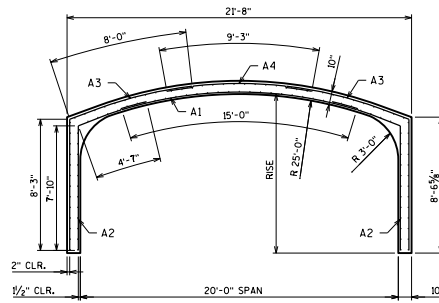


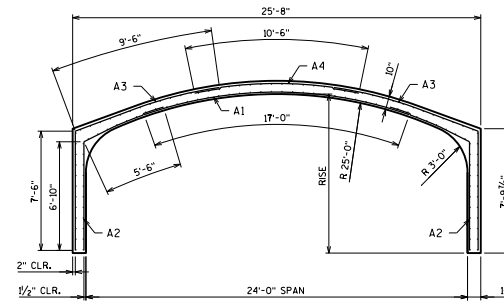
14'-0" SPAN

RISE = 10'-0" **SEE NOTE



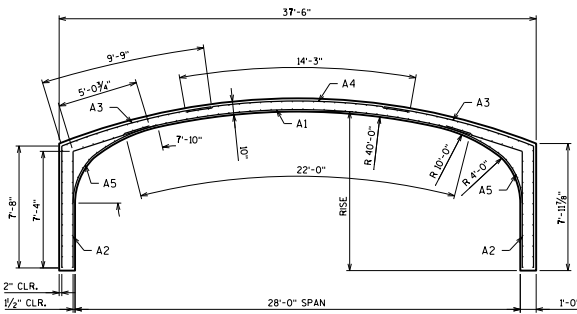
20'-0" SPAN

RISE = 10'-0" **SEE NOTE



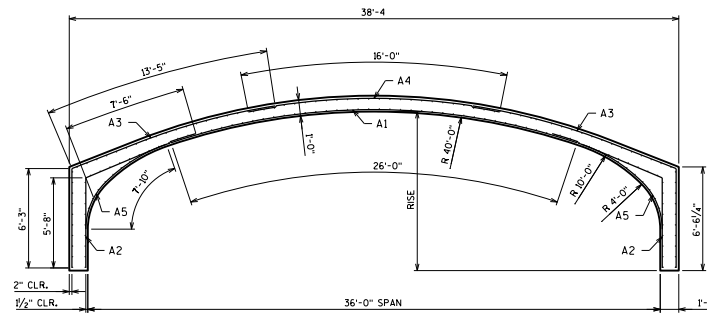
24'-0" SPAN

RISE = 10'-0" **SEE NOTE



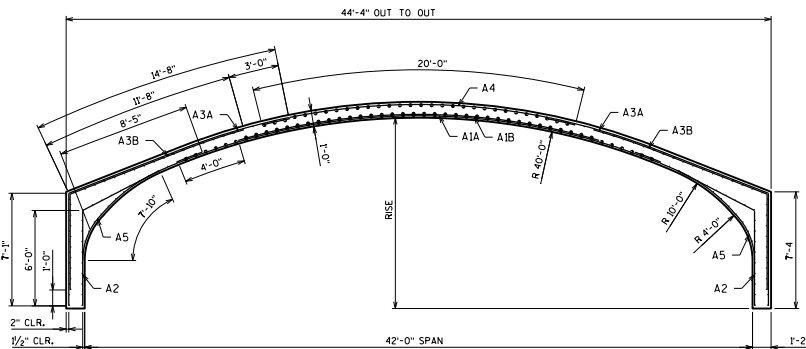
28'-0" SPAN

RISE = 10'-0"



36'-0" SPAN

RISE = 10'-0"



42'-0" SPAN

RISE = 12'-0"

NOTES:

** SEE ARCH UNIT PRIMARY REINFORCING CHART ON STANDARD 36.15 FOR MORE INFORMATION.

ALL REINFORCING DIMENSIONS SHOWN ARE FOR 10'-0" RISE. A2 AND A3 STEEL LENGTHS SHALL BE REVISED ACCORDINGLY FOR RISES OTHER THAN 10'-0".

THESE STEEL AREAS, STEEL LENGTHS AND ARCH THICKNESS ARE SHOWN FOR COVER OF 12'-0" OR LESS.

