

09-JAN-2019 07:36  
 S:\Contracts\Special Details\Jhove-ton\838d02 15in thru 48in 60deg skew.dgn  
 Jhove-ton AT USD-292595

STATE OF  
 NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**CONCRETE ENDWALL FOR SINGLE AND  
 DOUBLE PIPE CULVERTS**  
 15" THRU 48" PIPE

SHEET 2 OF 2  
**838d02s1**

**GENERAL NOTES:**

- \* ALL CORNERS TO BE CHAMFERED 1".
- \* THE CONTRACTOR WILL BE REQUIRED TO PLACE 2 - #6 BARS "Y" IN THE TOP OF ALL ENDWALLS FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL.
- \* FORMS ARE TO BE USED FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
- \* WALL THICKNESS (T) SHOWN IS NOT TO BE INTERPRETED TO MEAN THE THICKNESS ACCEPTABLE, BUT ARE USED ONLY IN COMPUTING ENDWALL QUANTITIES.
- \* IF CONTRACTOR ELECTS TO USE CONSTRUCTION JOINT AT BOTTOM OF PIPE, BAR X (DOWELS SHALL BE PLACED IN THE BASE AS SHOWN ON PLANS. SPACING OF BARS TO BE APPROXIMATELY 12" CENTERS UNLESS ENGINEER DIRECTS OTHERWISE.
- \* WHEN CONTRACTOR ELECTS TO USE CONSTRUCTION JOINT AT BOTTOM OF PIPE AND POURS BASE SEPARATELY, THE TOP BASE SHALL BE LEFT ROUGH.
- \* WHEN SKEW ANGLE OF PIPE IS OVER/UNDER 30° USE G-1 DIMENSION FOR 30° PLUS/MINUS 3" FOR EACH 5° OVER/UNDER 30°.
- G2 DIMENSION WILL BE THE NEW DIMENSION DIVIDED BY THE COSINE OF THE ANGLE OF PIPE SKEW.
- \* CLASS "B" CONCRETE SHALL BE USED.

