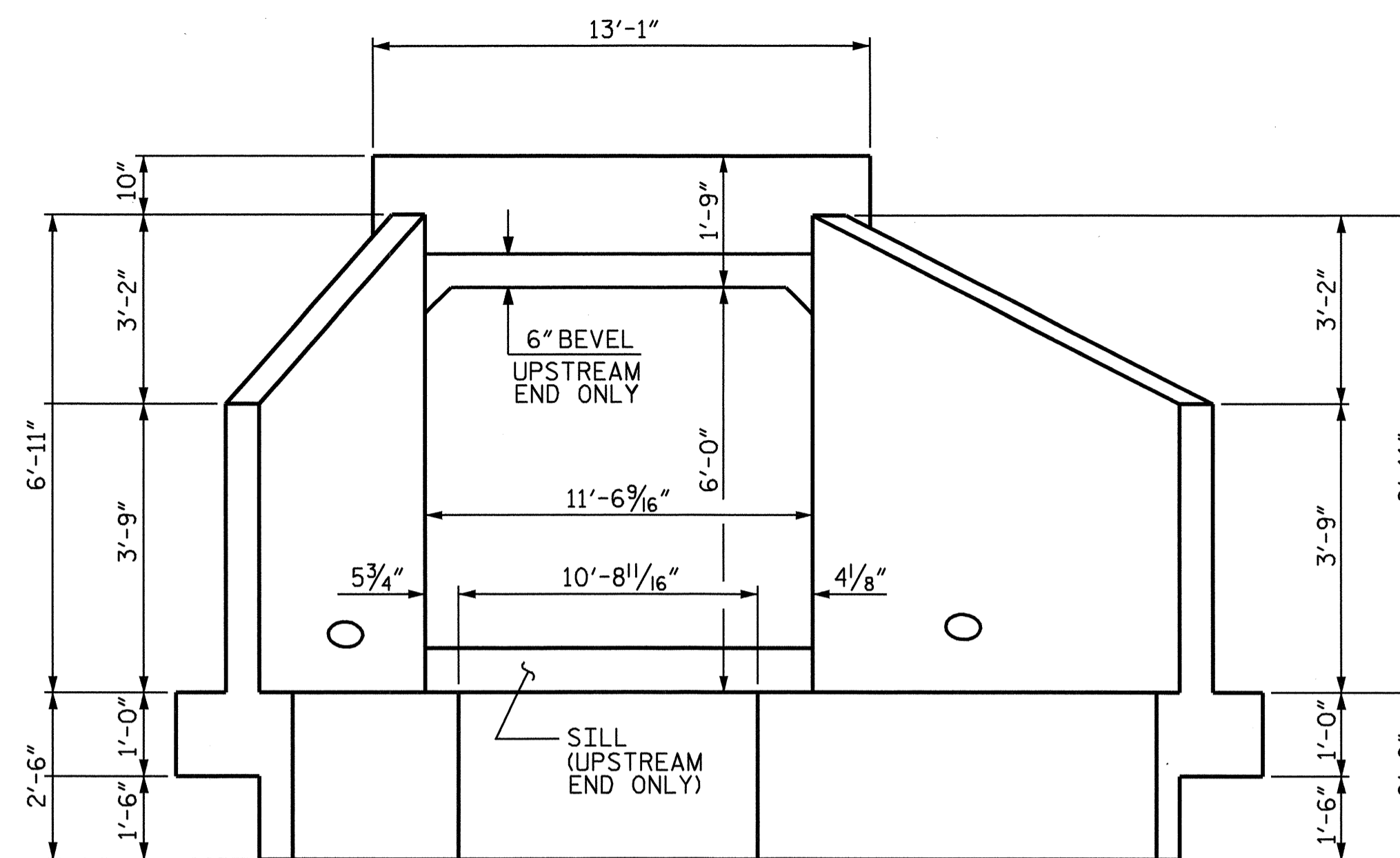
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BARREL STANDARD
 SINGLE 10 FT. X 6 FT.
 CONCRETE BOX CULVERT
 53° SKEW

REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	9
1			3			
2			4			

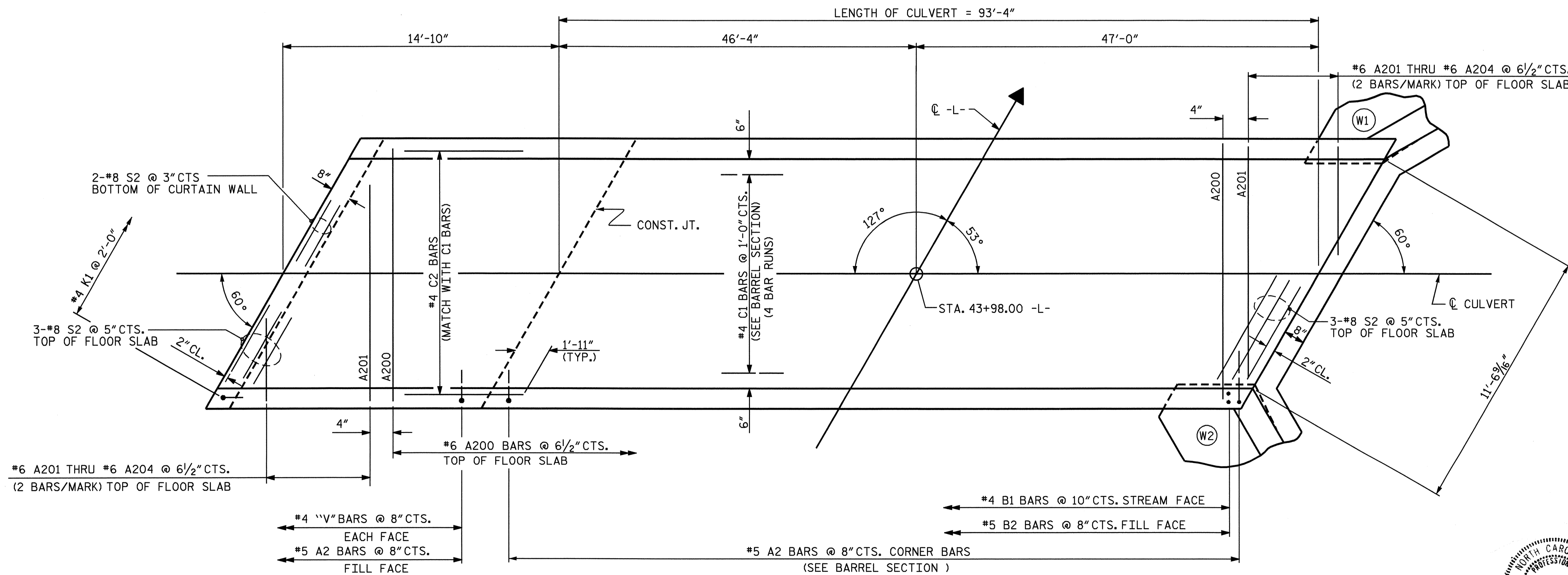
SHEET NO. C-1



OUTLET END ELEVATION - NORMAL TO SKEW



END ELEVATION NORMAL TO SKEW

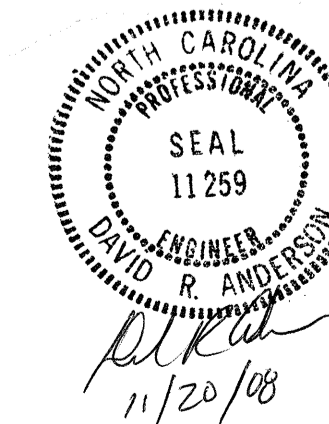


PART PLAN - FLOOR SLAB

PROJECT NO. U-3300B
STANLY COUNTY
 STATION: 43+98.00 -L-

SHEET 3 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
BARREL STANDARD
SINGLE 10FT. X 6FT.
CONCRETE BOX CULVERT
53° SKEW

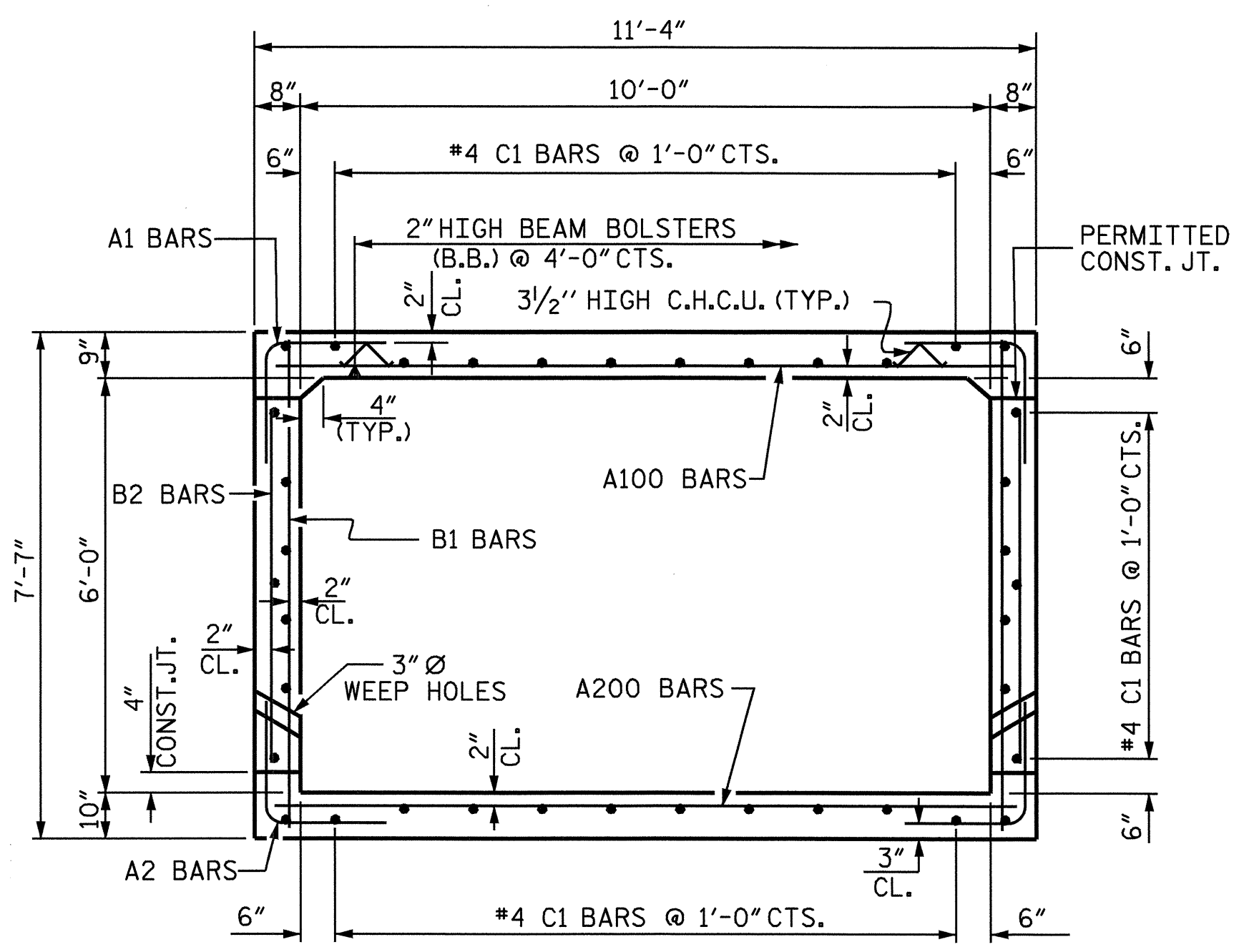


REVISED 8-28-82 BY E.L.R. CHECKED BY G.R.P.
 REVISED 8-22-89 BY A.R.B. CHECKED BY C.R.K.
 REDRAWN 8-22-89

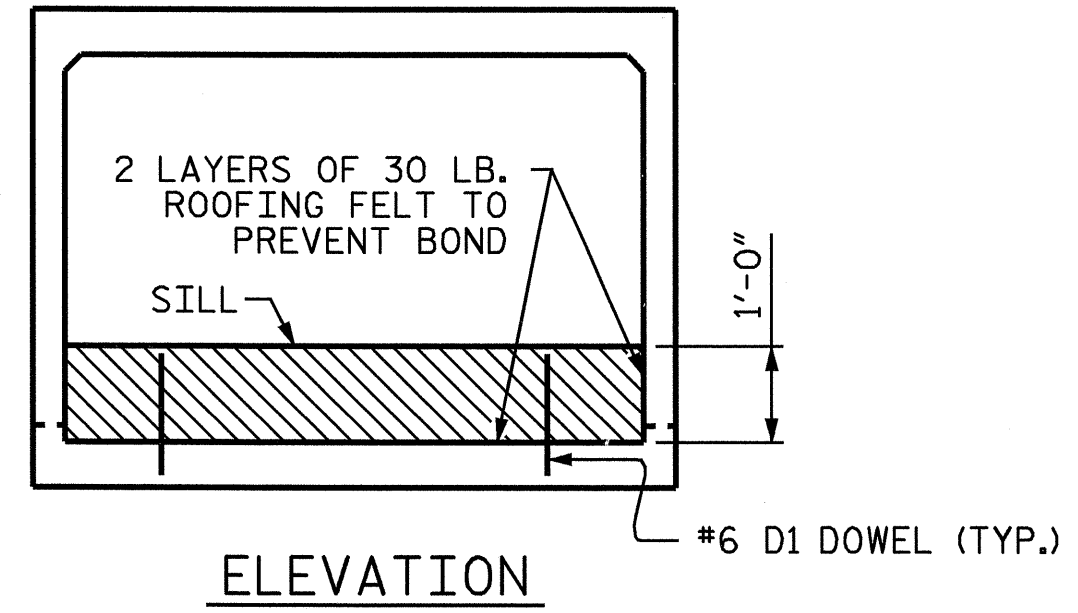
ASSEMBLED BY: J.A. TILLMAN DATE: 9/15/08
 CHECKED BY: R.G. EMERSON DATE: 9/22/08
 DRAWN BY: B.M. MEYERS DATE: AUG. 1989
 CHECKED BY: A.R. BISSETTE DATE: AUG. 1989

