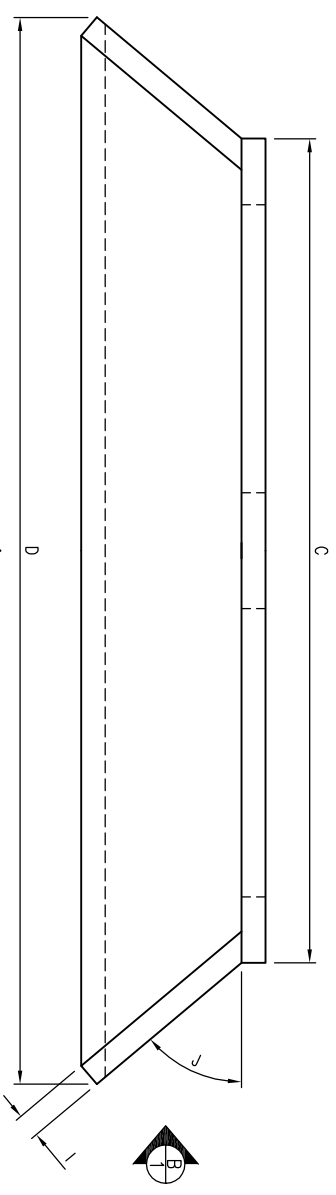
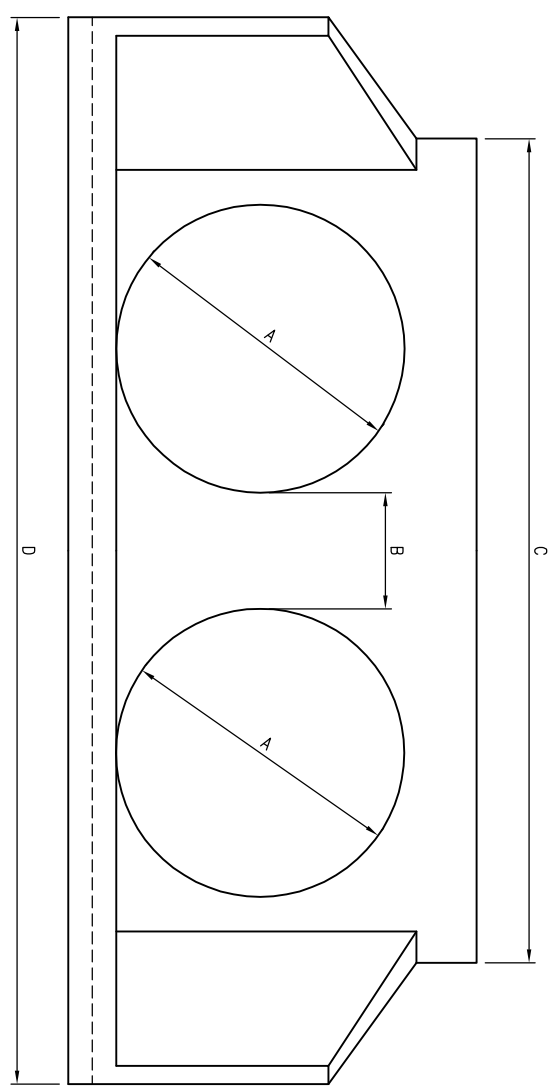


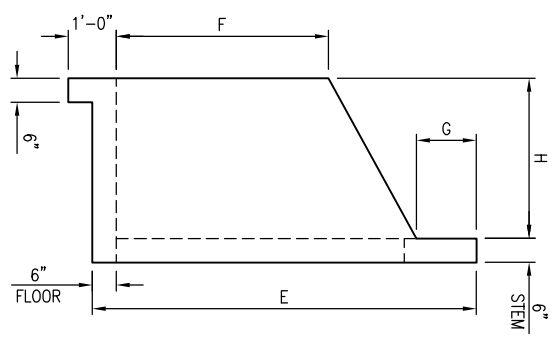
WING WALL DIMENSIONS & WEIGHTS											
PIPE	A	B	C	D	E	F	G	H	I	J	WT. (LBS)
30"/36"	39"/48"	22"/20"	136"	198"	69"	39"	12"	35"	6"	45°	14300 / 13600
42"/48"	56"/63"	20.5"	162.5"	233"	80"	44"	12"	40"	6"	45°	11900 / 11200
54"/60"	72"/81"	18.5"/16.5"	202.5"	263"	96"	53"	15"	40"	6"	50°	14600 / 14500