THREE-SIDED PRECAST CONCRETE STRUCTURES SHALL BE DESIGNED FOR COVER GREATER THAN 12'-0", AND CAN BE DESIGNED FOR UP TO THE LIMITS OF COVER SHOWN IN THE TABLE BELOW.

THE COVER OF CONCRETE OVER THE OUTSIDE CIRCUMFERENTIAL REINFORCEMENT SHALL BE 2 INCHES MINIMUM.

THE COVER OF CONCRETE OVER THE INSIDE CIRCUMFERENTIAL REINFORCEMENT SHALL BE 1/2" INCHES MINIMUM.

THE CLEAR DISTANCE OF THE END CIRCUMFERENTIAL WIRES SHALL NOT BE LESS THAN 1" NOR MORE THAN 2" FROM THE ENDS OF EACH SECTION.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

MINIMUM COVER FOR WILDED WIRE FABRIC: 1-INCH

DESIGN DATA:

f_c = 5000 PSI MINIMUM FOR CONCRETE
 f_y = 60,000 PSIFOR STEEL REINFORCING BARS
 f_y = 65,000 PSIFOR WELDED WIRE FABRIC (IN FLAT SHEET)

SPAN FT	APPROX. MAX. COVER
14'	50'
20' - 24'	30'
28' - 36'	20'
42'	15'

ARCH UNIT LONGITUDINAL REINFORCEMENT (MINIMUM)								
14'-0" SPAN			20'-0" SPAN			24'-0" SPAN		
CIRCUMF. AREA REQ'D SQ. IN/FT	LONGITUDINAL AREA REQ'D SQ. IN/FT	LENGTH FT	CIRCUMF. AREA REQ'D SQ. IN/FT	LONGITUDINAL AREA REQ'D SQ. IN/FT	LENGTH FT	CIRCUMF. AREA REQ'D SQ. IN/FT	LONGITUDINAL AREA REQ'D SQ. IN/FT	LENGTH FT
A1 = **	0.13	10'-6"	A1 = **	0.13	15'-0"	A1 = **	0.13	17'-0"
A2 = 0.24	0.13	12'-3"	A2 = 0.24	0.13	12'-5"	A2 = 0.24	0.13	12'-4"
A3 = **	0.13	15'-4"	A3 = **	0.13	16'-3"	A3 = **	0.13	17'-0"
A4 = 0.24	0.13	5'-9"	A4 = 0.24	0.13	9'-3"	A4 = 0.24	0.13	10'-6"

28'-0" SPAN			36'-0" SPAN			42'-0" SPAN		
CIRCUMF. AREA REQ'D SQ. IN/FT	LONGITUDINAL AREA REQ'D SQ. IN/FT	LENGTH FT	CIRCUMF. AREA REQ'D SQ. IN/FT	LONGITUDINAL AREA REQ'D SQ. IN/FT	LENGTH FT	CIRCUMF. AREA REQ'D SQ. IN/FT	LONGITUDINAL AREA REQ'D SQ. IN/FT	LENGTH FT
A1A = **	0.13	22'-0"	A1A = **	0.13	26'-0"	A1A = **	0.13	31'-0"
A1B = **	NOT REQ'D	16'-0"	A1B = **	NOT REQ'D	18'-0"	A1B = **	NOT REQ'D	23'-0"
A2 = 0.36	0.13	12'-6"	A2 = 0.36	0.13	13'-2"	A2 = 0.48	0.13	14'-4"
A3A = **	0.13	17'-6"	A3A = **	0.13	19'-8"	A3A = **	0.13	21'-9"
A3B = **	NOT REQ'D	13'-6"	A3B = **	NOT REQ'D	15'-8"	A3B = **	NOT REQ'D	17'-9"
A4 = 0.36	0.13	14'-3"	A4 = 0.36	0.13	16'-0"	A4 = 0.48	0.13	20'-0"
A5 = 0.24	0.13	7'-10"	A5 = 0.24	0.13	7'-10"	A5 = 0.24	0.13	7'-10"

PRECAST THREE-SIDED BOX CULVERT REINFORCEMENT



APPROVED: Bill Oliva DATE: 7-14