TOTAL STRUCTURE QUANTITIES STAGE I

CLASS A CONCRETE			
BARREL @ 1.675 CY/FT	142.4	C.Y.	
WINGS ETC.	9.3	C.Y.	
SILL	0.7	C.Y.	
EDGE BEAMS	1.5	C.Y.	
TOTAL	153.9	C.Y.	
REINFORCING STEEL			
BARREL & SILL	16,728	LBS.	
WINGS ETC.	463	LBS.	
TOTAL	17,191	LBS.	
CULVERT EXCAVATION	LUMP SUM		
FOUNDATION COND. MAT'L	132	TONS	

TOTAL STRUCTURE QUANTITIES STAGE II

CLASS A CONCRETE			
BARREL @ 1.675 CY/FT	163.3	C.Y.	
WINGS ETC.	9.3	C.Y.	
SILLS	1.3	C.Y.	
EDGE BEAMS	1.5	C.Y.	
TOTAL	175.4	C.Y.	
REINFORCING STEEL			
BARREL & SILLS	19,024	LBS.	
WINGS ETC.	463	LBS.	
TOTAL	19,487	LBS.	
CULVERT EXCAVATION	LUMP SUM		
FOUNDATION COND. MAT'L	151	TONS	

BILL OF MATERIAL

STAGE I

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	170	#4	1	4'-4"	492
A2	170	#4	1	4'-4"	492
A100	90	#5	STR	17'-7"	1651
A101	2	#5	STR	16'-0"	33
A102	2	#5	STR	14'-7"	30
A103	2	#5	STR	13'-2"	27
A104	2	#5	STR	11'-8"	24
A105	2	#5	STR	10'-3"	21
A106	2	#5	STR	8'-10"	18
A107	2	#5	STR	7'-4"	15
A108	2	#5	STR	5'-11"	12
A109	2	#5	STR	4'-6"	9
A110	2	#5	STR	3'-0"	6
A200	90	#5	STR	17'-7"	1651
A201	2	#5	STR	16'-0"	33
A202	2	#5	STR	14'-7"	30
A203	2	#5	STR	13'-2"	27
A204	2	#5	STR	11'-8"	24
A205	2	#5	STR	10'-3"	21
A206	2	#5	STR	8'-10"	18
A207	2	#5	STR	7'-4"	15
A208	2	#5	STR	5'-11"	12
A209	2	#5	STR	4'-6"	9
A210	2	#5	STR	3'-0"	6
A300	90	#5	STR	17'-7"	1651
A301	2	#5	STR	16'-0"	33
A302	2	#5	STR	14'-7"	30
A303	2	#5	STR	13'-2"	27
A304	2	#5	STR	11'-8"	24
A305	2	#5	STR	10'-3"	21
A306	2	#5	STR	8'-10"	18
A307	2	#5	STR	7'-4"	15
A308	2	#5	STR	5'-11"	12
A309	2	#5	STR	4'-6"	9
A310	2	#5	STR	3'-0"	6

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A400	150	#5	STR	17'-7"	2751
A401	4	#5	STR	15'-9"	66
A402	4	#5	STR	14'-0"	58
A403	4	#5	STR	12'-3"	51
A404	4	#5	STR	10'-6"	44
A405	4	#5	STR	8'-10"	37
A406	4	#5	STR	7'-1"	30
A407	4	#5	STR	5'-4"	22
A408	4	#5	STR	3'-7"	15
B1	170	#4	STR	7'-4"	833
B2	170	#4	STR	5'-4"	606
B3	170	#4	STR	7'-4"	833
C1	198	#4	STR	29'-8"	3924
D1	32	#6	STR	3'-0"	144
D2	4	#6	STR	2'-6"	15
G1	4	#5	STR	20'-4"	85
S2	6	#8	STR	20'-4"	326
S3	12	#6	STR	20'-4"	366
REINFORCING STEEL				LBS	16,728