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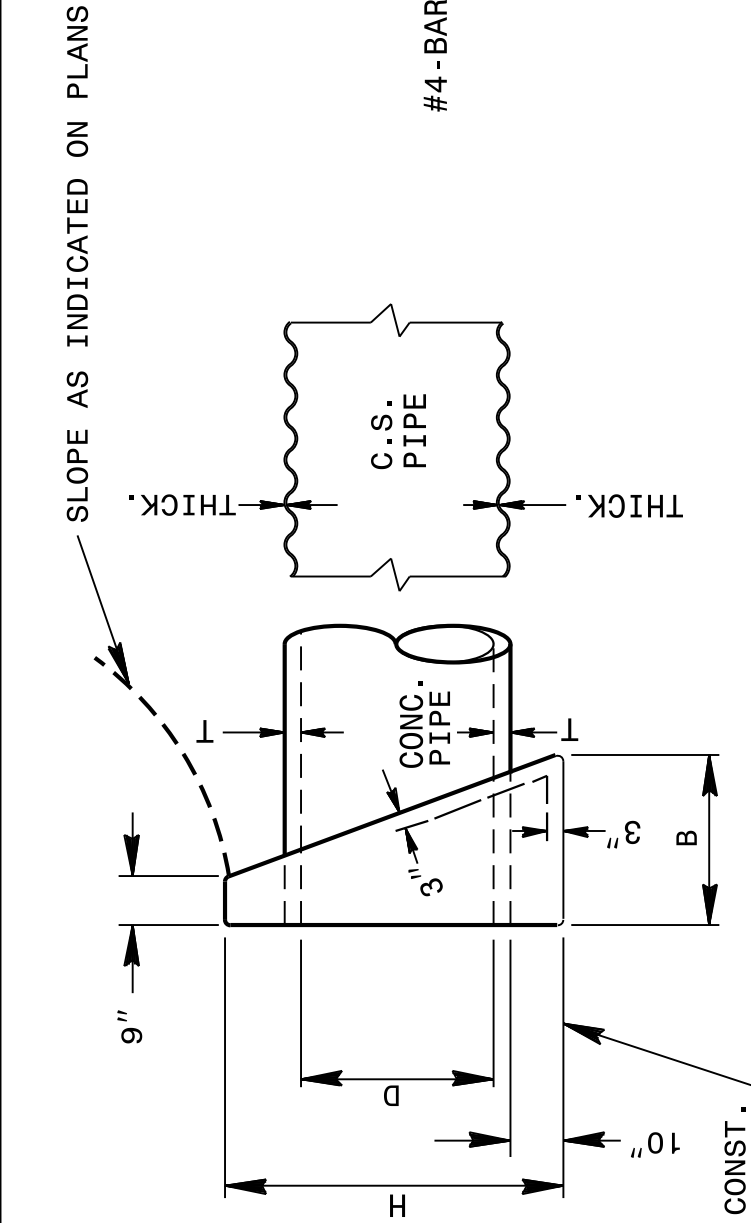
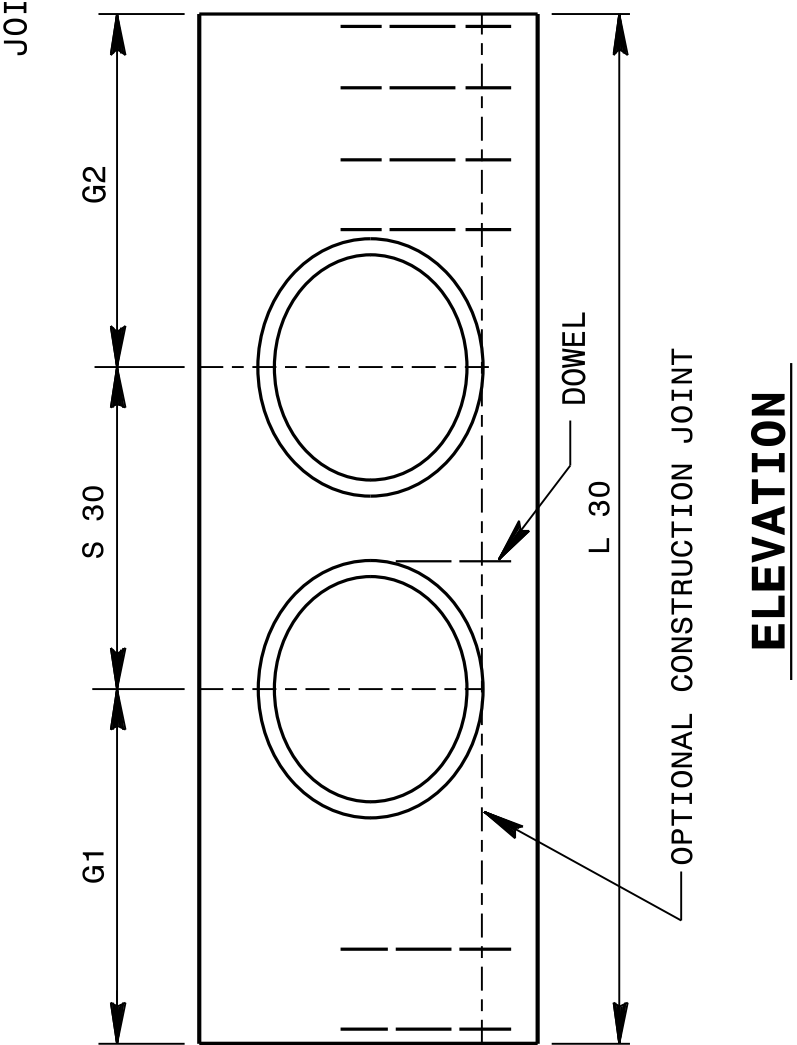
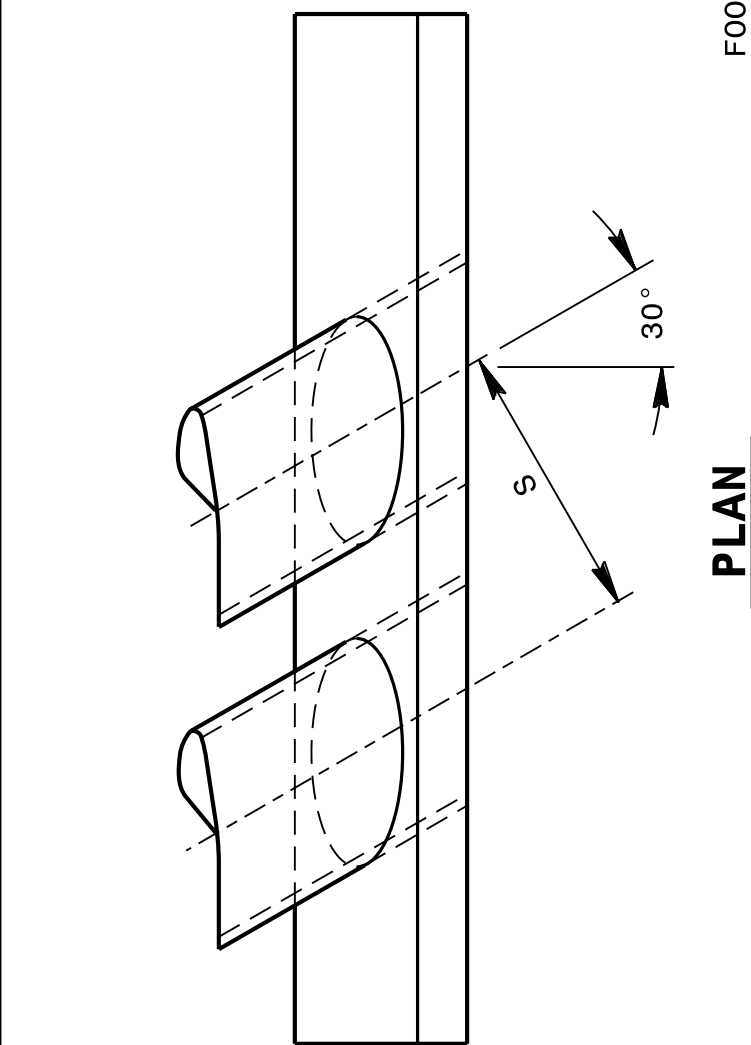
ENGLISH DETAIL DRAWING FOR  
**CONCRETE ENDWALL FOR SINGLE AND  
 DOUBLE PIPE CULVERTS**  
 15" THRU 48" PIPE