**PLAN VIEW**  
SCALE: 1/4" = 1'-0"



**VIEW A**  
SCALE: 1/4" = 1'-0"



**VIEW B**  
SCALE: 1/4" = 1'-0"

**NOTES TO CONTRACTOR:**

- CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT PRECAST MEETS SPECIFIC PROJECT REQUIREMENTS. PRECAST DESIGNED FOR TYPICAL PARAMETERS AS NOTED HEREIN. FOR VARIATIONS TO PARAMETERS OR ANY OTHER QUESTIONS CONTACT OLDCASTLE PRECAST, INC. PROFESSIONAL ENGINEER.
- STABILITY OF PRECAST WINGWALL IS DEPENDENT ON GROUTED CONNECTION OF REINFORCED CONCRETE PIPE (RCP) TO PRECAST WING WALL. AS SUCH, PRIOR TO GROUTING THE ANNULAR SPACE BETWEEN RCP AND PRECAST WING WALL THE OUTSIDE OF THE RCP AND INSIDE OF WALL OPENING SHALL BE CLEANED OF ANY DUST OR LANTAGE. RCP SHALL BE INSTALLED IN WALL OPENINGS FOR THE FULL THICKNESS OF PRECAST STEM WALL. ALL ANNULAR SPACES SHALL THEN BE FILLED WITH A MIN OF 3000 PSI NON-SHRINK NON-CORROSIVE GROUT, TIGHT TO THE UNDERSIDE OF WALL FOR FULL THICKNESS OF PRECAST. GROUT SHALL BE MIXED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS (I.E. MAXIMUM WATER CONTENT SHALL NOT BE EXCEEDED).

**GENERAL DESIGN NOTES:**

- STRENGTH DESIGN METHOD LA.W. ACI 318.
- DESIGN LA.W. NCDOT STD DRAWING # 888.80 AS MODIFIED FOR DOUBLE BARREL APPLICATION.
- SOIL PROPERTIES:
  - BACKFILL INTERNAL FRICTION ANGLE = 27°
  - UNIT WEIGHT OF SOIL = 120 PCF.
  - PRECAST TO SOIL FRICTION FACTOR = 0.40,
  - BACKFILL SLOPE = 3H:1V (MAX).
- WING WALL DESIGN PARAMETERS:
  - CONCRETE UNIT WT = 145 PCF.
  - PRECAST TO SOIL FRICTION FACTOR = 0.40,
  - VEHICULAR SURCHARGE = 0 PSF (TRAFFIC NOT WITHIN A DISTANCE OF 1/2 FROM BACK OF WALL).
  - ALLOWABLE BOND STRENGTH OF NON-SHRINK GROUT TO PRECAST = 20 PSI.
- WING WALL STABILITY:
  - F.S. SLIDING = 1.5 (MIN).
  - F.S. OVERTURNING = 2.0 (MIN).
  - SCOUR ANALYSIS (IF REQUIRED), BY OTHERS.
- CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS = 5,000 PSI.
- REINFORCEMENT: ASTM A615, GRADE 60.
- ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4"(MIN) TO 1" (MAX).



\*\*\*THIS MUST BE FILLED OUT BEFORE MANUFACTURING BEGINS\*\*\*

APPROVED W/ NO EXCEPTIONS TAKEN:

APPROVED AS NOTED:

REVISED AND RESUBMIT:

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**Oldcastle Precast**  
 4000 STOUGH RD, CONCORD, NC  
 OFFICE 704-396-4991, FAX 704-396-4400  
 NC ENGINEERING LICENSE #F-1002

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**DOUBLE WING WALL**  
SUBMITTAL LAYOUT

CUSTOMER	DATE	SUES	DRAWN	ENGINEER	CHECKED	SALES ORDER
	6/8/17		PPS			SHEET
			DRAWING NUMBER	REGION	REV DATE	1 OF 1
			Double Wing Wall			