SPECIAL
STANDARD

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	C-3	
1			3			TOTAL SHEETS	
2			4			9	



RIGHT ANGLE SECTION OF BARREL
 THERE ARE 38 "C" BARS IN SECTION OF BARREL

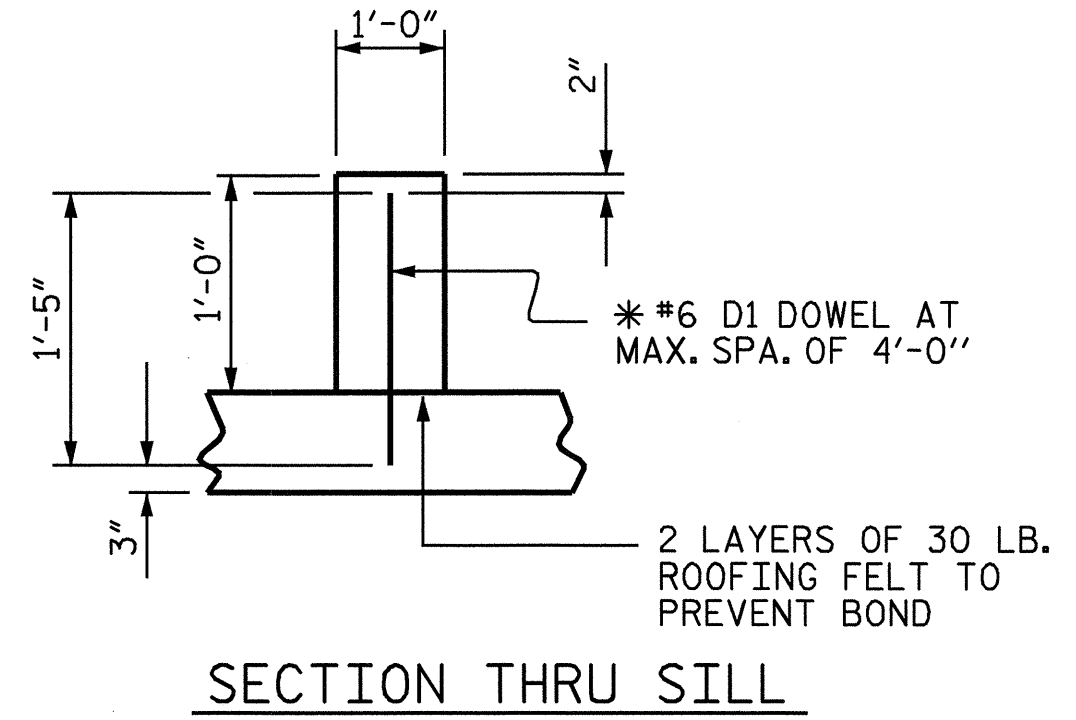


ELEVATION
 #6 D1 DOWEL (TYP.)

CULVERT SILL DETAILS

* DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER SLAB HAS BEEN FLOAT FINISHED.

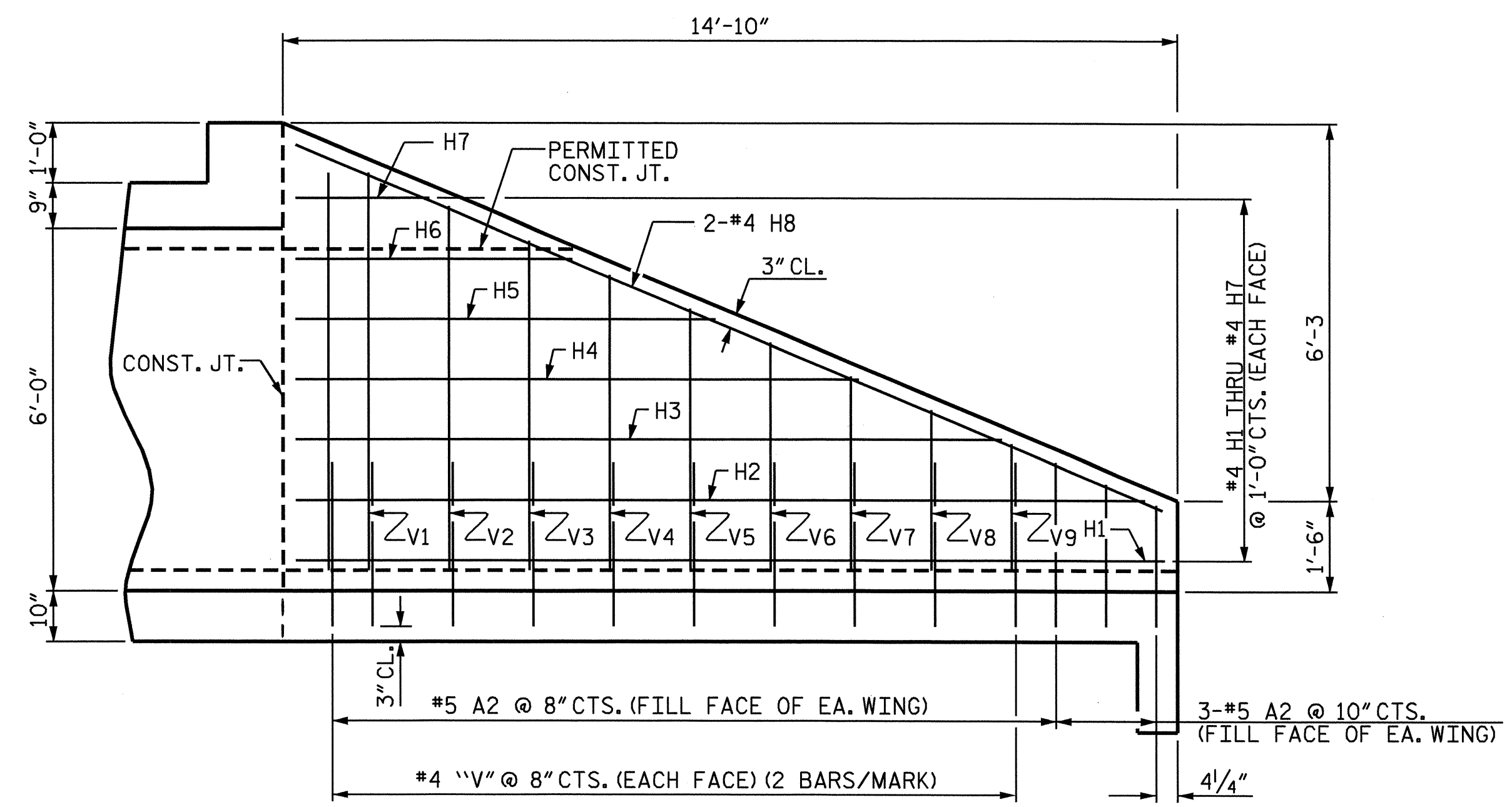
NOTES
 THE VERTICAL LEG OF THE A2 BARS SHALL BE CUT OFF AS NECESSARY AT THE ENDS OF THE OUTLET WINGS TO MAINTAIN 2 1/2 INCH CLEARANCE FROM TOP OF WINGS.



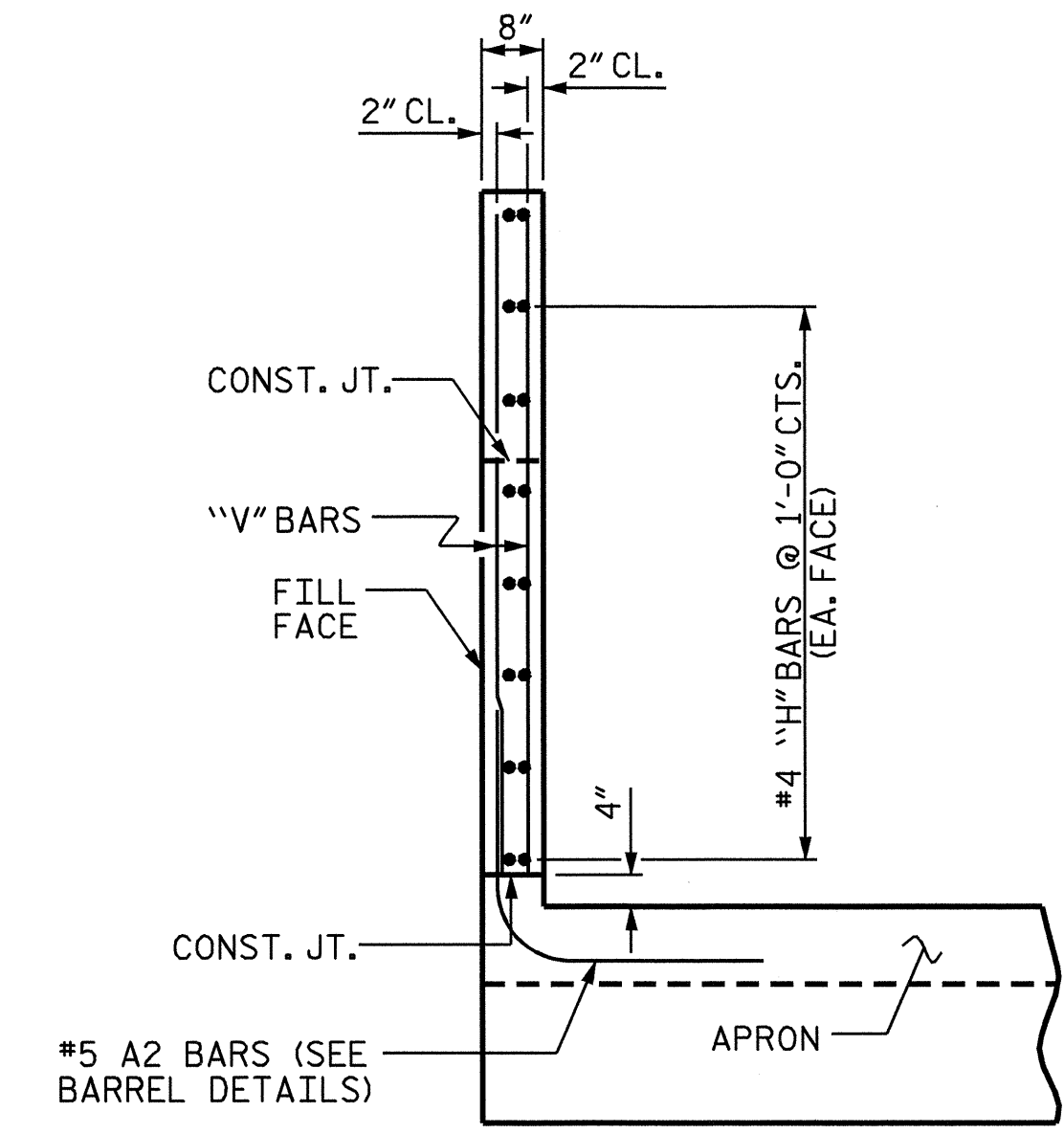
SECTION THRU SILL

BAR TYPE		BILL OF MATERIAL				
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
A1	280	#5	1	5'-1"	1485	
A2	324	#5	1	4'-8"	1577	
A100	161	#6	STR	10'-11"	2640	
A101	4	#6	STR	8'-10"	53	
A102	4	#6	STR	7'-0"	42	
A103	4	#6	STR	5'-1"	31	
A104	4	#6	STR	3'-3"	20	
A200	187	#6	STR	10'-11"	3066	
A201	4	#6	STR	8'-10"	53	
A202	4	#6	STR	7'-0"	42	
A203	4	#6	STR	5'-1"	31	
A204	4	#6	STR	3'-3"	20	
B1	224	#4	STR	7'-1"	1060	
B2	280	#5	STR	5'-4"	1558	
C1	152	#4	STR	24'-10"	2521	
C2	12	#4	STR	16'-6"	132	
D1	2	#6	STR	1'-5"	3	
D2	14	#6	STR	3'-0"	63	
G1	4	#4	STR	12'-8"	34	
H1	4	#4	STR	14'-4"	38	
H2	4	#4	STR	14'-1"	38	
H3	4	#4	STR	11'-8"	31	
H4	4	#4	STR	9'-4"	25	
H5	4	#4	STR	6'-11"	18	
H6	4	#4	STR	4'-7"	12	
H7	4	#4	STR	2'-2"	6	
H8	4	#4	STR	15'-7"	42	
K1	6	#4	2	3'-4"	13	
V1	8	#4	STR	6'-6"	35	
V2	8	#4	STR	6'-0"	32	
V3	8	#4	STR	5'-5"	29	
V4	8	#4	STR	4'-10"	26	
V5	8	#4	STR	4'-3"	23	
V6	8	#4	STR	3'-9"	20	
V7	8	#4	STR	3'-2"	17	
V8	8	#4	STR	2'-7"	14	
V9	8	#4	STR	2'-0"	11	
S2	14	#8	STR	12'-8"	473	
REINFORCING STEEL					LBS	15,334
CLASS A CONCRETE						
CULVERT BARREL (0.965 CY/FT.)					90.1	CY
2 OUTLET WINGS W/FLOOR					9.9	CY
SLAB, 1 CURTAIN WALL						
1 SILL					0.4	CY
1 HEADWALL					0.6	CY
TOTAL					101.0	CY

SPlice LENGTHS CHART		
BAR	SIZE	SPlice LENGTH
B1	4	1'-9"
C1	4	1'-11"
C2	4	1'-11"