SHEET 2 OF 2  
**838p02s1**

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ENGLISH DETAIL DRAWING FOR  
**CONCRETE ENDWALL FOR SINGLE AND  
 DOUBLE PIPE CULVERTS**  
 15" THRU 48" PIPE 60° OR 120° SKEW

SHEET 1 OF 2  
**838d02s1**



**USING CONCRETE PIPE**

COMMON DIMS.	SINGLE PIPE			DOUBLE PIPE		
	H	B	YD <sup>3</sup>	G1	G2	S
15"	3'-4"	1'-8"	17/8"	2'-9"	3'-2"	5'-11"
18"	3'-7"	1'-10"	2"	3'-2"	3'-8 1/4"	6'-10"
24"	4'-2"	2'-1"	2 1/2"	4'-0"	4'-8"	8'-8"
30"	4'-9"	2'-5"	2 3/4"	4'-7"	5'-4"	9'-11"
36"	5'-3"	2'-8"	3"	5'-6"	6'-4 3/8"	11'-10"
42"	5'-10"	2'-11"	3 1/2"	6'-4"	7'-4"	13'-8"
48"	6'-5"	3'-3"	4"	7'-2"	8'-3 1/4"	15'-5"

**USING CORRUGATED STEEL PIPE**

COMMON DIMS.	SINGLE PIPE			DOUBLE PIPE		
	H	B	YD <sup>3</sup>	G1	G2	S
16"	18"	24"	32"	36"	40"	48"
BARS	"X"	"X"	"X"	"X"	"X"	"X"
G1	2	2	2	3	3	4
S	2	2	2	2	2	2
G2	3	3	4	5	6	7
TOT. lbs.	11.7	11.7	13.9	16.3	18.5	23.1

**DIMENSIONS AND CONCRETE QUANTITIES**

PIPE DIA.	SINGLE PIPE			DOUBLE PIPE		
	L	S	YD <sup>3</sup>	G1	G2	S
15"	18"	24"	30"	36"	42"	48"
BARS	"X"	"X"	"X"	"X"	"X"	"X"
G1	2	2	2	3	3	4
S	2	2	2	2	2	2
G2	3	4	4	5	6	7
TOT. lbs.	11.7	13.9	16.3	20.9	25.6	31.3

**DIMENSIONS AND CONCRETE QUANTITIES**

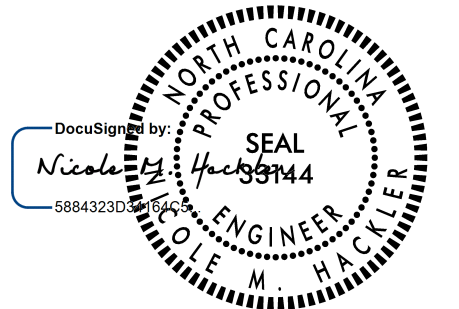
PIPE DIA.	SINGLE PIPE			DOUBLE PIPE		
	L	S	YD <sup>3</sup>	G1	G2	S
16"	18"	24"	32"	36"	40"	48"
BARS	"X"	"X"	"X"	"X"	"X"	"X"
G1	2	2	2	3	3	4
S	2	2	2	2	2	2
G2	3	4	4	5	6	7
TOT. lbs.	11.7	13.9	16.3	20.9	25.6	31.3

SHEET 1 OF 2  
**838p02s1**

**CONTRACT STANDARDS  
 AND DEVELOPMENT UNIT**  
 Office 919-707-6950 FAX 919-250-4119

**SEE PLATE FOR TITLE**

ORIGINAL BY: STD.NO.838.01 DATE: 4-17-99  
 MODIFIED BY: T.S. SPELL DATE: 12-10-08  
 CHECKED BY: DATE:  
 FILE SPEC.: s:user/details/metric/stand/838d02s1.dgn



1/26/2024

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