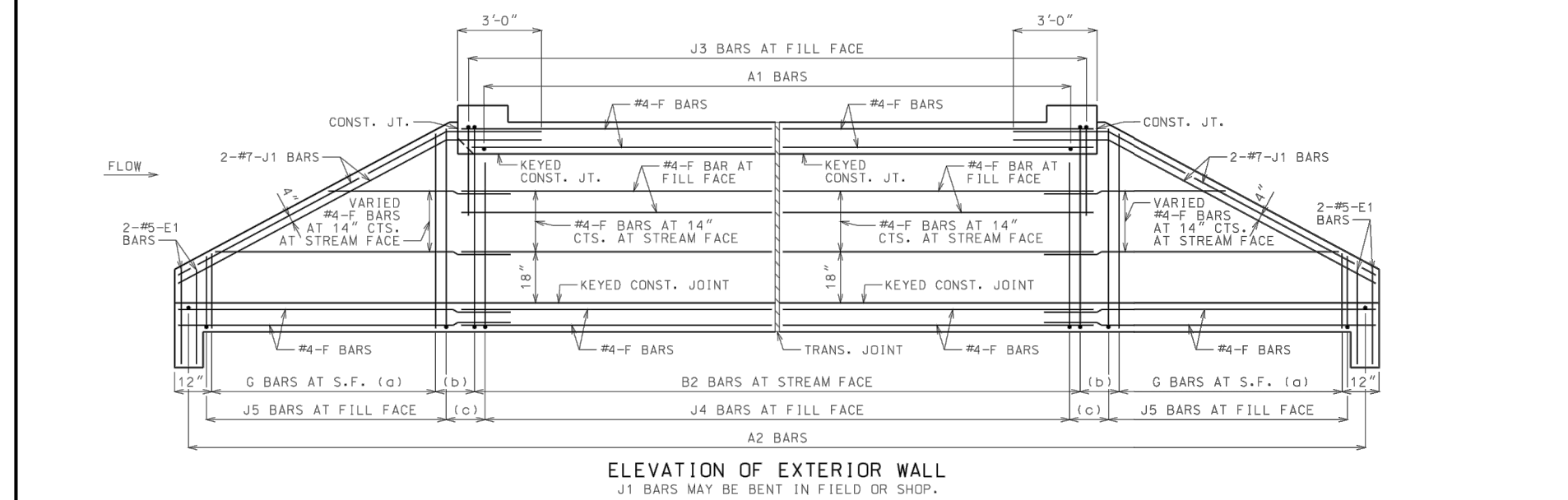


PLAN OF BOTTOM SLAB



ELEVATION OF EXTERIOR WALL
J1 BARS MAY BE BENT IN FIELD OR SHOP.

LAYING OUT TRANSVERSE JOINTS
UNLESS SHOWN ON BRIDGE PLANS
USE A TRANSVERSE JOINT WHEN BARREL LENGTH IS OVER 80 FEET. USE ADDITIONAL JOINTS TO LIMIT CUT SECTION LENGTH AND END SECTION BARREL LENGTH MEASURED ALONG CENTERLINE OF CULVERT TO 50 FEET. MINIMUM END SECTION LENGTH SHALL BE 3 FEET MEASURED ALONG THE SHORTEST WALL FROM THE INSIDE FACE OF HEADWALL TO THE TRANSVERSE JOINT.
TO AVOID LOCATING TRANSVERSE JOINTS UNDER A TRAVELED WAY WITH DESIGN FILLS 2 FEET OR LESS THE FOLLOWING SHALL APPLY:
BARREL LENGTH UP TO 90 FEET WITHOUT A TRANSVERSE JOINT
CUT SECTION LENGTHS UP TO 60 FEET
WHEN BARREL AND CUT SECTION LENGTH RESTRICTIONS REQUIRE TRANSVERSE JOINTS TO BE LOCATED UNDER A TRAVELED WAY WITH DESIGN FILLS 2 FEET OR LESS, THE JOINTS SHALL BE LOCATED TO MINIMIZE THE LENGTH OF JOINT UNDER THE TRAVELED WAY.
TRAVELED WAY IS THE ROADWAY WIDTH MINUS SHOULDER WIDTHS.
FOR CUT SECTION DETAILS, SEE 703-46.