STAGE II

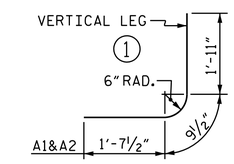
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	196	#4	1	4'-4"	567
A2	196	#4	1	4'-4"	567
A100	105	#5	STR	17'-7"	1926
A101	2	#5	STR	16'-0"	33
A102	2	#5	STR	14'-7"	30
A103	2	#5	STR	13'-2"	27
A104	2	#5	STR	11'-8"	24
A105	2	#5	STR	10'-3"	21
A106	2	#5	STR	8'-10"	18
A107	2	#5	STR	7'-4"	15
A108	2	#5	STR	5'-11"	12
A109	2	#5	STR	4'-6"	9
A110	2	#5	STR	3'-0"	6
A200	105	#5	STR	17'-7"	1926
A201	2	#5	STR	16'-0"	33
A202	2	#5	STR	14'-7"	30
A203	2	#5	STR	13'-2"	27
A204	2	#5	STR	11'-8"	24
A205	2	#5	STR	10'-3"	21
A206	2	#5	STR	8'-10"	18
A207	2	#5	STR	7'-4"	15
A208	2	#5	STR	5'-11"	12
A209	2	#5	STR	4'-6"	9
A210	2	#5	STR	3'-0"	6
A300	105	#5	STR	17'-7"	1926
A301	2	#5	STR	16'-0"	33
A302	2	#5	STR	14'-7"	30
A303	2	#5	STR	13'-2"	27
A304	2	#5	STR	11'-8"	24
A305	2	#5	STR	10'-3"	21
A306	2	#5	STR	8'-10"	18
A307	2	#5	STR	7'-4"	15
A308	2	#5	STR	5'-11"	12
A309	2	#5	STR	4'-6"	9
A310	2	#5	STR	3'-0"	6

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A400	175	#5	STR	17'-7"	3209
A401	4	#5	STR	15'-9"	66
A402	4	#5	STR	14'-0"	58
A403	4	#5	STR	12'-3"	51
A404	4	#5	STR	10'-6"	44
A405	4	#5	STR	8'-10"	37
A406	4	#5	STR	7'-1"	30
A407	4	#5	STR	5'-4"	22
A408	4	#5	STR	3'-7"	15
B1	196	#4	STR	7'-4"	960
B2	196	#4	STR	5'-4"	698
B3	196	#4	STR	7'-4"	960
C2	264	#4	STR	25'-11"	4570
D2	8	#6	STR	2'-6"	30
G1	4	#5	STR	20'-4"	85
S2	6	#8	STR	20'-4"	326
S3	12	#6	STR	20'-4"	366
REINFORCING STEEL				LBS	19,024

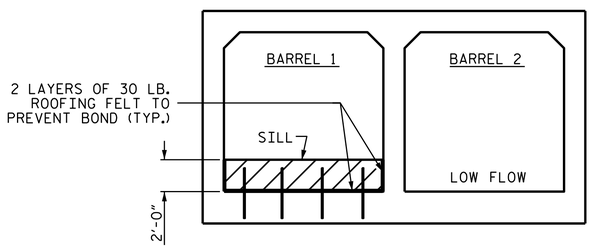
SPLICE LENGTHS CHART

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

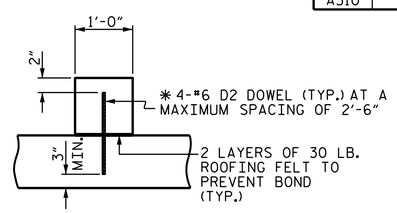
BAR TYPE



BAR DIMENSIONS ARE OUT TO OUT

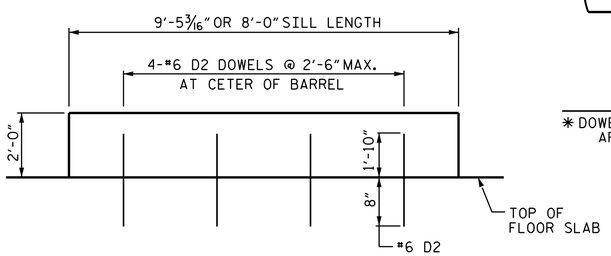


INLET ELEVATION
(LOOKING DOWNSTREAM)