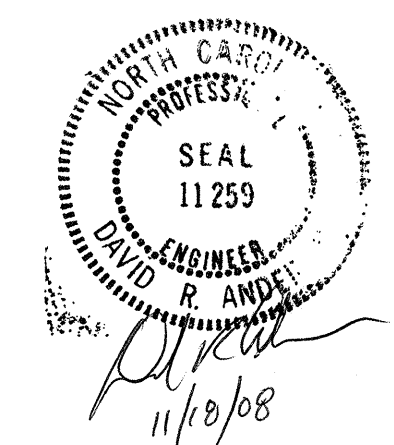
ELEVATION



OUTLET WING SECTION

PROJECT NO. U-3300B
 STANLY COUNTY
 STATION: 43+98.00 -L-

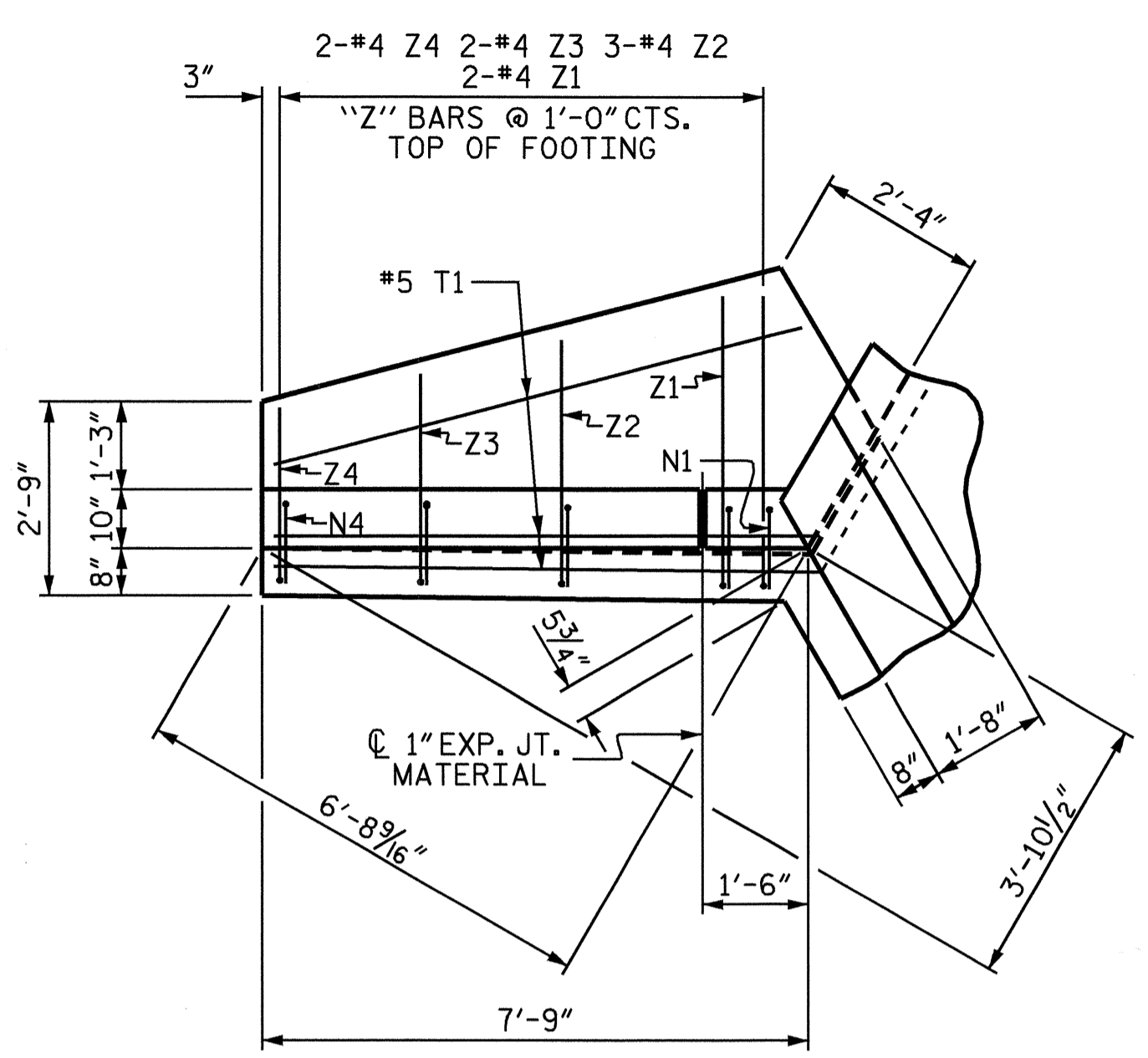
SHEET 4 OF 5
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
BARREL STANDARD
SINGLE 10FT. X 6FT.
CONCRETE BOX CULVERT
53° SKEW



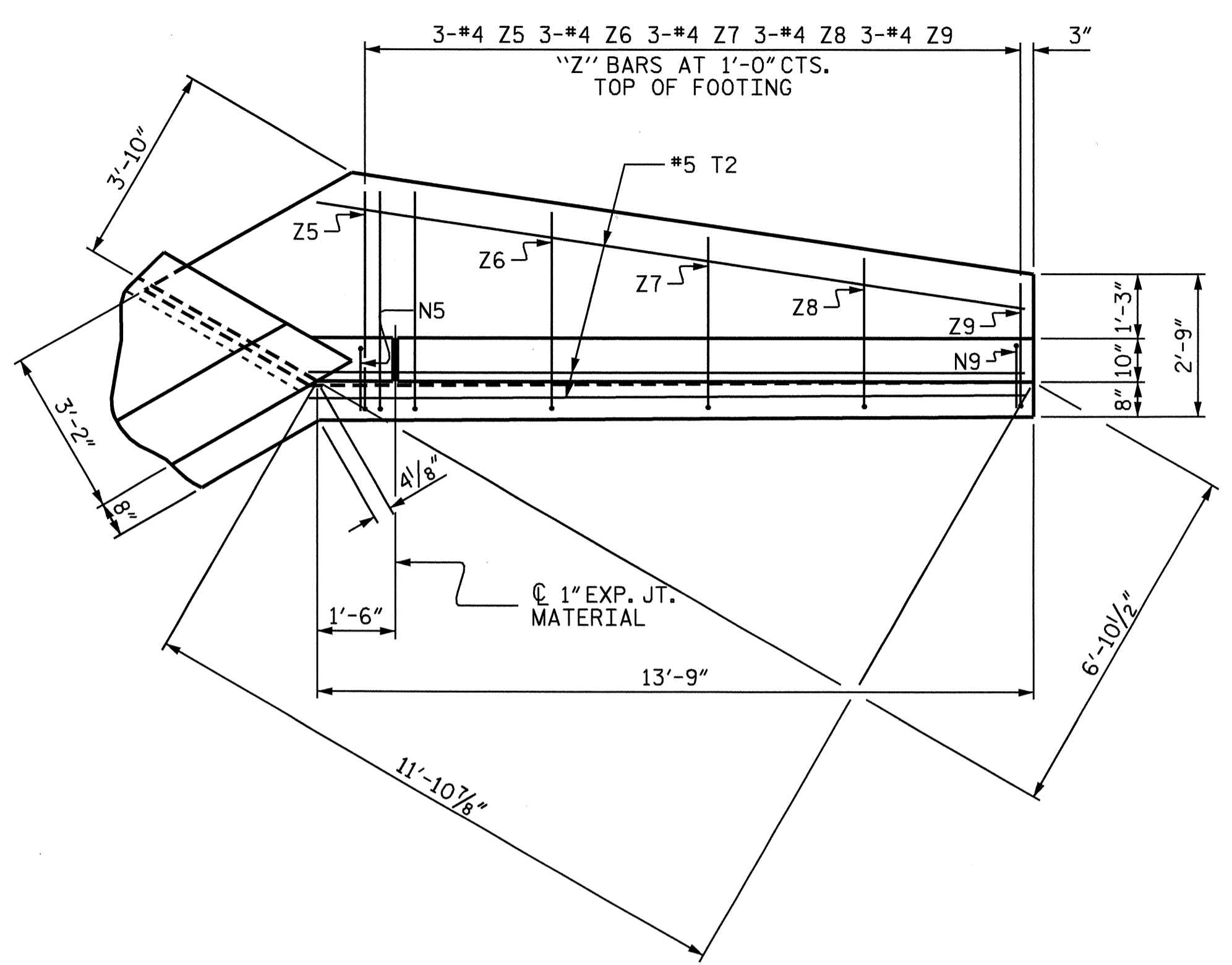
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-4
1			3			TOTAL SHEETS
2			4			9

REVISED 11-13-91 BY E.L.R. CHECKED BY G.R.P.
 ADDED 8-22-89

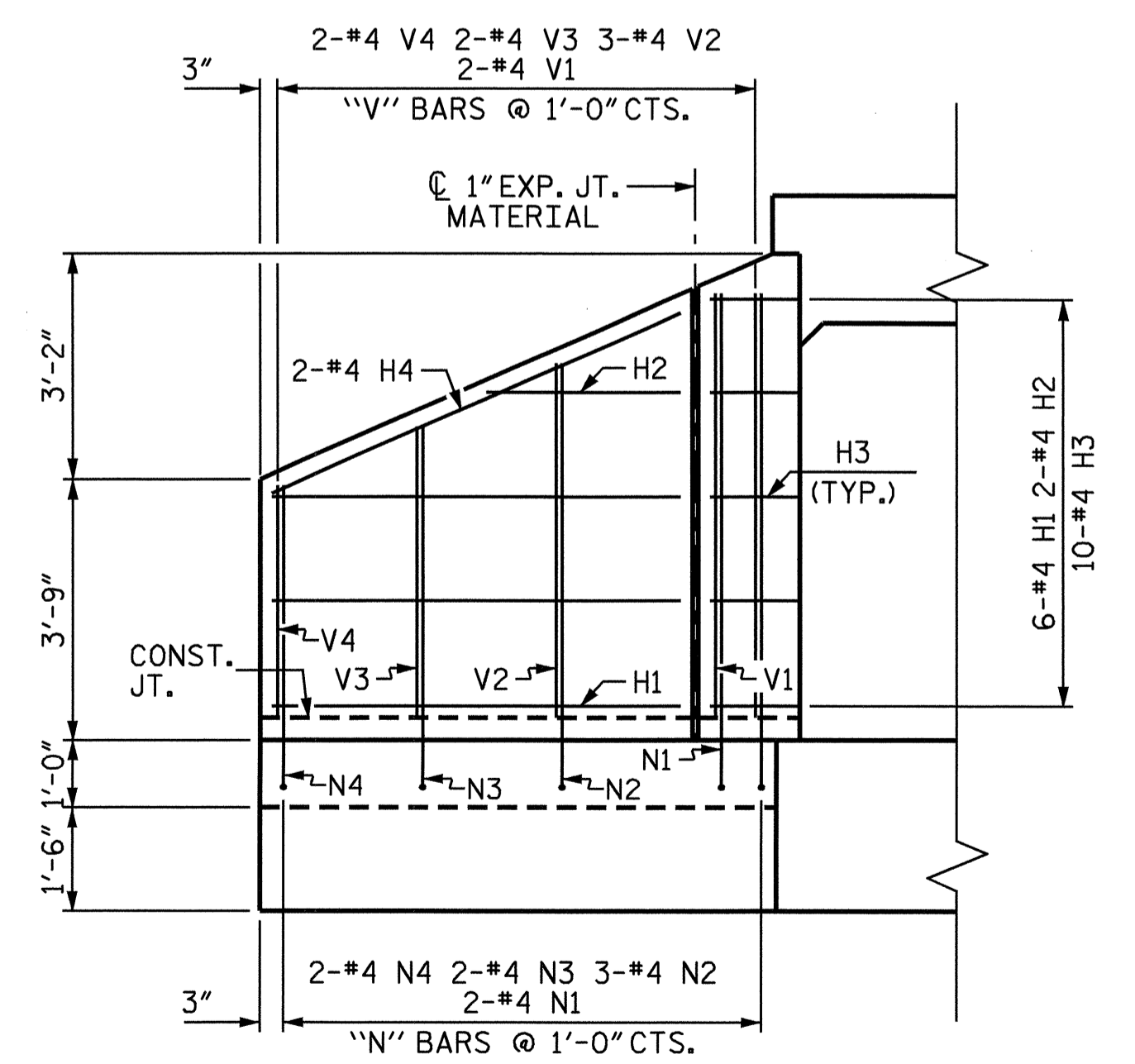
ASSEMBLED BY : J.A. TILLMAN	DATE : 9/15/08	SPECIAL
CHECKED BY : R.G. EMERSON	DATE : 9/22/08	
DRAWN BY : B.M. MEYERS	DATE : AUG. 1989	STANDARD
CHECKED BY : A.R. BISSETTE	DATE : AUG. 1989	