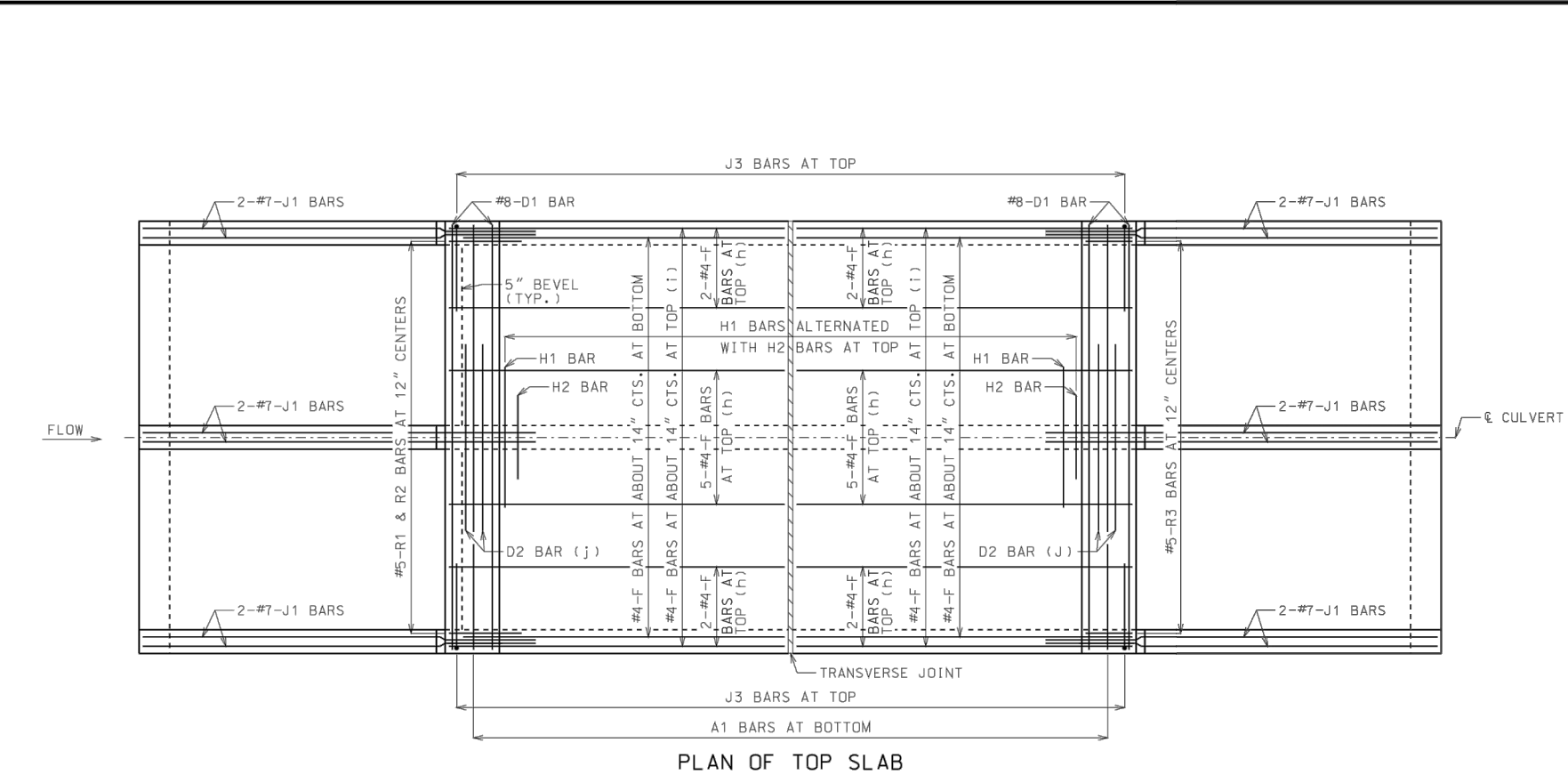
GENERAL NOTES:
FOR SECTIONS THRU BARREL, WINGS AND HEADWALLS, SEE SHEET 3 OF 3 FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS. SEE 703-47, FOR J5 BARS. SEE 703-37.
CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY IN PLAN AND ELEVATION. SEE SHEET 3 OF 3 FOR DETAILS.
DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2".
LAP LONGITUDINAL BARS A MINIMUM OF 23" AT SPLICES.
BEVELED HEADWALL SHALL BE LOCATED AT UPSTREAM END.
(a) SAME SIZE AND SPACING AS ADJACENT B BARS
(b) VARIES, 12" MAXIMUM
(c) J4 BAR SPACING