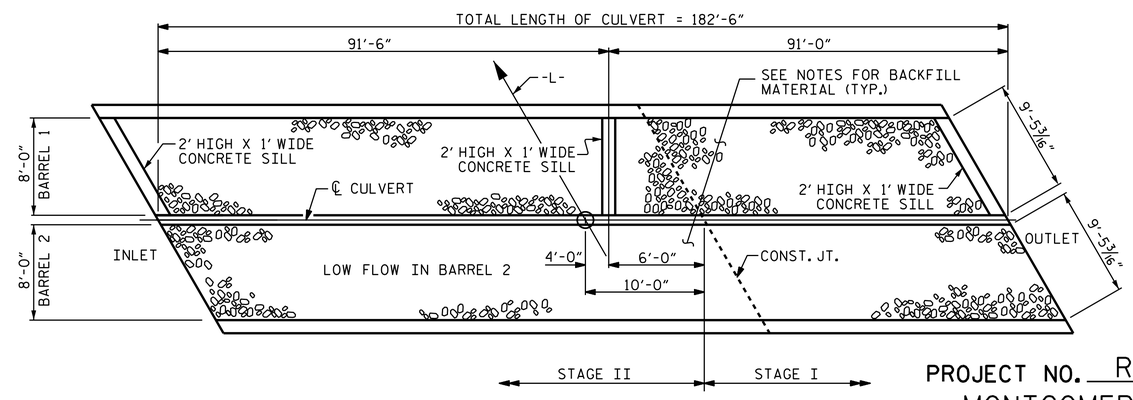


SECTION THROUGH SILL

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



ELEVATION



PLAN

1 CONCRETE SILL REQUIRED IN STAGE I CONSTRUCTION.
2 CONCRETE SILLS REQUIRED IN STAGE II CONSTRUCTION.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE NATIVE MATERIAL BACKFILL SHALL BE PLACED PRIOR TO THE CASTING OF THE ROOF SLAB.

CONCRETE SILL DETAILS

NOTES:

CULVERT FLOOR SLAB IS BURIED 1.0' BELOW EXISTING STREAM BED. SILLS ARE NOT REQUIRED IN LOW FLOW BARREL 2. BACKFILL BARRELS WITH NATIVE MATERIAL TO APPROXIMATE STREAM BED LEVEL IN LOW FLOW BARREL 2, AND TO SILL HEIGHT IN BARREL 1.

NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM BED AT THE PROJECT SITE DURING CULVERT CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY BE USED TO LINE THE LOW FLOW CULVERT BARREL. RIP RAP MAY BE USED TO SUPPLEMENT THE NATIVE MATERIAL IN THE HIGH FLOW CULVERT BARREL. IF RIP RAP IS USED TO LINE THE HIGH FLOW CULVERT BARREL, NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FILL VOIDS AND PROVIDE A FLAT SURFACE FOR ANIMAL PASSAGE.

NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

PROJECT NO. R-0623
MONTGOMERY COUNTY
STATION: 53+95.00 -L-

SHEET 5 OF 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD

DOUBLE 8 FT. X 6 FT. CONCRETE BOX CULVERT 122° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 36871 ENGINEER FRANCESCA LEA
9/29/2014
DocuSigned by: Francesca Lea 20294511137748E...

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-5
1			3			TOTAL SHEETS
2			4			29

CULVERT #1

DRAWN BY : F. LEA DATE : 12-2012
CHECKED BY : S. WANCE DATE : 02-2013

29-SEP-2014 11:36
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