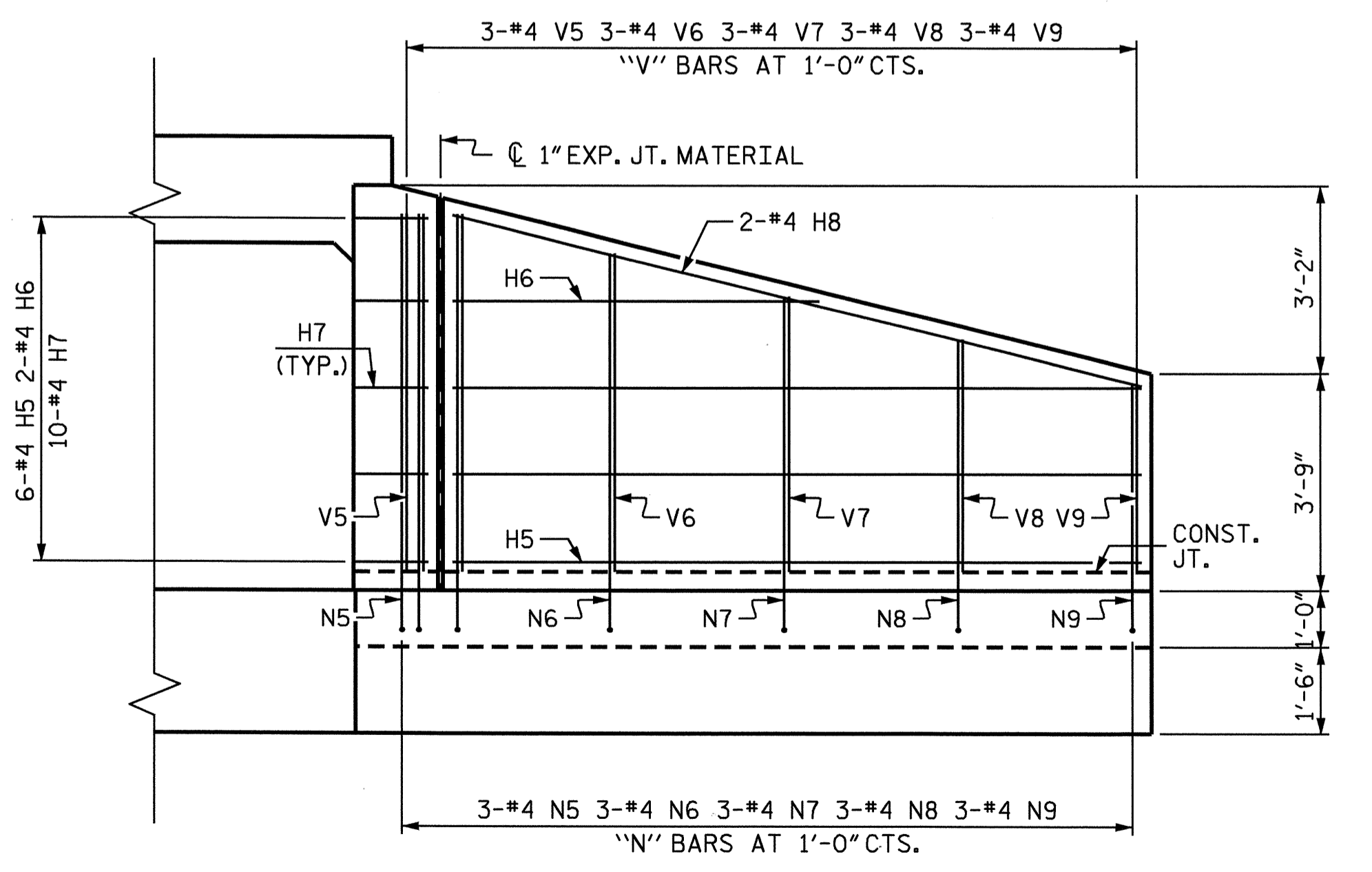
PLAN W2



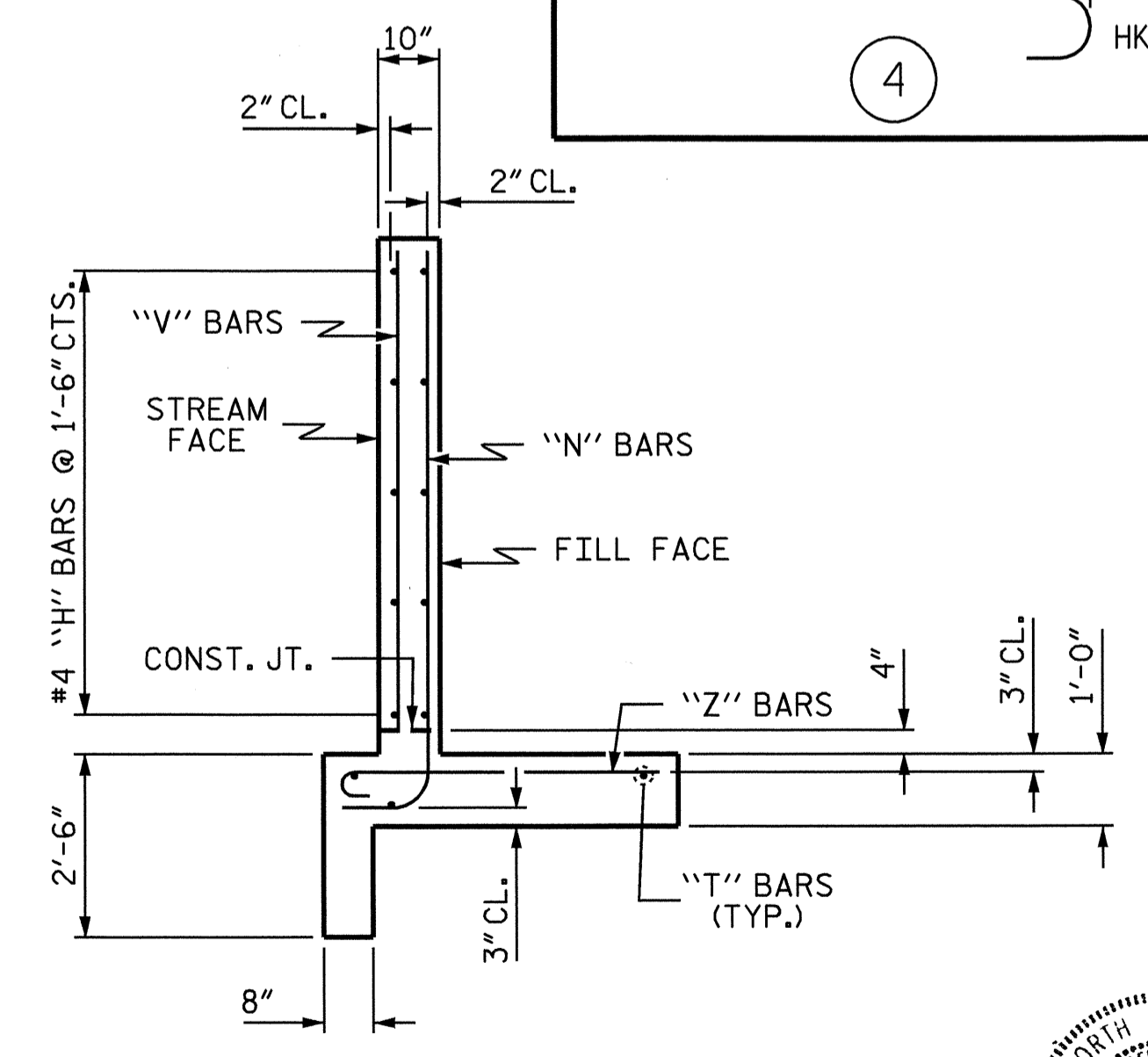
PLAN W1



ELEVATION W2



ELEVATION W1



TYPICAL WING SECTION

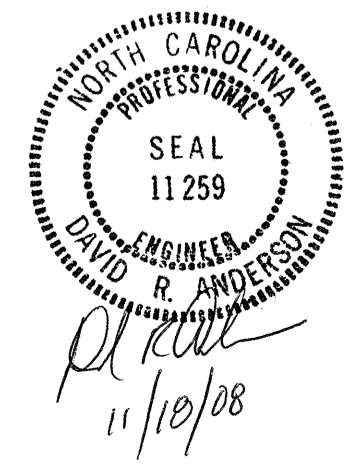
BAR TYPES
 ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	6	#4	STR	5'-10"	23
H2	2	#4	STR	2'-9"	4
H3	10	#4	1	3'-3"	22
H4	2	#4	STR	6'-5"	9
H5	6	#4	STR	11'-10"	47
H6	2	#4	STR	6'-3"	8
H7	10	#4	2	3'-3"	22
H8	2	#4	STR	12'-2"	16
N1	2	#4	3	8'-1"	11
N2	3	#4	3	7'-2"	14
N3	2	#4	3	6'-3"	8
N4	2	#4	3	5'-5"	7
N5	3	#4	3	8'-2"	16
N6	3	#4	3	7'-7"	15
N7	3	#4	3	6'-10"	14
N8	3	#4	3	6'-1"	12
N9	3	#4	3	5'-4"	11
T1	3	#5	STR	7'-9"	24
T2	3	#5	STR	13'-9"	43
V1	2	#4	STR	6'-1"	8
V2	3	#4	STR	5'-1"	10
V3	2	#4	STR	4'-2"	6
V4	2	#4	STR	3'-4"	4
V5	3	#4	STR	6'-2"	12
V6	3	#4	STR	5'-6"	11
V7	3	#4	STR	4'-9"	10
V8	3	#4	STR	4'-0"	8
V9	3	#4	STR	3'-3"	7
Z1	2	#4	4	4'-8"	6
Z2	3	#4	4	4'-0"	8
Z3	2	#4	4	3'-6"	5
Z4	2	#4	4	3'-0"	8
Z5	3	#4	4	4'-9"	10
Z6	3	#4	4	4'-4"	9
Z7	3	#4	4	3'-10"	8
Z8	3	#4	4	3'-5"	7
Z9	3	#4	4	2'-11"	6
REINFORCING STEEL FOR 2 WINGS				469	LBS
CLASS A CONCRETE					
2 WINGS				7.2	CY
1 HEADWALL				0.6	CY
1 END CURTAIN WALL				0.4	CY
TOTAL				8.2	CY

PROJECT NO. U-3300B
STANLEY COUNTY
 STATION: 43+98.00 -L-

SHEET 5 OF 5

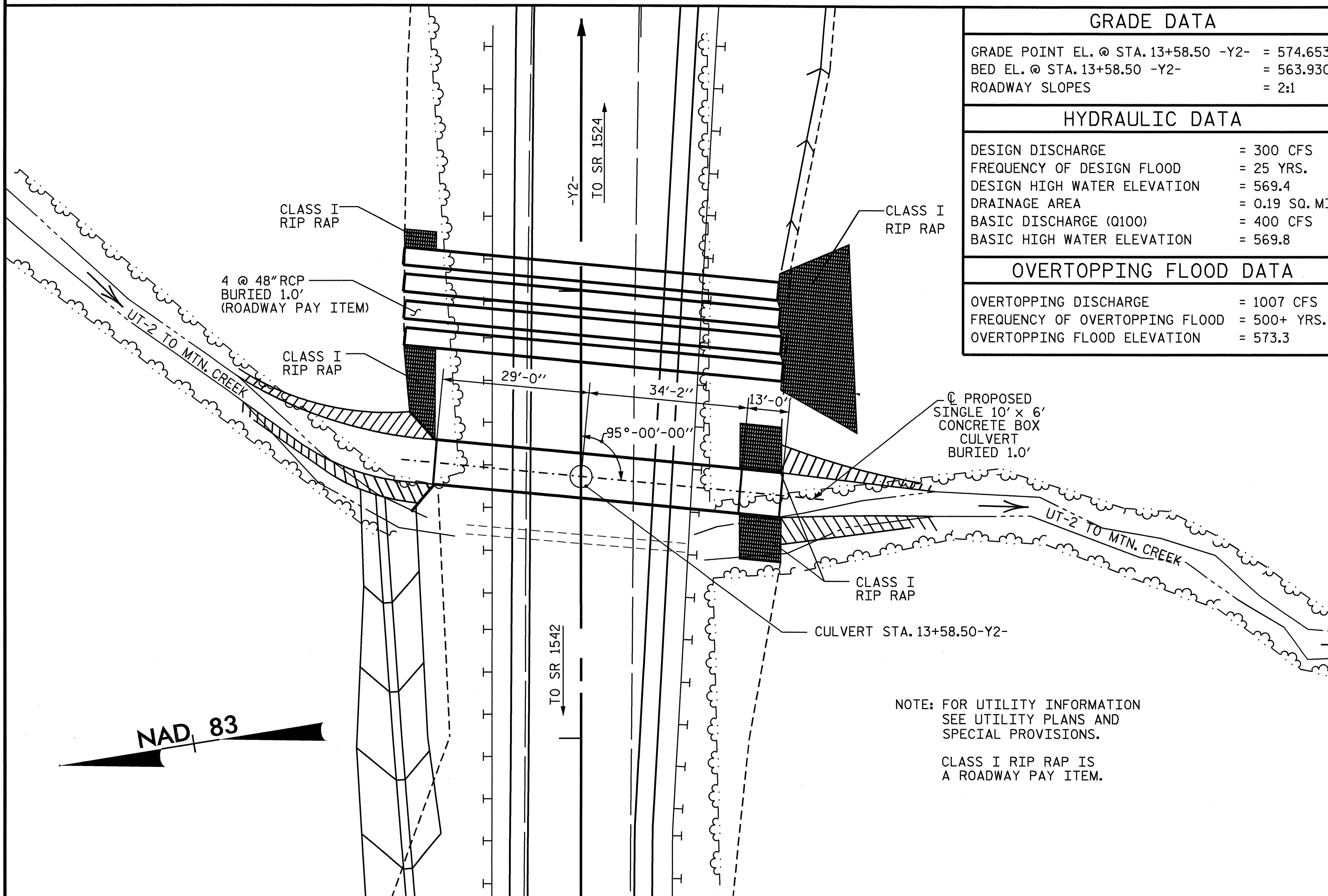
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
STANDARD WINGS
 FOR
CONCRETE BOX CULVERT
 H = 6'-0" SLOPE = 2:1
 60° SKEW



ASSEMBLED BY: J.A. TILLMAN	DATE: 9/15/08
CHECKED BY: R.G. EMERSON	DATE: 9/22/08
DRAWN BY: CCJ	11/99
CHECKED BY: RWW	03/00

REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 7



LOCATION SKETCH

GRADE DATA	
GRADE POINT EL. @ STA. 13+58.50 -Y2-	= 574.653
BED EL. @ STA. 13+58.50 -Y2-	= 563.930
ROADWAY SLOPES	= 2:1

HYDRAULIC DATA	
DESIGN DISCHARGE	= 300 CFS
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= 569.4
DRAINAGE AREA	= 0.19 SQ. MI.
BASIC DISCHARGE (Q100)	= 400 CFS
BASIC HIGH WATER ELEVATION	= 569.8