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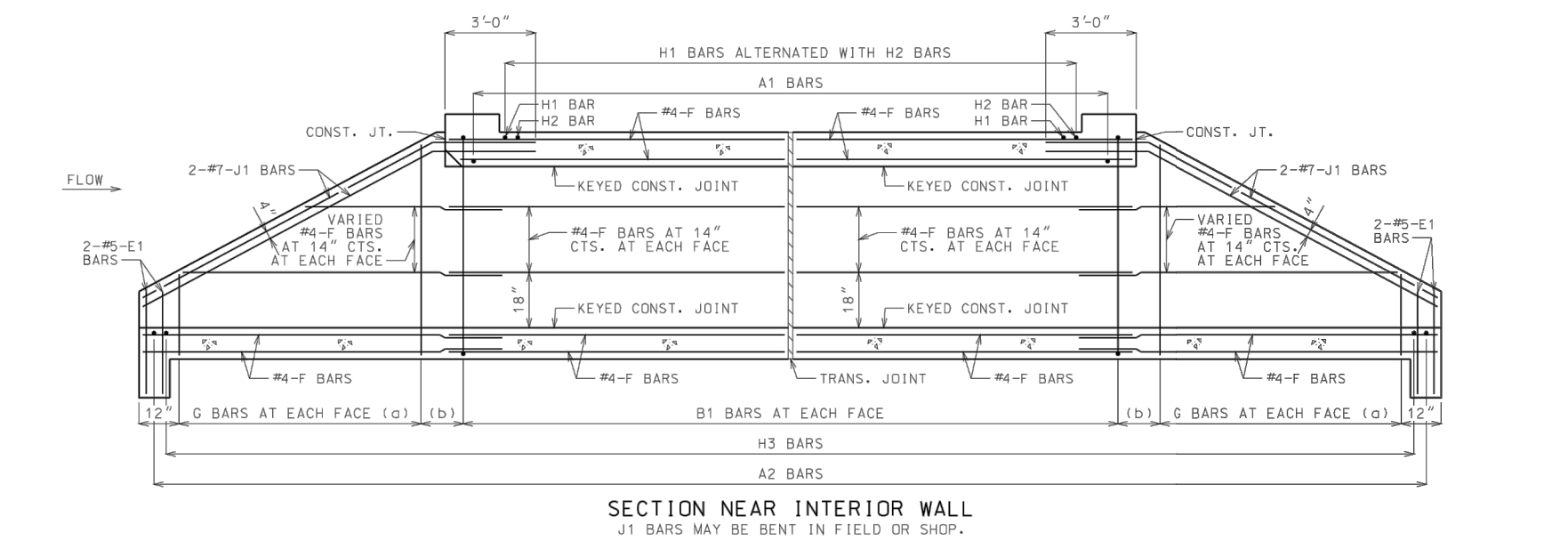
CONCRETE DOUBLE BOX CULVERT
SKEWS: SQUARED
WINGS: STRAIGHT

REINFORCEMENT

DATE EFFECTIVE: 10/01/2011
DATE PREPARED: 5/13/2015
703.40H
SHEET NO. 1 OF 3



PLAN OF TOP SLAB
B BARS IN WALLS ARE NOT SHOWN FOR CLARITY. FOR PLACEMENT, SEE SHEET 1 OF 3.



SECTION NEAR INTERIOR WALL
J1 BARS MAY BE BENT IN FIELD OR SHOP.

GENERAL NOTES:
FOR SECTIONS THRU BARREL, WINGS AND HEADWALLS, SEE SHEET 3 OF 3 FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS. SEE 703-47, FOR J5 BARS. SEE 703-37.
CONSTRUCTION JOINT KEY NOT SHOWN FOR CLARITY IN PLAN AND SECTION. SEE SHEET 3 OF 3 FOR DETAILS.
DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2".
LAP LONGITUDINAL BARS A MINIMUM OF 23" AT SPLICES.
BEVELED HEADWALL SHALL BE LOCATED AT UPSTREAM END.
(a) SAME SIZE AND SPACING AS ADJACENT B BARS
(b) VARIES, 12" MAXIMUM
(c) NOT SPECIFIED ON THIS SHEET
(d) NOT SPECIFIED ON THIS SHEET
(e) NOT SPECIFIED ON THIS SHEET
(f) NOT SPECIFIED ON THIS SHEET
(g) NOT SPECIFIED ON THIS SHEET
(h) FOR DESIGN FILLS 2'-0" OR LESS
(i) NOT REQUIRED FOR CLEAR SPANS ≤ 10'-0"
(j) FOR CLEAR SPAN > 10'-0"
(k) FOR CLEAR SPAN > 13'-0"

