

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.

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.

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

SHEET 2 OF 2
838d02s1

STATE OF NORTH CAROLINA
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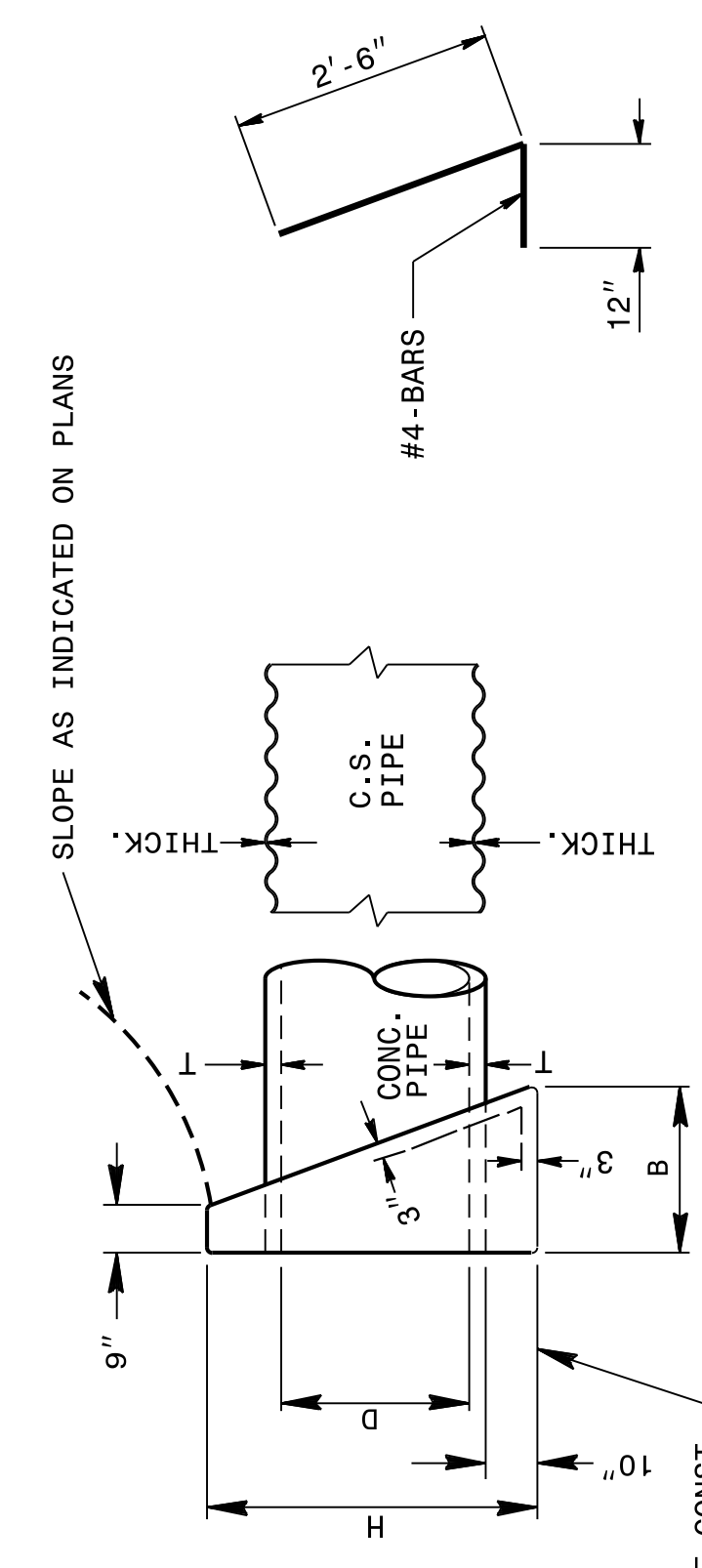
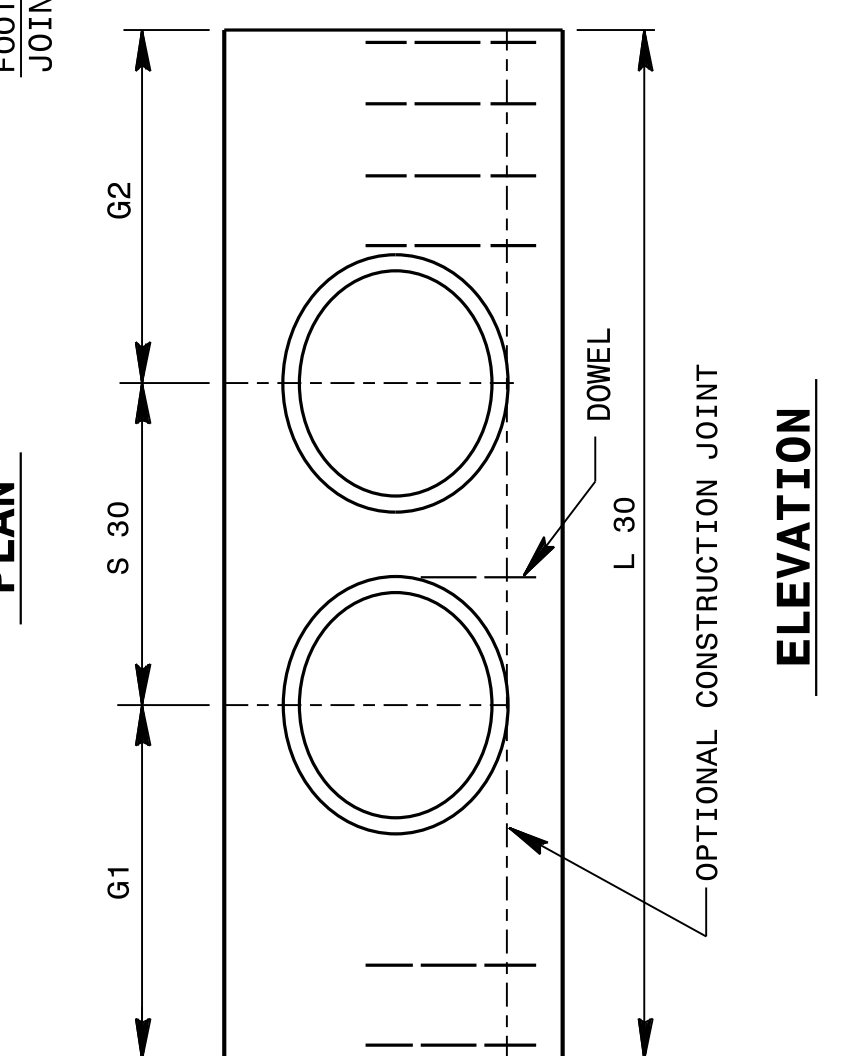
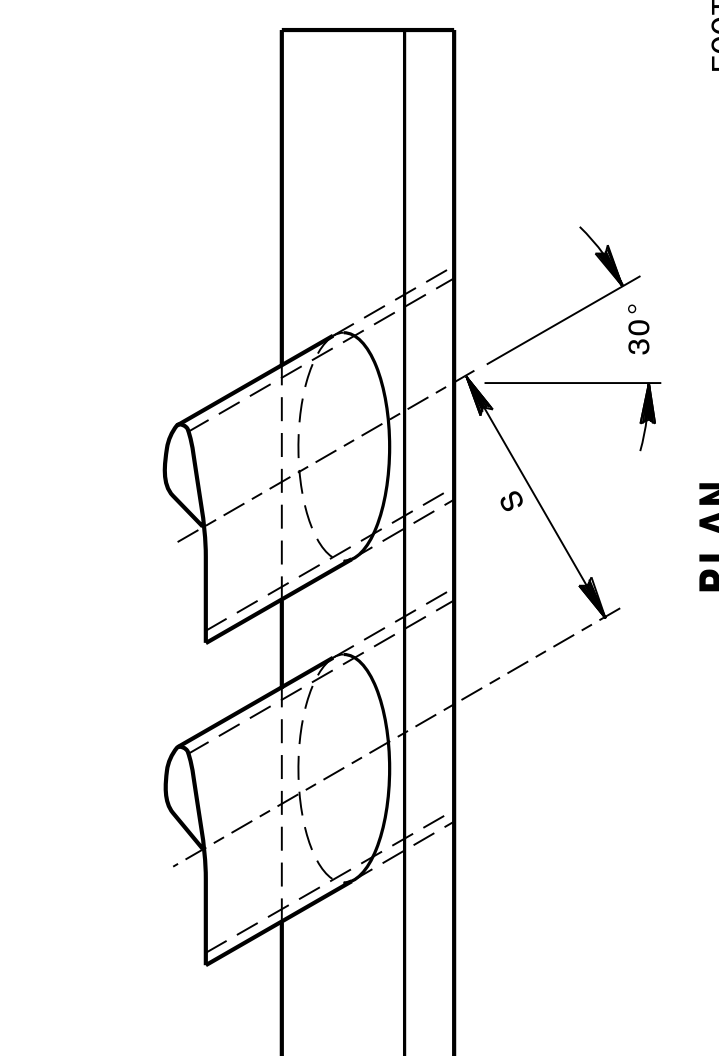
ENGLISH DETAIL DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE