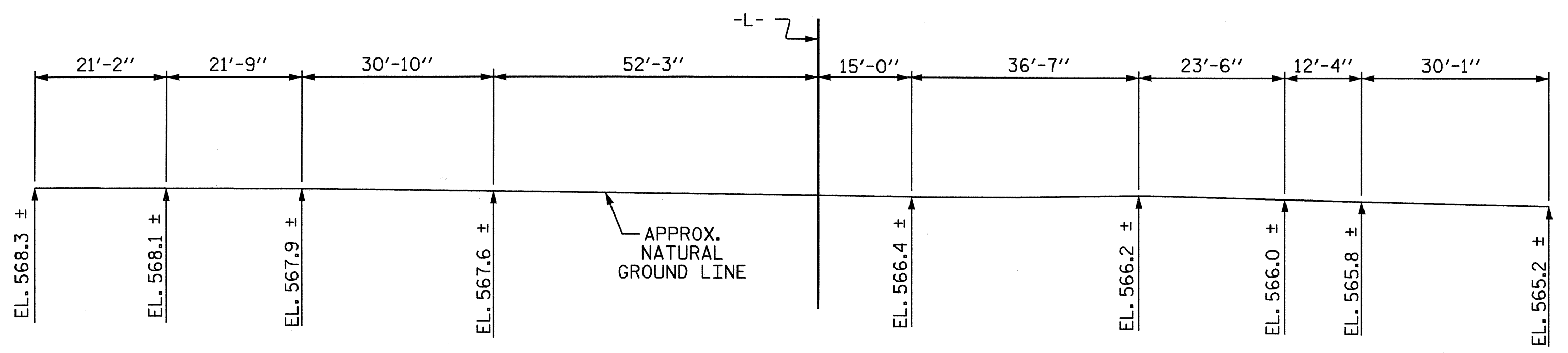
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 1007 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 573.3

NOTES

- ASSUMED LIVE LOAD HS20-44 OR ALTERNATE LOADING.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- DESIGN FILL = 4.77 FEET.
- FOR OTHER DESIGN DATA AND NOTES, SEE SHEET SN.
- 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONCRETE IN CULVERT TO BE POURED IN THE FOLLOWING ORDER:
 - FLOOR SLAB AND WING FOOTINGS INCLUDING 4" OF ALL VERTICAL WALLS.
 - THE REMAINING PORTIONS OF WALLS, WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.
- BURY THE INVERT AT BOTH ENDS OF THE CULVERT APPROXIMATELY 1'-0" BELOW THE NATURAL BED ELEVATION.
- 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.
- AT THE CONTRACTORS OPTION THE VERTICAL CONSTRUCTION JOINT BETWEEN THE OUTLET WINGS AND THE BARREL MAY BE ELIMINATED AND THE 'C' BARS IN THE BARREL MAY BE EXTENDED TO REPLACE THE 'D' AND 'H' BARS IN THE WING AND SLAB.
- AT THE CONTRACTORS OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS 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.
- A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE STANDARD WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.
- 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.
- THE CONTRACTOR 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 AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR EROSION CONTROL PLANS, SEE ROADWAY PLANS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT, SEE SPECIAL PROVISIONS.

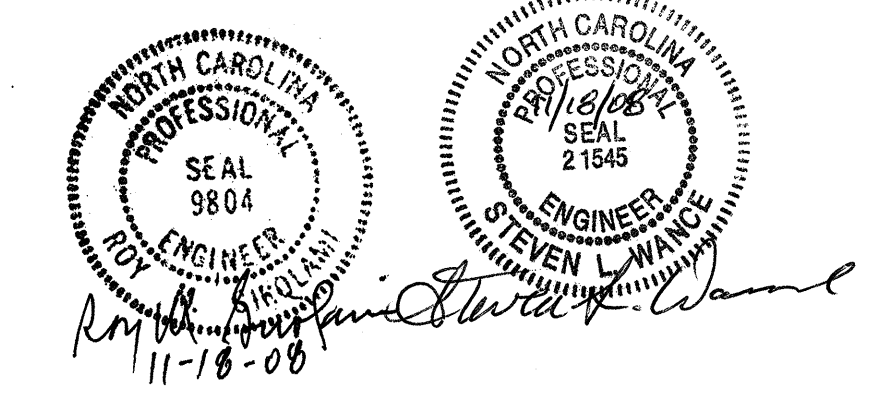
NOTE: FOR UTILITY INFORMATION SEE UTILITY PLANS AND SPECIAL PROVISIONS.
CLASS I RIP RAP IS A ROADWAY PAY ITEM.

TOTAL STRUCTURE QUANTITIES			
CULVERT EXCAVATION	LUMP SUM		
FOUNDATION COND. MAT'L.	TONS		61
CLASS A CONCRETE			
BARREL & OUTLET WINGS	CU. YDS.		70.7
STANDARD WINGS ETC.	CU. YDS.		8.1
TOTAL	CU. YDS.		78.8
REINFORCING STEEL			
BARREL AND OUTLET WINGS	LBS.		10,436
STANDARD WINGS ETC.	LBS.		396
TOTAL	LBS.		10,832



PROFILE ALONG CULVERT

DRAWN BY: S.L. WANCE DATE: 08/08
CHECKED BY: R. G. EMERSON DATE: 10/08

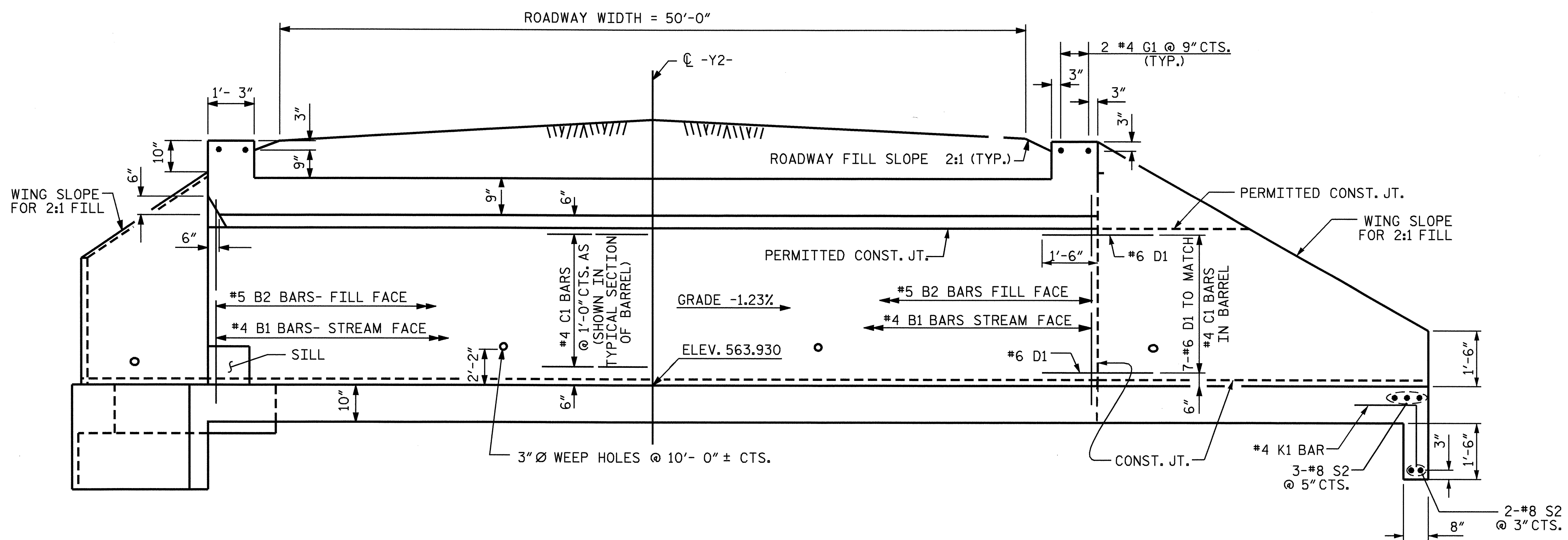


PROJECT NO. U-3300B
STANLY COUNTY
STATION: 13+58.50 -Y2-
SHEET 1 OF 4 REPLACES BRIDGE NO. 57

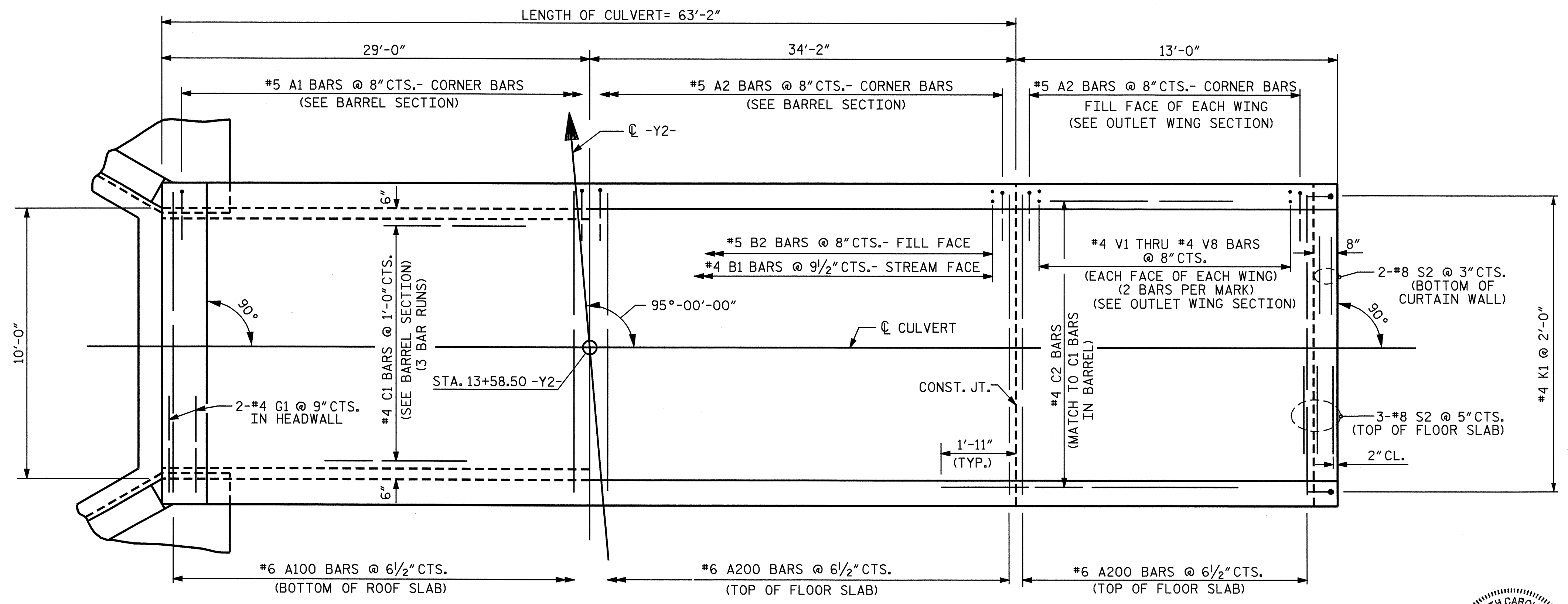
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE BARREL
10 FT. X 6 FT.
CONCRETE BOX CULVERT
95° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			C-6
2			4			TOTAL SHEETS 5



CULVERT SECTION NORMAL TO ROADWAY



PART PLAN ROOF SLAB

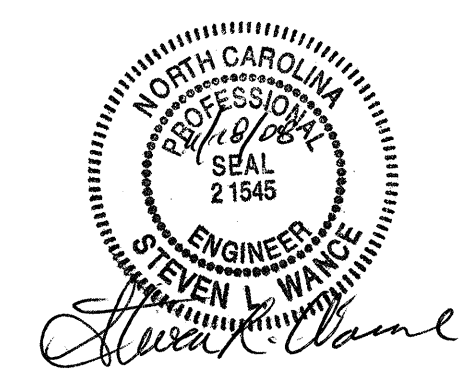
PART PLAN FLOOR SLAB

PROJECT NO. U-3300B
STANLY COUNTY
 STATION: 13+58.50 -Y2-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

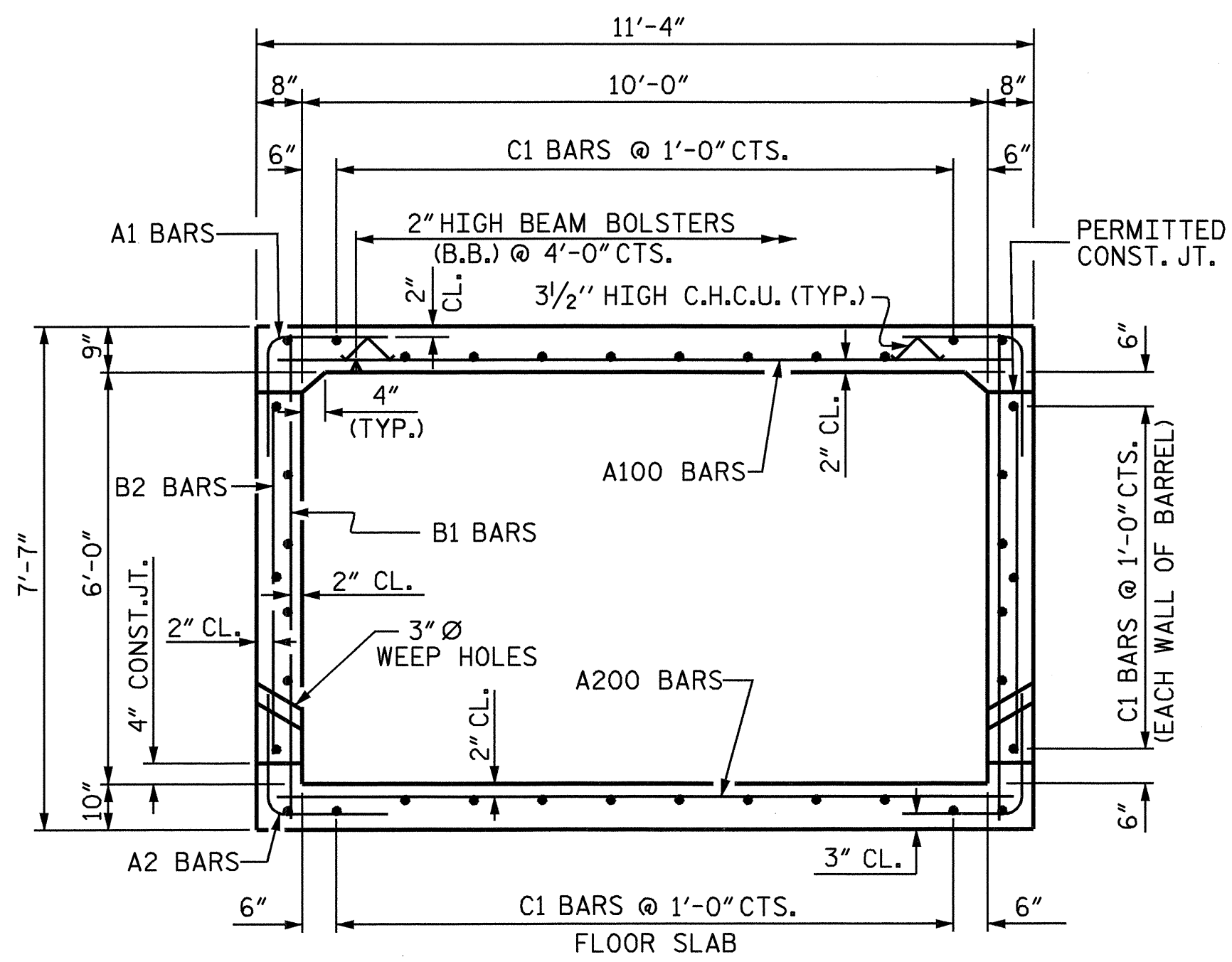
**SINGLE 10 FT. X 6 FT.
 CONCRETE BOX CULVERT
 95° SKEW**