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CONCRETE DOUBLE BOX CULVERT
SKEWS: SQUARED
WINGS: STRAIGHT

REINFORCEMENT

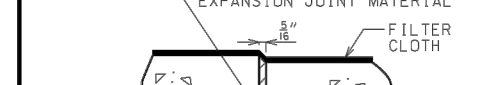
DATE EFFECTIVE: 10/01/2011
DATE PREPARED: 5/13/2015
703.40H
SHEET NO. 2 OF 3



KEYED CONSTRUCTION JOINT
(a) APPROXIMATELY ONE-THIRD OF WALL THICKNESS



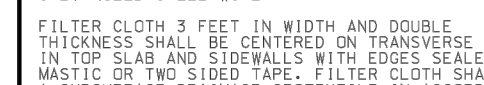
TRANSVERSE JOINT THRU BARREL
PREFORMED FIBER EXPANSION JOINT MATERIAL IN ACCORDANCE WITH SECTION 107.02 SHALL BE SECURELY STITCHED TO ONE FACE OF THE CONCRETE WITH 10 GAUGE COPPER WIRE OR 12 GAUGE SOFT DRAWN GALVANIZED STEEL WIRE.



UPSTREAM AND DOWNSTREAM WINGS REINFORCEMENT



BARREL REINFORCEMENT
FOR DESIGN FILLS OVER 2'-0"



UPSTREAM HEADWALL REINFORCEMENT
NEAR INTERIOR WALL



UPSTREAM HEADWALL REINFORCEMENT
NEAR MIDSPAN



DOWNSTREAM HEADWALL REINFORCEMENT
NEAR INTERIOR WALL



DOWNSTREAM HEADWALL REINFORCEMENT
NEAR MIDSPAN

GENERAL NOTES:
FOR MEMBER THICKNESS AND FOR BAR SIZES, SPACING AND DIMENSIONS OF ALL REINFORCEMENT EXCEPT J5 BARS. SEE 703-47, FOR J5 BARS. SEE 703-37.
BARREL AND WINGS SECTIONS ARE SYMMETRICAL ABOUT AND NORMAL TO E CULVERT. HEADWALL SECTIONS ARE NORMAL TO LONG DIRECTION OF HEADWALL.
DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1 1/2".

(d) #2 FOR CLEAR SPAN > 10'-0"
(e) #2 FOR CLEAR SPAN > 13'-0"
(f) NOT REQUIRED FOR CLEAR SPANS ≤ 10'-0"

IF D2 BARS ARE REQUIRED, THE MINIMUM LENGTH EACH SIDE OF E CULVERT SHALL BE THE GREATER OF 48 BAR DIAMETERS OR 4 CLEAR SPAN. THE CLEAR SPAN IS PARALLEL TO LONG DIRECTION OF HEADWALL.

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CONCRETE DOUBLE BOX CULVERT
SKEWS: SQUARED
WINGS: STRAIGHT

SECTIONS

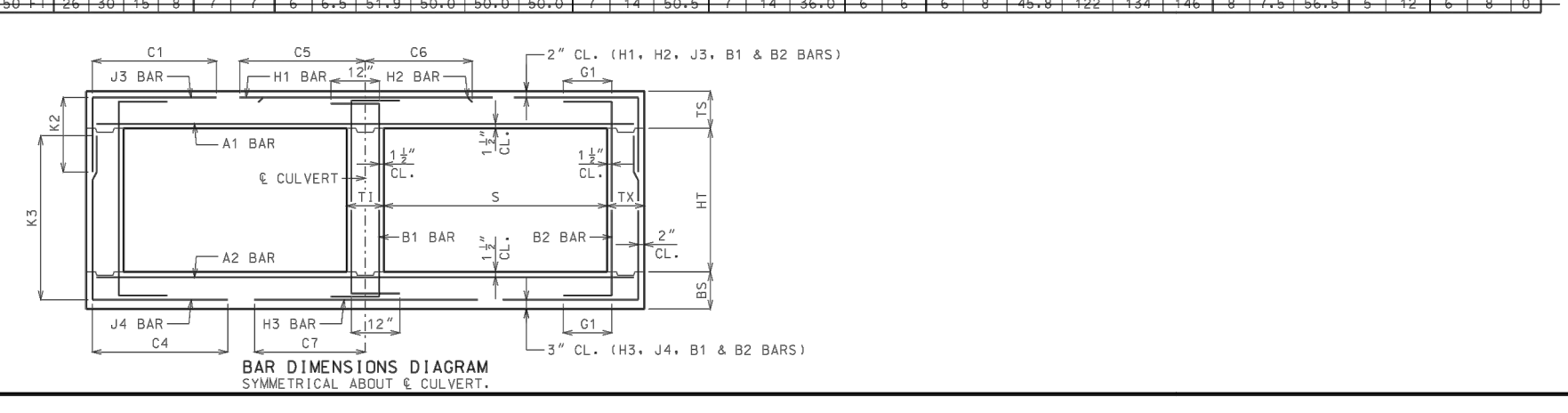
DATE EFFECTIVE: 10/01/2011
DATE PREPARED: 5/13/2015
703.40H
SHEET NO. 3 OF 3