SHEET 2 OF 2
838d02s1

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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

D	COMMON DIMS.			SINGLE PIPE			DOUBLE PIPE			COMMON DIMS.			SINGLE PIPE			DOUBLE PIPE					
	H	B	T	G1	G2	S	L	30	YD ³	G1	G2	S	L	30	YD ³	G1	G2	S	L	30	YD ³
15"	3'-4"	1'-6"	1 7/8"	2'-9"	3'-2"	2'-2"	2'-6"	6'-5"	1.054	3'-0"	1'-6"	2'-6"	2'-11"	5'-5"	0.616	2'-6"	2'-11"	2'-0"	2'-4"	7'-9"	0.848
18"	3'-7"	1'-10"	2"	3'-2"	3'-8 1/4"	2'-7"	2'-11 3/4"	9'-10"	1.390	3'-3"	1'-8"	2'-11"	3'-4"	6'-3"	0.816	2'-11 1/8"	3'-4 1/8"	2'-3 1/2"	2'-8"	8'-11"	1.109
24"	4'-2"	2'-1"	2 1/2"	4'-0"	4'-8"	3'-5"	3'-11 1/2"	12'-8"	2.207	3'-9"	1'-11"	3'-8"	4'-3"	7'-11"	1.282	3'-8 1/4"	4'-3 1/4"	3'-0"	3'-5 1/2"	11'-5"	1.747
30"	4'-9"	2'-5"	2 3/4"	4'-7"	5'-4"	4'-3"	4'-10 3/4"	14'-10"	3.186	4'-3"	2'-2"	4'-5"	5'-1"	9'-6"	1.868	4'-5 1/8"	5'-1 1/8"	3'-8"	4'-2 3/4"	13'-9"	2.551
36"	5'-3"	2'-8"	3"	5'-6"	6'-4"	5'-0"	5'-9 1/4"	17'-8"	4.447	4'-9"	2'-5"	5'-2"	6'-0"	11'-2"	2.621	5'-2 3/8"	6'-0 3/8"	9'-6"	5'-2 1/4"	16'-5"	3.596
42"	5'-10"	2'-11"	3 1/2"	6'-4"	7'-4"	5'-10"	6'-8 3/4"	20'-5"	6.012	5'-3"	2'-8"	5'-11"	6'-10"	12'-9"	3.517	5'-11 1/4"	6'-10 1/8"	5'-3"	6'-0 3/4"	18'-10"	4.820
48"	6'-5"	3'-3"	4"	7'-2"	8'-3 1/4"	6'-8"	7'-8 1/4"	23'-2"	8.062	5'-9"	2'-11"	6'-8"	7'-8"	14'-4"	4.591	6'-6 3/8"	7'-6 3/8"	6'-0"	6'-11 1/4"	21'-4"	6.320