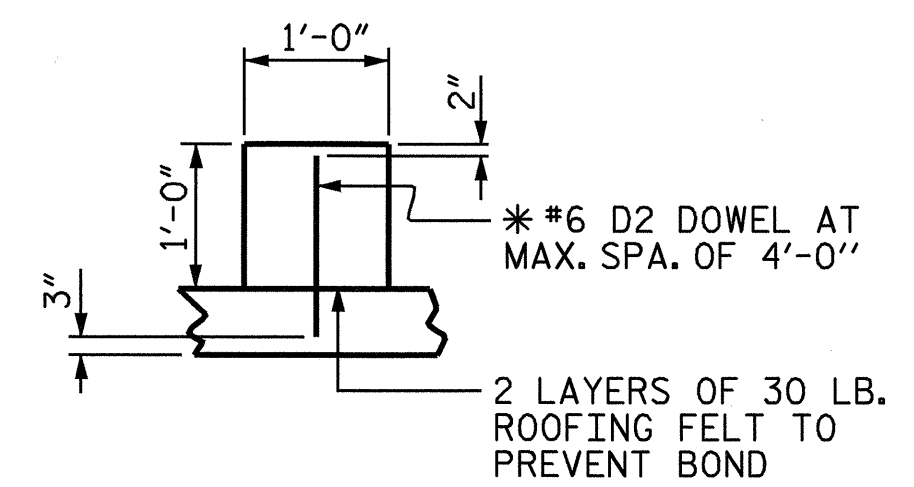
REVISED 8-28-92 BY E.L.R. CHECKED BY G.R.P.
 REVISED 8-22-89 BY A.R.B. CHECKED BY C.R.K.
 REDRAWN 8-22-1989

ASSEMBLED BY : <u>S. L. WANCE</u>	DATE : <u>09/21/2008</u>	SPECIAL
CHECKED BY : <u>R. G. EMERSON</u>	DATE : <u>10/08</u>	
DRAWN BY : <u>R. WRIGHT</u>	DATE : <u>AUG. 1989</u>	STANDARD
CHECKED BY : <u>A.R. BISSETTE</u>	DATE : <u>AUG. 1989</u>	

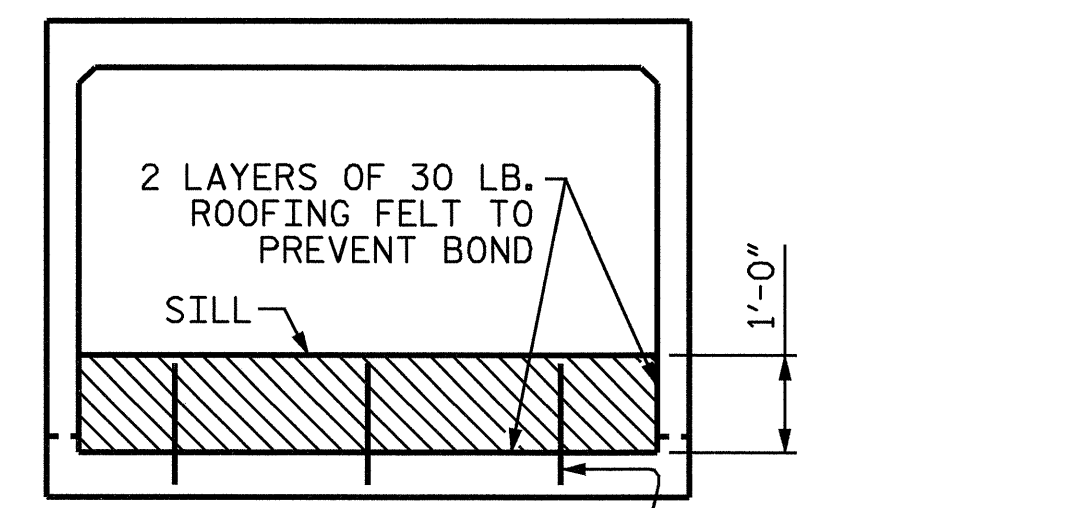
REVISIONS						SHEET NO. <u>C-7</u>
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 9
2			4			



RIGHT ANGLE SECTION OF BARREL
 THERE ARE 38 "C" BARS IN SECTION OF BARREL

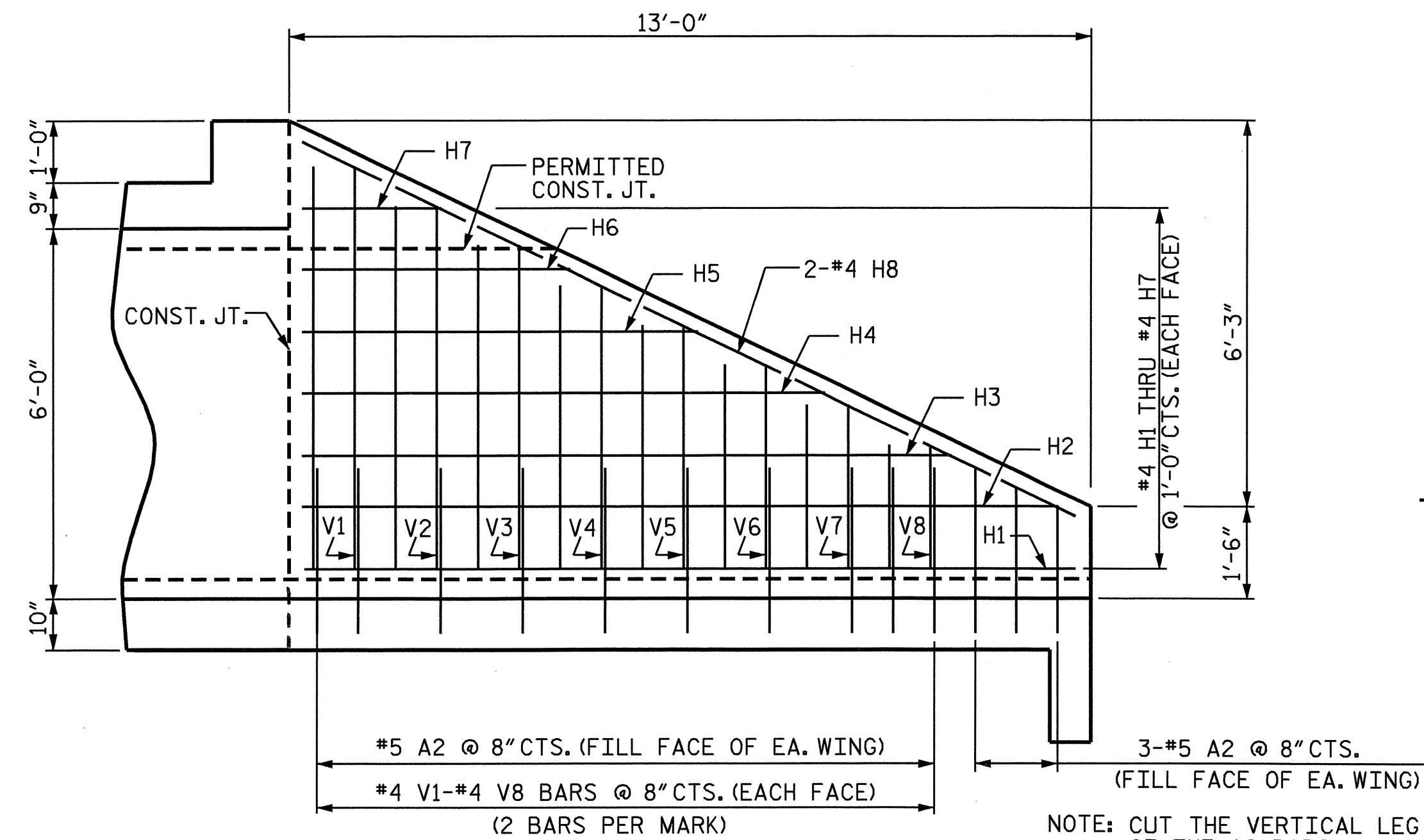


SECTION THRU SILL
 * #6 D2 DOWEL AT MAX. SPA. OF 4'-0"
 2 LAYERS OF 30 LB. ROOFING FELT TO PREVENT BOND
 * D2 DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER SLAB HAS BEEN FLOAT FINISHED.



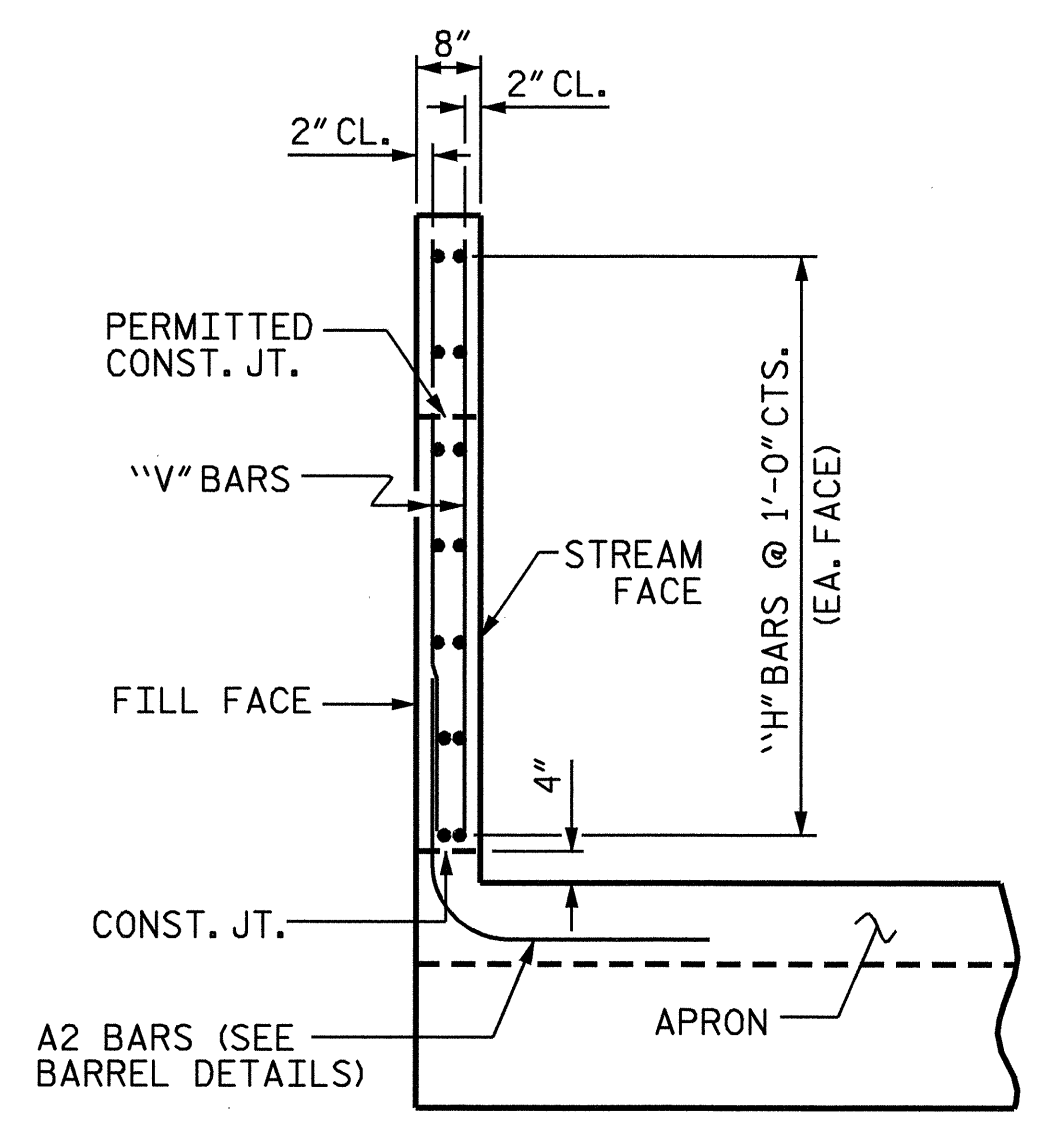
ELEVATION
 * #6 D2 DOWEL (TYP.)
 2 LAYERS OF 30 LB. ROOFING FELT TO PREVENT BOND
 SILL

* DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER SLAB HAS BEEN FLOAT FINISHED.