SPAN (S) = 10 FT HEIGHT (HT) = 5 FT OR 6 FT OR 7 FT

SECTION	DESIGN	FILL	TOP SLAB BARS												BOTTOM SLAB BARS																					
			J5 BARS				H1 BARS				H2 BARS				H3 BARS				B1 BARS				B2 BARS													
TS	BS	TX	TI	SIZE	SPA.	C1	HT=5'	HT=6'	HT=7'	SIZE	SPA.	C2	SIZE	SPA.	C3	HT=5'	HT=6'	HT=7'	SIZE	SPA.	C4	SIZE	SPA.	C5	SIZE	SPA.	C6	SIZE	SPA.	C7	SIZE	SPA.	C8			
1-11	13	10	8	6	6.5	4	7	48.9	38.0	33.0	33.0	5	15	99.0	5	15	28.0	6	4	6.5	43.8	66	78	90	6	6	43.8	6	6	43.8	6	6	43.8	6	6	43.8

SPAN (S) = 10 FT HEIGHT (HT) = 8 FT OR 9 FT OR 10 FT

SECTION	DESIGN	FILL	TOP SLAB BARS												BOTTOM SLAB BARS																					
			J5 BARS				H1 BARS				H2 BARS				H3 BARS				B1 BARS				B2 BARS													
TS	BS	TX	TI	SIZE	SPA.	C1	HT=8'	HT=9'	HT=10'	SIZE	SPA.	C2	SIZE	SPA.	C3	HT=8'	HT=9'	HT=10'	SIZE	SPA.	C4	SIZE	SPA.	C5	SIZE	SPA.	C6	SIZE	SPA.	C7	SIZE	SPA.	C8			
1-11	13	10	8	6	6.5	4	7	48.9	38.0	33.0	33.0	5	15	100.0	5	14	28.5	6	4	6.5	44.1	109	114	126	6	6	44.1	6	6	44.1	6	6	44.1	6	6	44.1



GENERAL NOTES:
IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE GREATER FILL THICKNESS. AREA OF RETAINMENT AND BAR DIMENSIONS FROM THE 2 FEET AND 4 FEET TABULATED DESIGN FILLS. AREA OF RETAINMENT EQUALS BAR AREA PER FOOT SPACING.
SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.
DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.
CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VERTICAL LIVE LOAD HL-93 MINUS THE LIVE LOAD.

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CONCRETE DOUBLE BOX CULVERT
MEMBER THICKNESS
BAR SIZE, SPACING & DIMENSIONS

SPAN (S): 10 FEET
HEIGHT (HT): 5 THRU 10 FEET

DATE EFFECTIVE: 10/01/2011
DATE PREPARED: 5/13/2015
703.47
SHEET NO. 14 OF 27

PICKETT, RAY & SILVER INC
CIVIL ENGINEERING, LAND SURVEYING, AND NATURAL RESOURCES SERVICES
St. Peters, Missouri 63376
22 Richmond Center Court
St. Peters, MO 63376
Phone (636) 397-1211 Fax (636) 397-1104
www.prs.com 1-800-708-3918

PROJECT TITLE
IMPROVEMENT PLANS
THE VILLAGES AT
MONTRACHET (REVISED)

DETAILS
PFS No. 14055MCH00R,
TASK 017 FIELD BOOK 1476

ENGINEER'S AUTHENTICATION
KARL ANTHONY SCHOENKE
PROFESSIONAL ENGINEER
LICENSE # 2003015039

09/28/16

KARL A. SCHOENKE, P.E.
PROFESSIONAL ENGINEER LICENSE 2003015039

Developer / Owner Information
MONTRACHET DEVELOPMENT LLC
218 Chesterfield Towne Centre
Chesterfield, Missouri 63005
Phone: 636-550-6900

P+Z No. 15-15.01

City No. 15-742-SP

Page No.