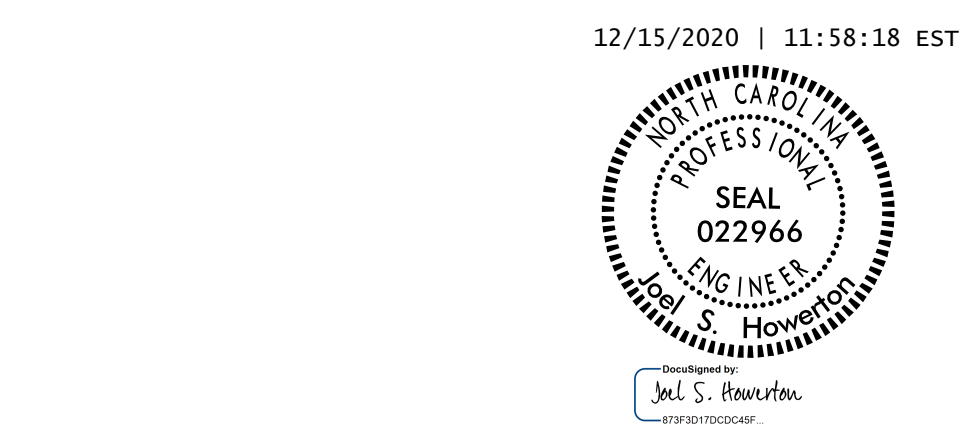
USING CORRUGATED STEEL PIPE

D	COMMON DIMS.			SINGLE PIPE			DOUBLE PIPE			COMMON DIMS.			SINGLE PIPE			DOUBLE PIPE						
	H	B	T	G1	G2	S	L	30	YD ³	G1	G2	S	L	30	YD ³	G1	G2	S	L	30	YD ³	
16"	18"	24"	32"	36"	40"	48"	16"	18"	24"	32"	36"	40"	48"	16"	18"	24"	30"	36"	42"	48"	48"	
LOC.	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"
G1	2	2	2	2	3	3	4	4	4	2	2	2	2	2	2	2	2	2	2	2	2	
S	QTY.	-	-	-	-	2	-	2	-	-	-	-	2	-	2	-	2	-	2	-	2	
G2	QTY.	3	4	4	5	6	6	7	7	3	3	4	4	5	6	6	6	6	6	7	7	
TOT.	lbs.	11.7	13.9	13.9	16.3	20.9	60.4	70.3	11.7	13.9	13.9	20.9	25.6	85.3	102.1	11.7	13.9	16.3	23.1	80.7	92.8	

DIMENSIONS AND CONCRETE QUANTITIES

D	COMMON DIMS.			SINGLE PIPE			DOUBLE PIPE			COMMON DIMS.			SINGLE PIPE			DOUBLE PIPE					
	H	B	T	G1	G2	S	L	30	YD ³	G1	G2	S	L	30	YD ³	G1	G2	S	L	30	YD ³
15"	3'-4"	1'-6"	1 7/8"	2'-9"	3'-2"	2'-2"	2'-6"	6'-5"	1.054	3'-0"	1'-6"	2'-6"	2'-11"	5'-5"	0.616	2'-6"	2'-11"	2'-0"	2'-4"	7'-9"	0.848
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30"	4'-9"	2'-5"	2 3/4"	4'-7"	5'-4"	4'-3"	4'-10 3/4"	14'-10"	3.186	4'-3"	2'-2"	4'-5"	5'-1"	9'-6"	1.868	4'-5 1/8"	5'-1 1/8"	3'-8"	4'-2 3/4"	13'-9"	2.551
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SHEET 1 OF 2
838d02s1



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SEE PLATE FOR TITLE

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