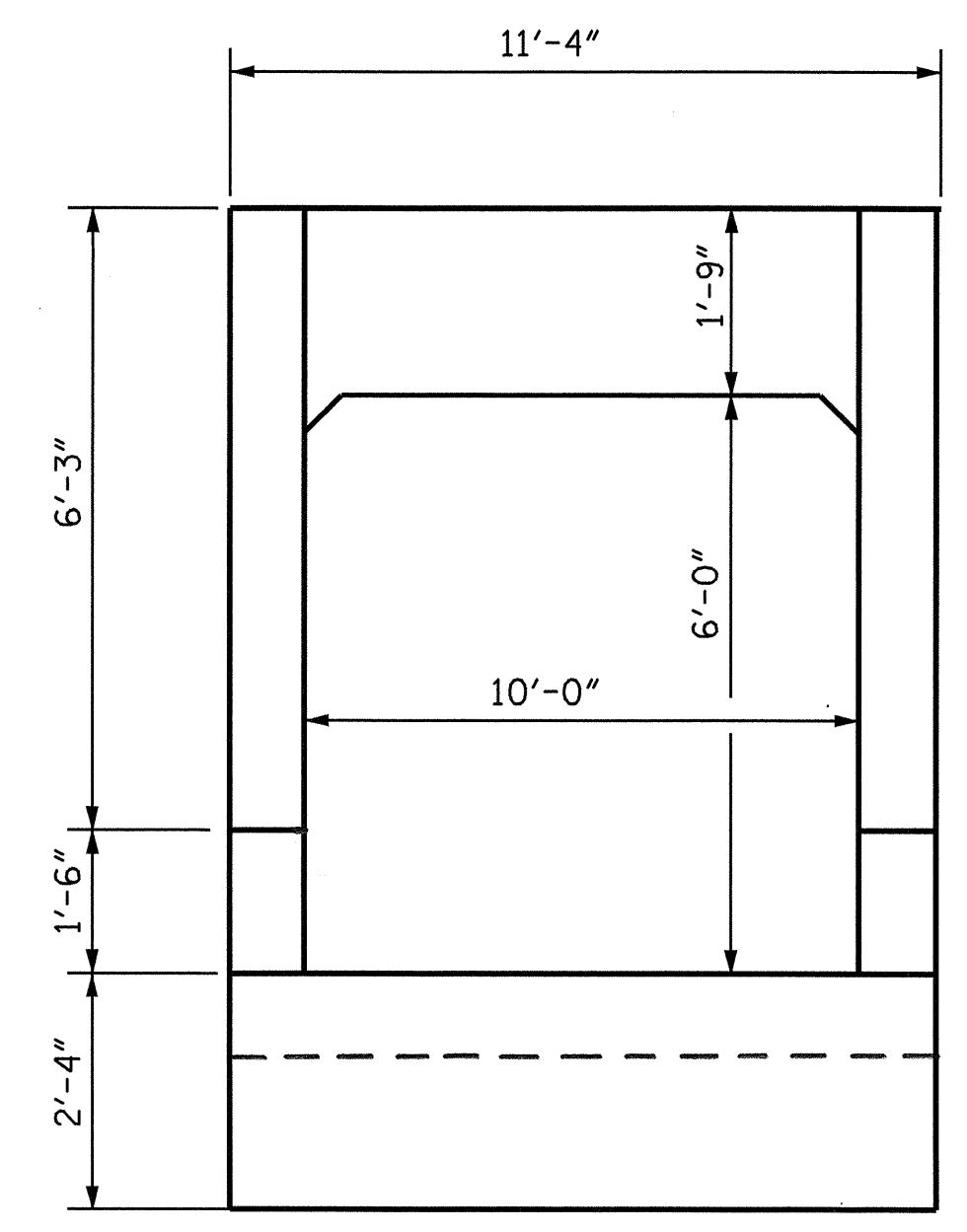


ELEVATION

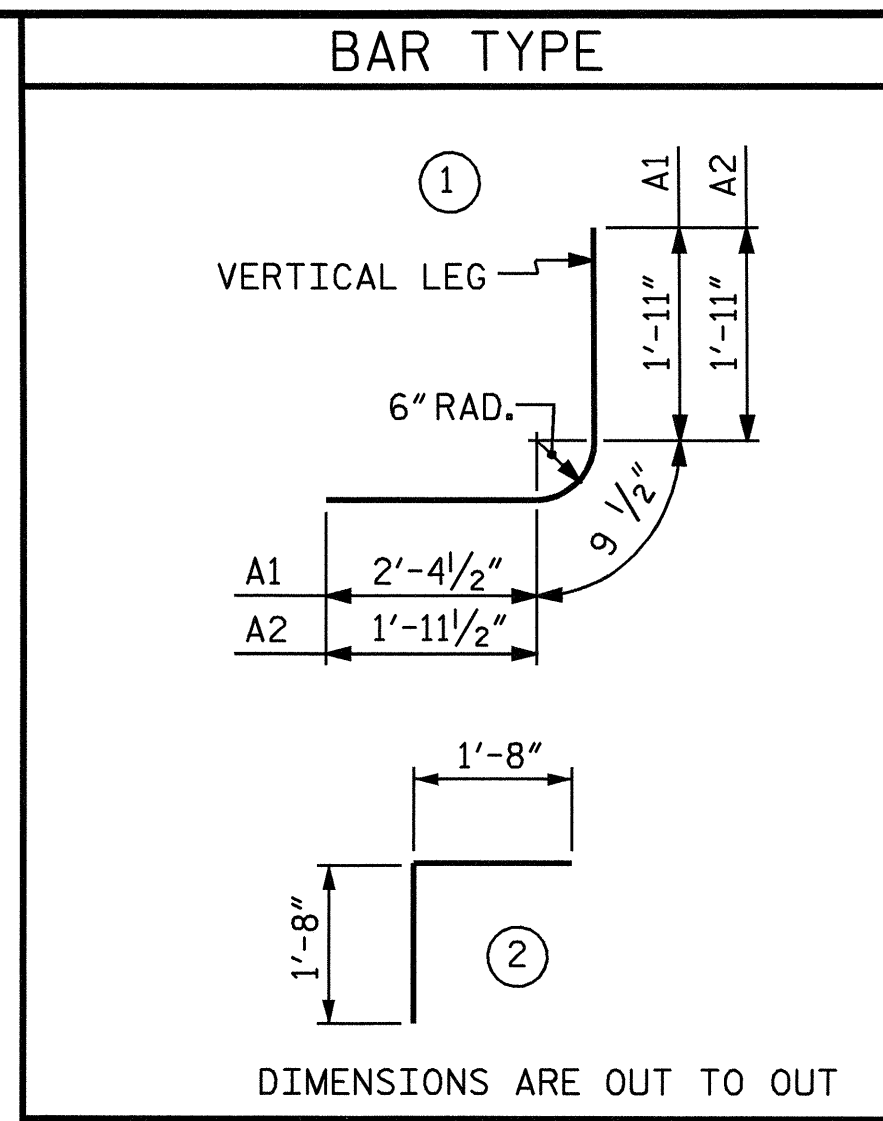
NOTE: CUT THE VERTICAL LEG OF THE A2 BARS AS NECESSARY TO FIT AT THE ENDS OF THE WINGS.



OUTLET WING SECTION



OUTLET END ELEVATION NORMAL TO SKEW



SPLICE LENGTHS CHART

BAR	SIZE	SPLICE LENGTH
B1	4	1'-9"
C1	4	1'-11"
C2	4	1'-11"

BILL OF MATERIAL
 CULVERT AND OUTLET WINGS

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	190	#5	1	5'-1"	1007
A2	209	#5	1	4'-8"	1017
A100	117	#6	STR	10'-11"	1918
A200	140	#6	STR	10'-11"	2296
B1	160	#4	STR	7'-1"	757
B2	190	#5	STR	5'-4"	1057
C1	114	#4	STR	22'-4"	1701
C2	12	#4	STR	14'-9"	118
D1	14	#6	STR	3'-0"	63
D2	3	#6	STR	1'-5"	6
G1	4	#4	STR	11'-0"	29
H1	4	#4	STR	12'-6"	33
H2	4	#4	STR	12'-3"	33
H3	4	#4	STR	10'-6"	28
H4	4	#4	STR	8'-6"	23
H5	4	#4	STR	6'-5"	17
H6	4	#4	STR	4'-4"	12
H7	4	#4	STR	2'-3"	6
H8	4	#4	STR	13'-11"	37
K1	6	#4	2	3'-4"	13
V1	8	#4	STR	6'-6"	35
V2	8	#4	STR	5'-10"	31
V3	8	#4	STR	5'-2"	28
V4	8	#4	STR	4'-6"	24
V5	8	#4	STR	3'-10"	20
V6	8	#4	STR	3'-2"	17
V7	8	#4	STR	2'-6"	13
V8	8	#4	STR	1'-10"	10
S2	3	#8	STR	10'-10"	87

REINFORCING STEEL LBS 10,436

CLASS A CONCRETE

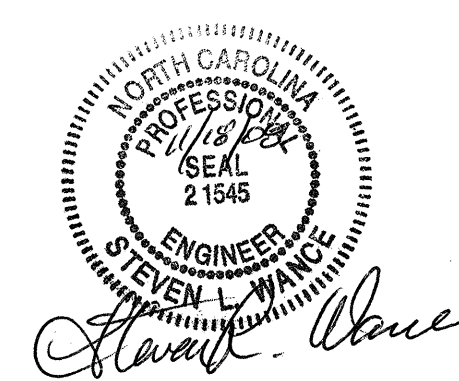
CULVERT BARREL (0.965 CY/FT.)	61.0	CY
2 OUTLET WINGS W/FLOOR	8.6	CY
SLAB, 1 CURTAIN WALL		
1 SILL	0.4	CY
1 HEADWALL	0.7	CY
TOTAL	70.7	CY

PROJECT NO. U-3300B
 STANLY COUNTY
 STATION: 13+58.50 -Y2-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SINGLE 10FT. X 6FT.
 CONCRETE BOX CULVERT
 95° SKEW**



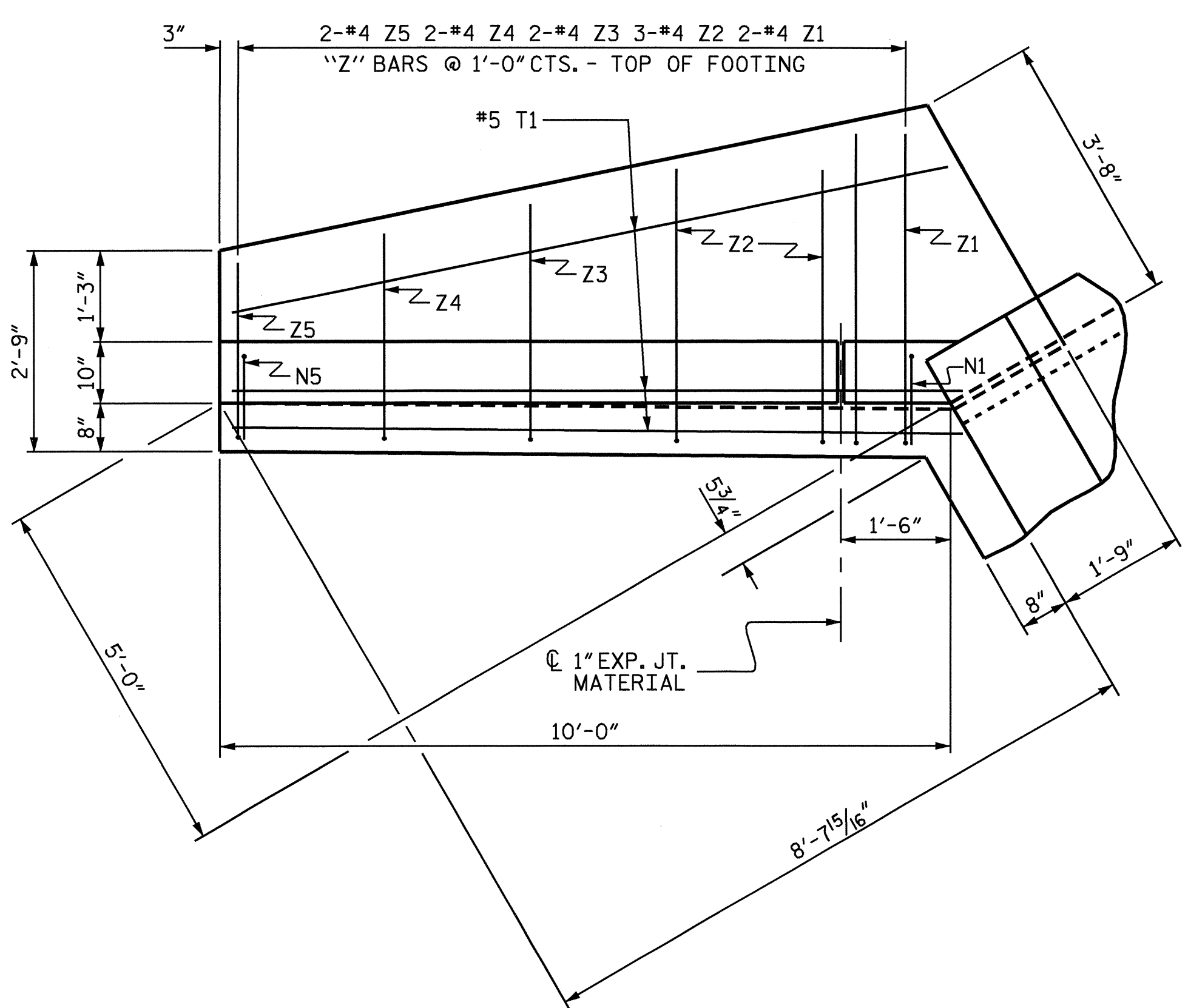
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

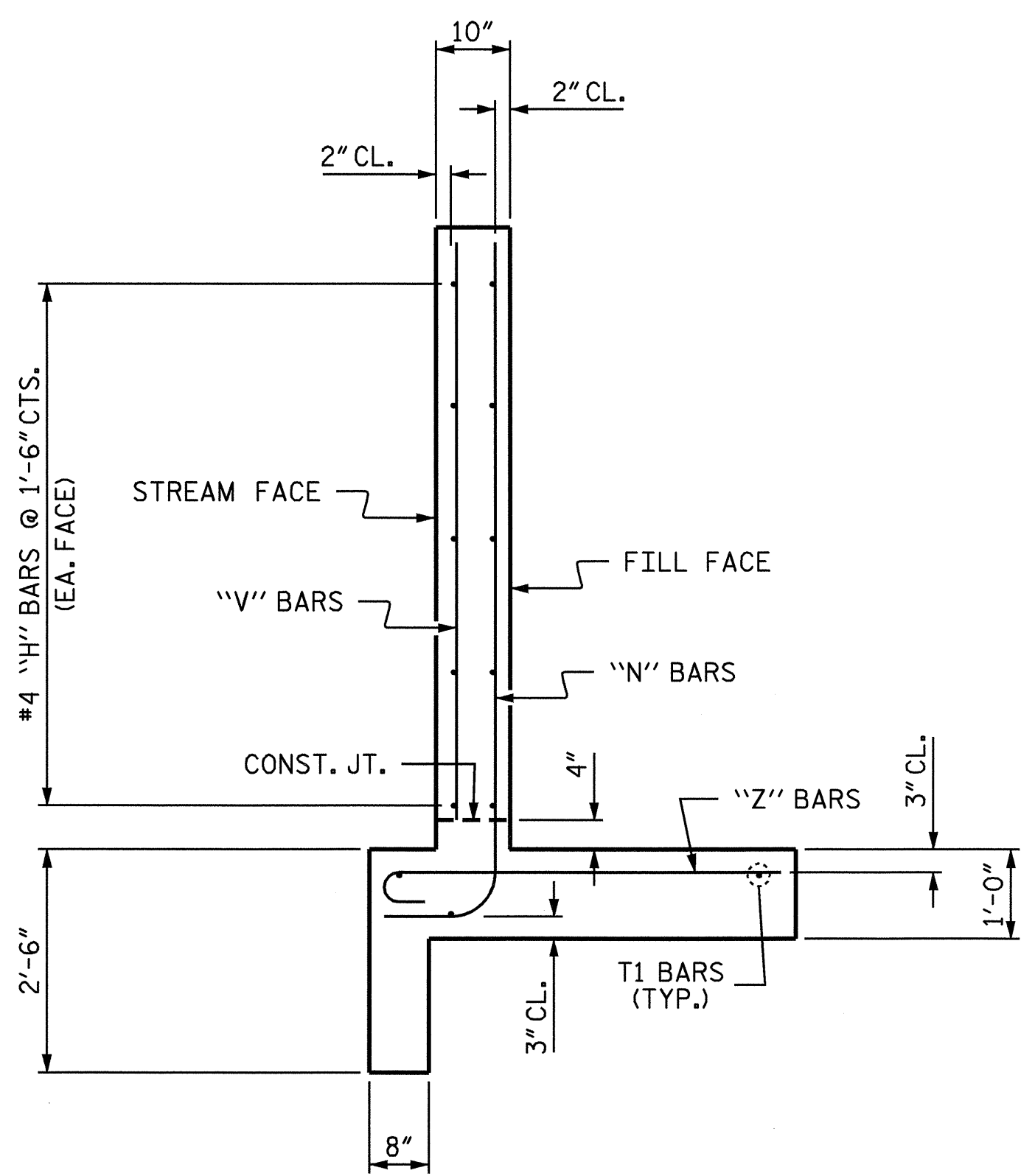
SHEET NO. C-8
TOTAL SHEETS 9

REVISED 11-13-91 BY E.L.R. CHECKED BY G.R.P.
 ADDED 8-22-89

ASSEMBLED BY : S.L. WANCE	DATE : 09/21/2008	SPECIAL
CHECKED BY : R.G. EMERSON	DATE : 10/08	
DRAWN BY : B.M. MEYERS	DATE : AUG. 1989	STANDARD
CHECKED BY : A.R. BISSETTE	DATE : AUG. 1989	



PLAN



TYPICAL WING SECTION

BAR TYPES
ALL BAR DIMENSIONS ARE OUT TO OUT.

1
2
3

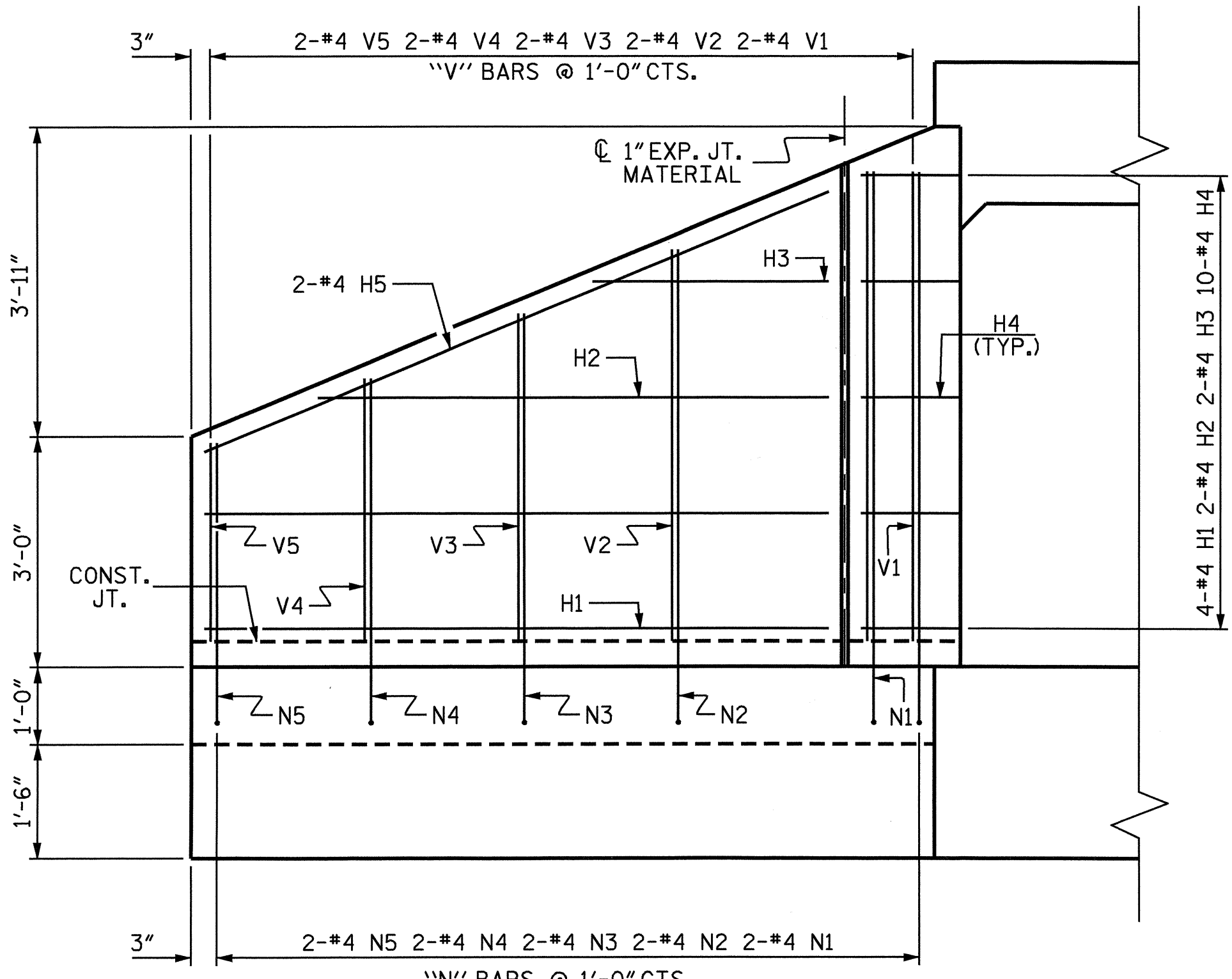
Z1	4'-3"	6"
Z2	3'-9"	6"
Z3	3'-3"	6"
Z4	2'-10"	6"
Z5	2'-5"	6"

BILL OF MATERIAL

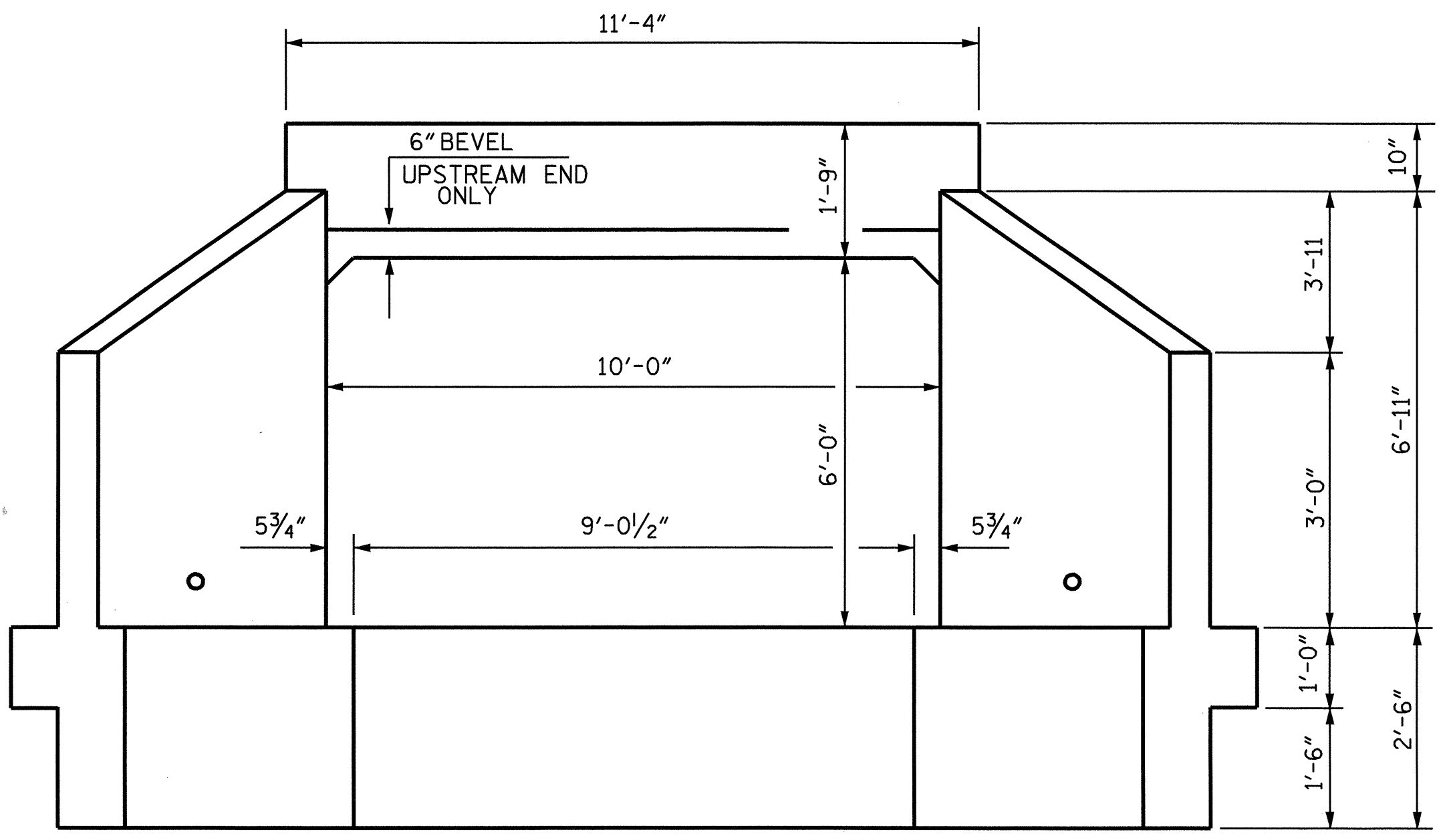
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	#4	STR	8'-1"	43
H2	#4	STR	6'-8"	18
H3	#4	STR	3'-1"	8
H4	#4	STR	3'-3"	43
H5	#4	STR	8'-9"	23
N1	#4	2	8'-2"	22
N2	#4	2	7'-1"	19
N3	#4	2	6'-3"	17
N4	#4	2	5'-5"	14
N5	#4	2	4'-7"	12
T1	#5	STR	10'-0"	63
V1	#4	STR	6'-1"	16
V2	#4	STR	5'-1"	14
V3	#4	STR	4'-3"	11
V4	#4	STR	3'-5"	9
V5	#4	STR	2'-7"	7
Z1	#4	3	4'-9"	13
Z2	#4	3	4'-3"	17
Z3	#4	3	3'-9"	10
Z4	#4	3	3'-4"	9
Z5	#4	3	2'-11"	8

REINFORCING STEEL FOR 2 WINGS 396 LBS

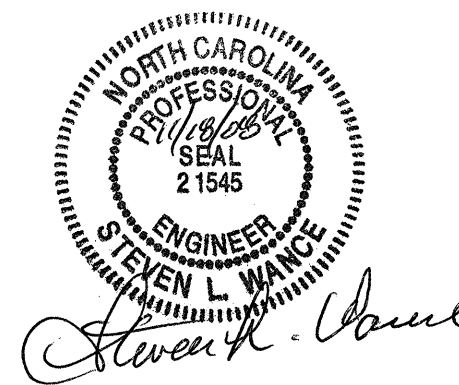
CLASS A CONCRETE
2 WINGS 6.9 CY
1 HEADWALL 0.6 CY
1 END CURTAIN WALL 0.6 CY
TOTAL 8.1 CY



ELEVATION



INLET END ELEVATION
NORMAL TO SKEW



PROJECT NO. U-3300B
STANLY COUNTY
STATION: 13+58.50 -Y2-
SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD WINGS
FOR
CONCRETE BOX CULVERT
H = 6'-0" SLOPE = 2:1
90° SKEW

ASSEMBLED BY : S. L. WANCE DATE : 09/21/08
CHECKED BY : R. G. EMERSON DATE : 10/08
DRAWN BY : CCJ 10/99
CHECKED BY : RWW 03/00

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-9
1			3			TOTAL SHEETS
2			4			9

